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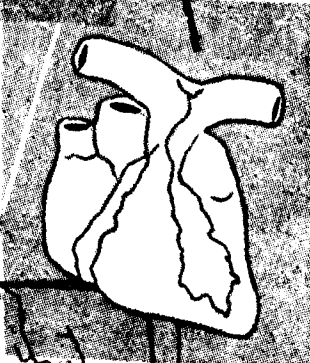
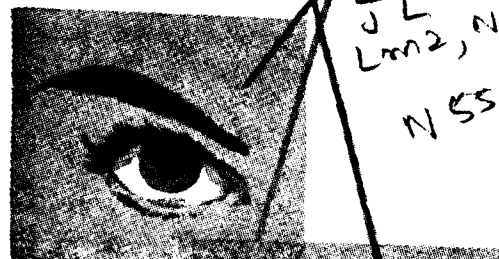
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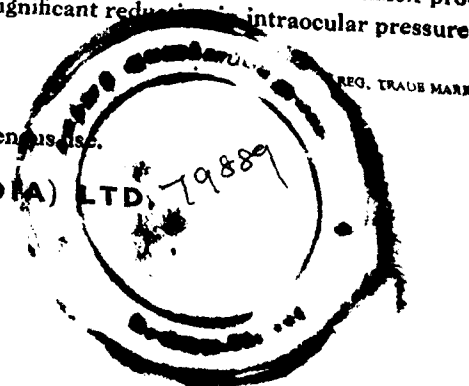
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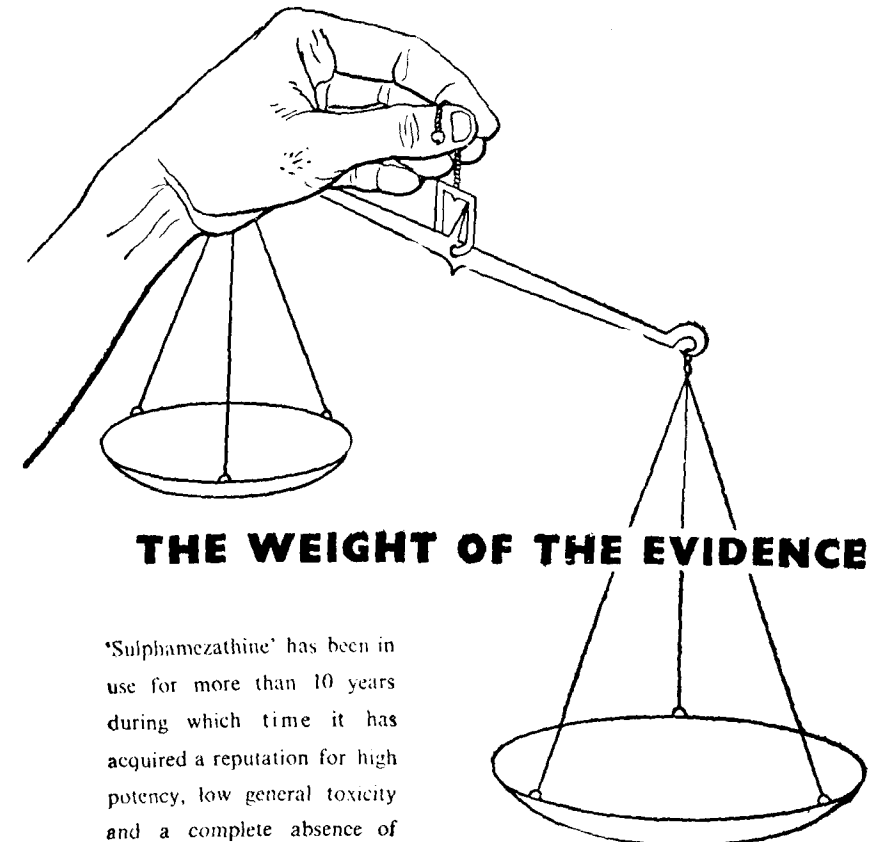
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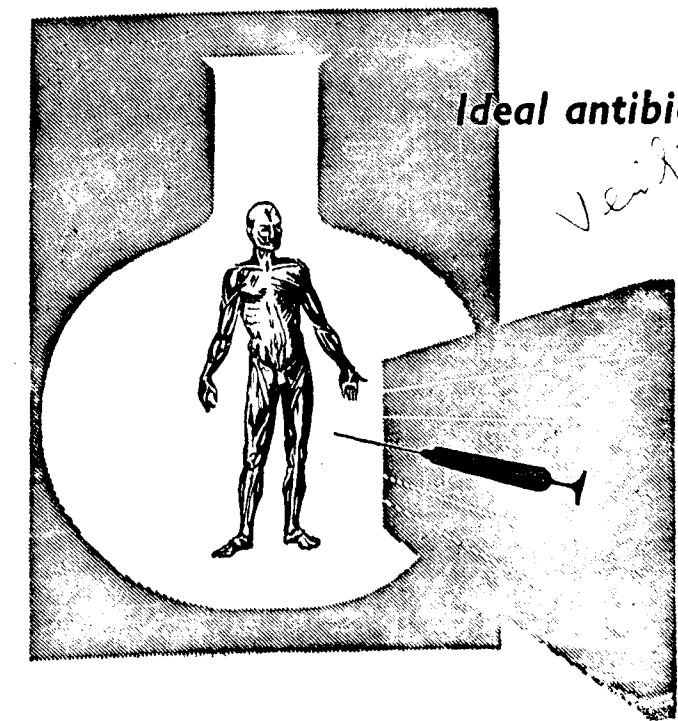
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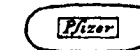
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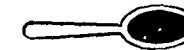
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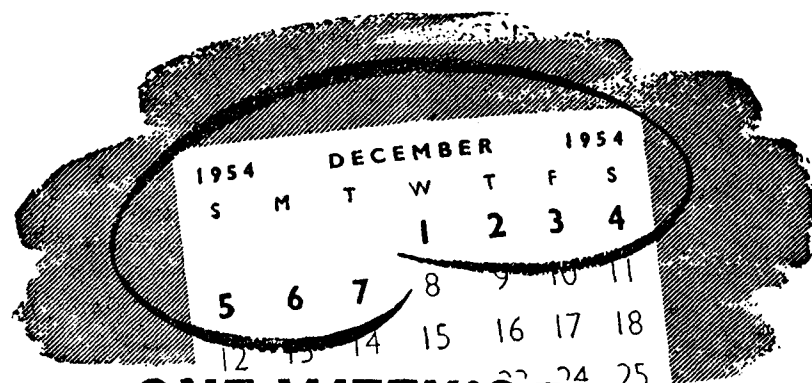
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- ... to facilitate tissue repair
- ... to augment production of antibodies
- ... to hasten defervescence
- ... to avert complications
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	BREAKFAST followed in $\frac{1}{2}$ hr. to 1 hr. by	'ALUDROX' 2 teaspoonfuls
	MID-MORNING	'SEBELLA' 2 tablets
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This dosage may be increased wherever necessary. After one week's combined 'Aludrox'/'Sebella' therapy, 1 'Sebella' Tablet t. i. d. will usually suffice.

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AMPHOTERIC GEL
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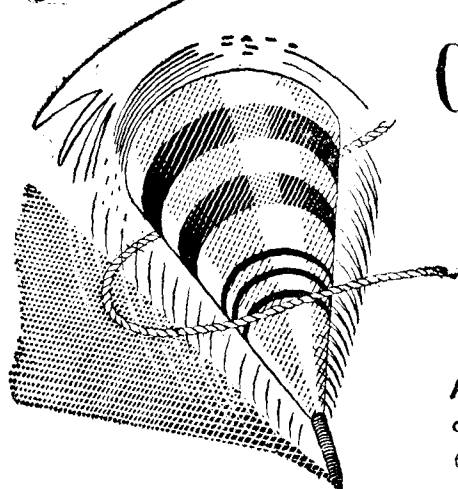
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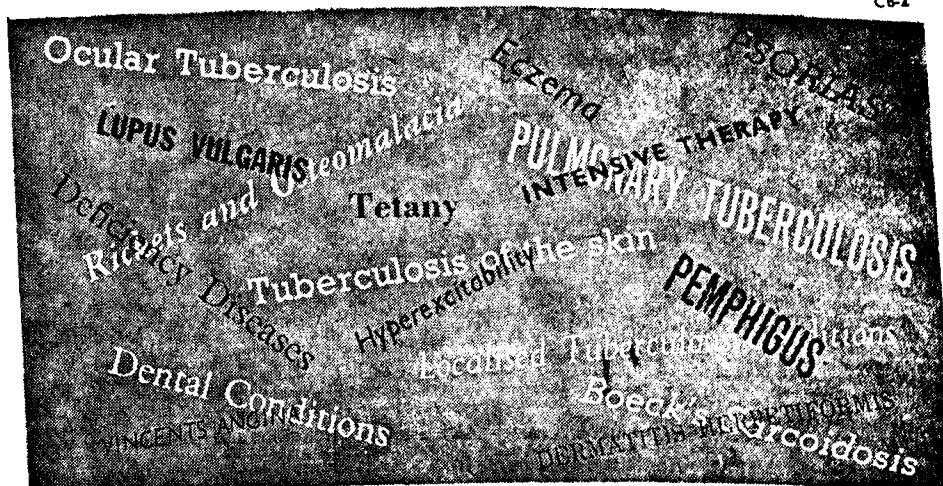
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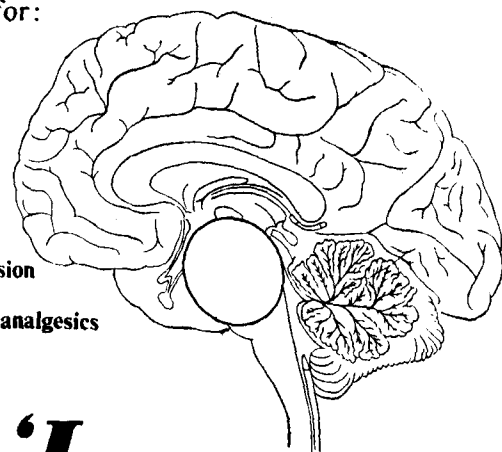
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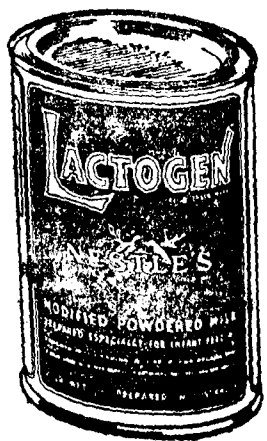
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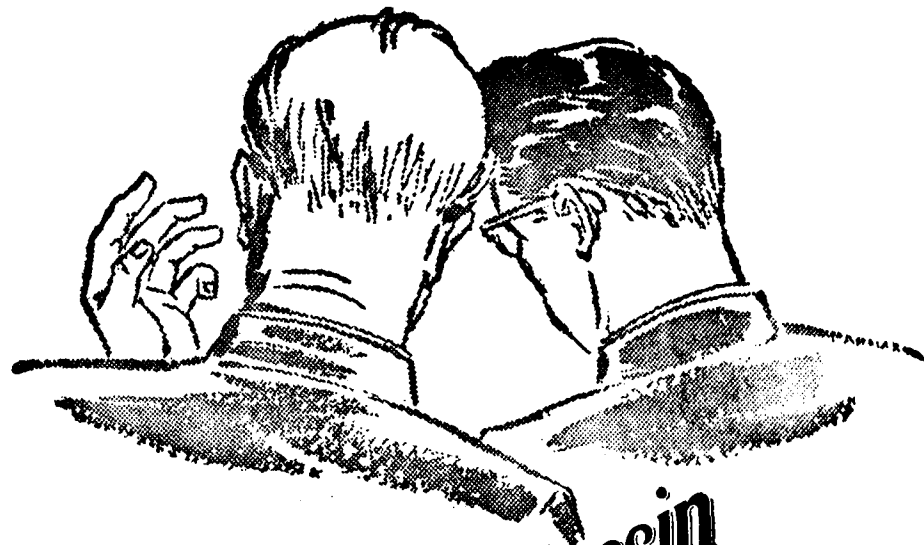
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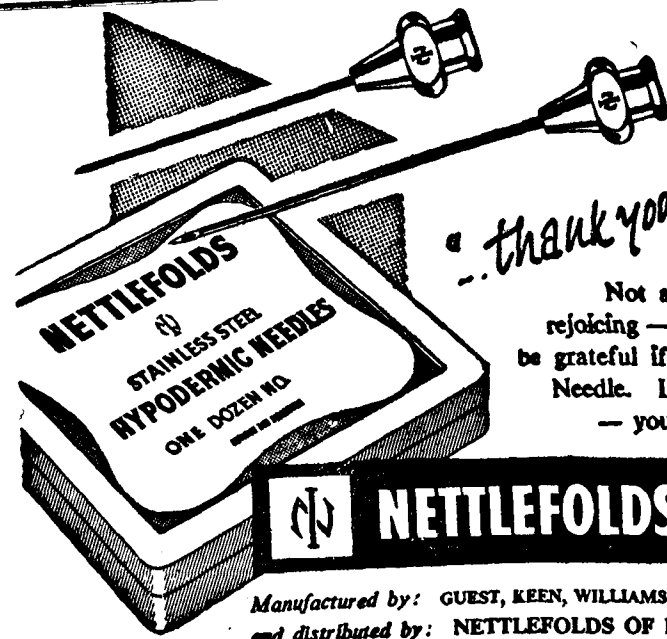


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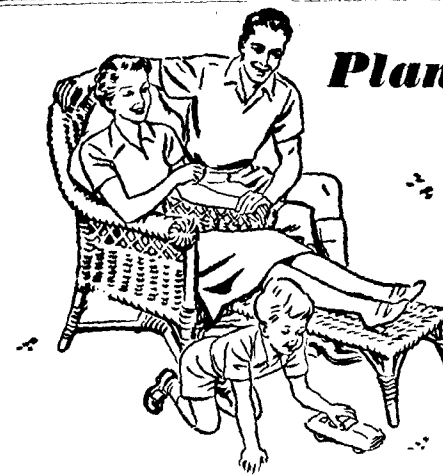
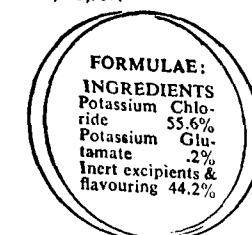
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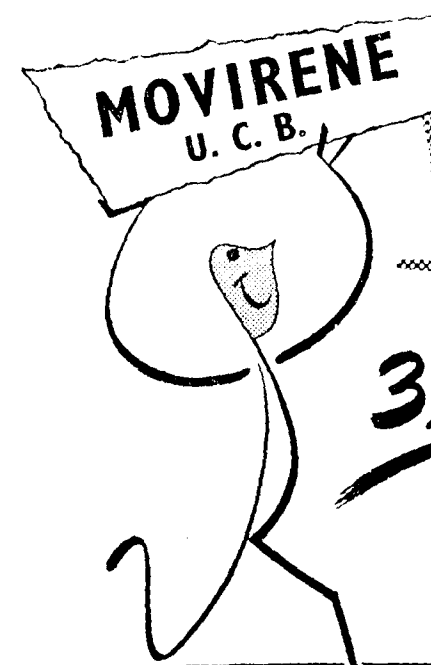
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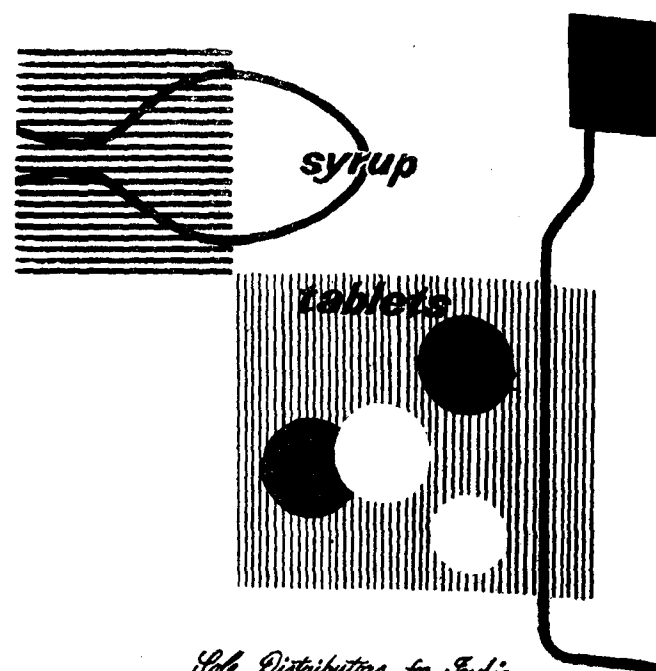
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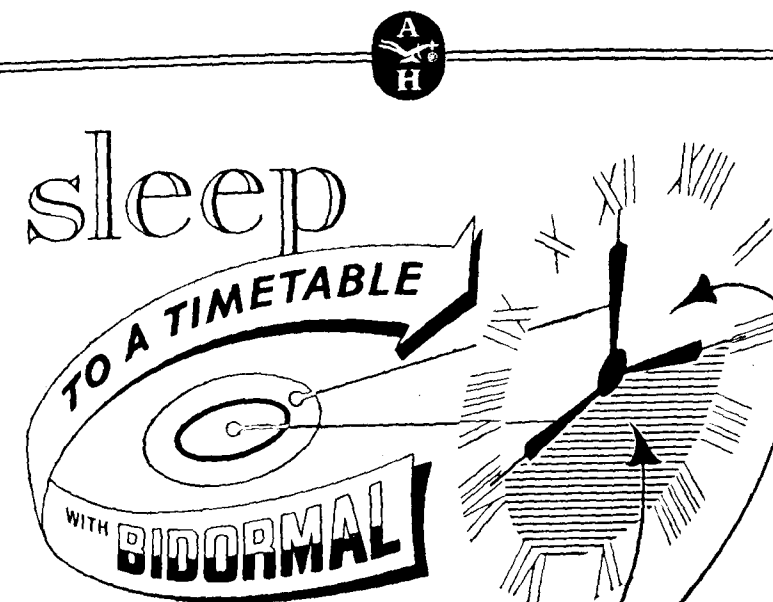
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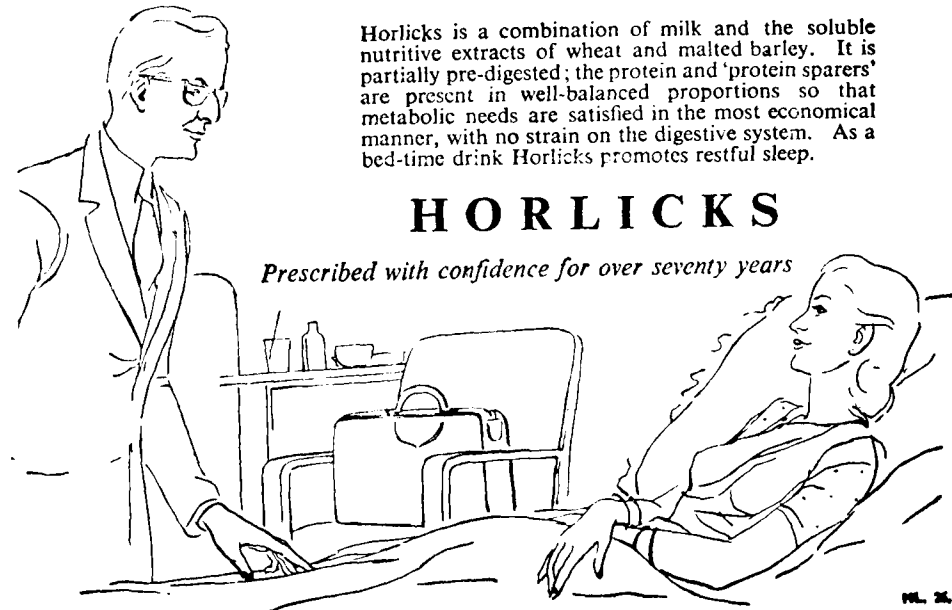
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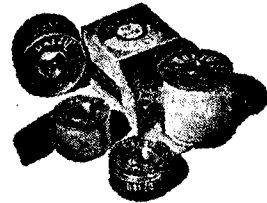
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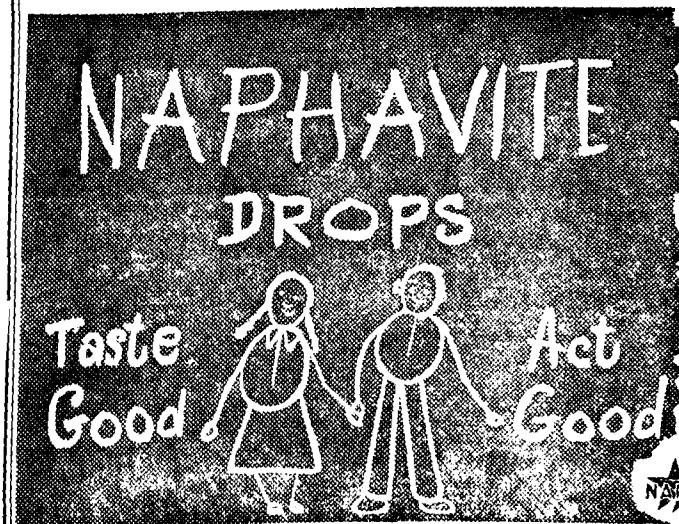
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nate 1 mg. Biotin 0.1 mg.

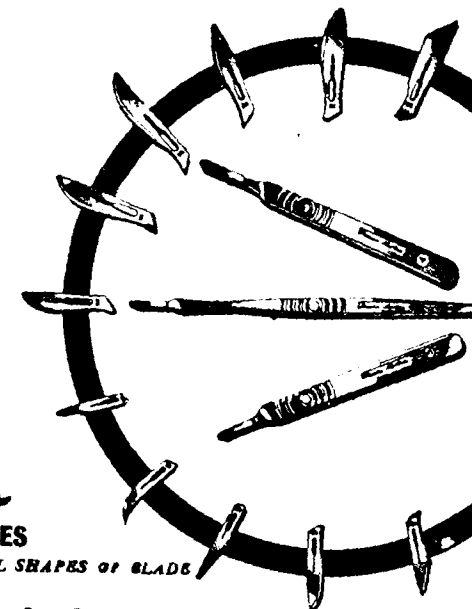
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These eleven shapes of surgical blade have become traditional — and international. Hospitals all over the world send to Sheffield for ever increasing supplies; so the model factory built to produce Swann-Morton blades is always expanding. But, however great the pressure of orders, there is never any relaxation of the individual care given to each individual blade.

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DIHYDROSTREPTOMYCIN
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Dihydrostreptomycin DC(B)L—vials containing the equivalent of 1 and 5 grammes of base (as sulphate).

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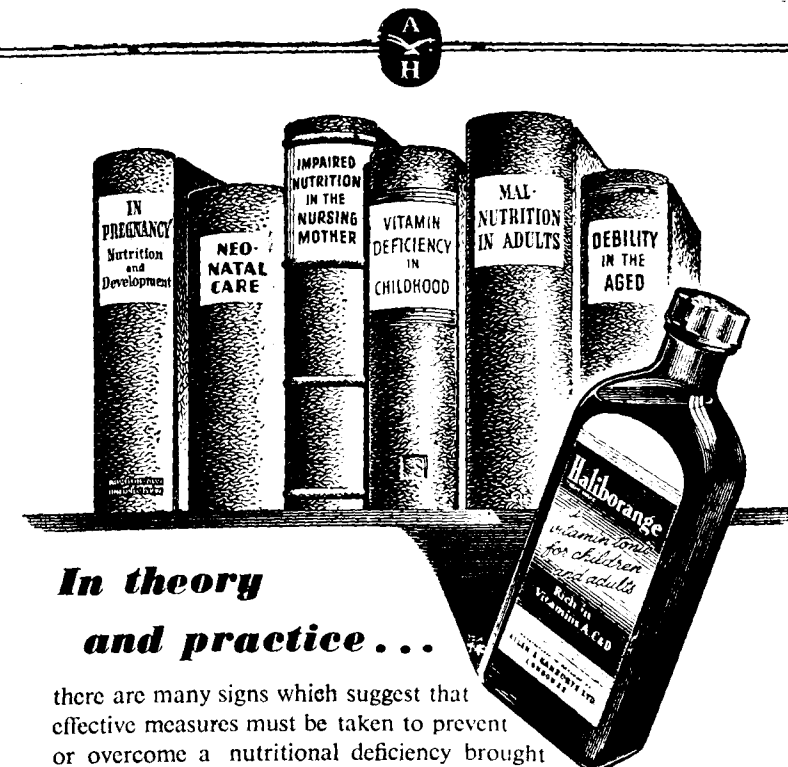
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and practice...*

there are many signs which suggest that effective measures must be taken to prevent or overcome a nutritional deficiency brought about by inadequate intake or absorption of the fat soluble vitamins A and D.

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HALIBORANGE

In 5 oz. bottles

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ELIXIR VITAMIN B COMPLEX

Contains:

FOLIC ACID, VITAMIN B₁₂, CHOLINE
CHLORIDE, BETAINE HYDROCHLO-
RIDE, INOSITOL, ACETYL METHIO-
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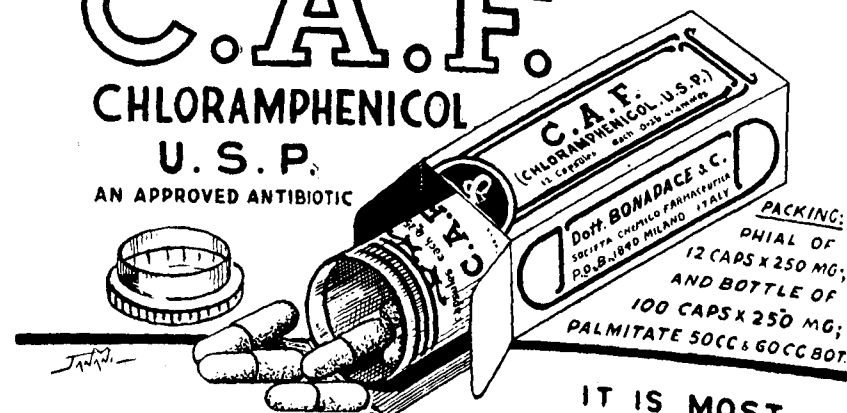
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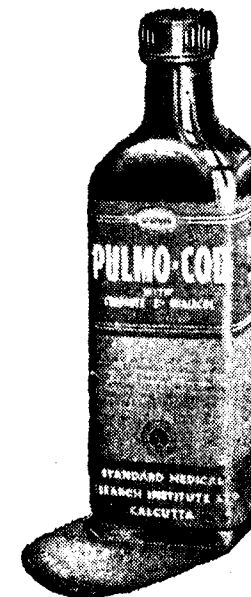
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In Case of Malnutrition and
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WITH

Creosote & Guaiacol

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Minerals and generous amount of Vitamins

For Vigour and Vitality

Pulmo-Cod also prevents Seasonal Ailments,
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PULMO-COD
(Creosote & Guaiacol)

Each fluid oz. contains:
Pancreatic hydrolysate
of shark & Codliver Oil
50% v/v

Vitamin A 4500 I.U.
Vitamin D 1000-91 U.
Vitamin B₁ 3 mgs.
Vitamin B₂ 2 mgs.
Vitamin B₁₂ 5.0 mcgs.
Nicotinic Acid 40 mgs.
Folic Acid 920 mcgs.
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Potassi Hypo. 120 mgs.
Calcii Hypo. 240 mgs.

(Creosote 13%
Guaiacol 1%)

Extract Wild Cherry,
Gentian, Eucalyp. 0.7%
Invert Sugar, Glycerine,
Malt & Aromatics q.s.

STADMED LTD.
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The hydrolysates of Casein
and Yeast amply enriched with
B Complex Vitamins and Lipo-
tropic factors for successful
Protein Therapy

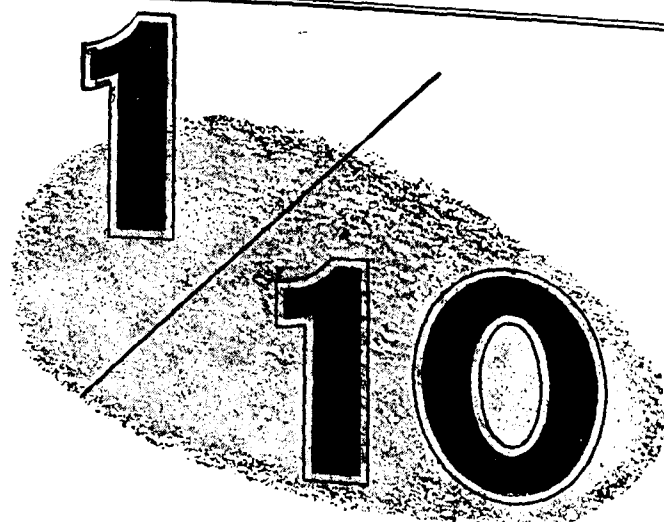
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Each fluid ounce contains

Amino Acids	... 20% w/v
Proteolytic Enzymes	... 250 mg.
Vitamin B ₁	... 5 mg.
Vitamin B ₂	... 2 mg.
Methionine	... 200 mg.
Choline	... 200 mg.
Inositol	... 50 mg.

*

ASSOCIATED DRUG CO. LTD., Vercaud, S. INDIA



*effective topical therapy in allergic dermatoses
with one-tenth the concentration of hydrocortisone*

NEW TOPICAL OINTMENT
FLUDROCORTONE*
ACETATE

10 times greater potency—skin disorders are relieved by one-tenth the concentrations required by hydrocortisone, the parent compound.

dramatic therapeutic response—lesions begin to clear almost immediately, edema subsides and itching is relieved; often effective where other agents have failed.

indications—allergic dermatoses of atopic, contact or non-specific origin, as well as nonspecific pruritus.

supplied—as a cosmetically acceptable ointment in two concentrations: 0.25% and 0.1% in 5 Gm. collapsible tubes.

*CORTONE IS THE TRADEMARK OF MERCK & CO., INC., FOR ITS BRAND OF FLUDROCORTISONE.
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*Based on the latest
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in HAEMATOLOGY*

A most modern antianaemic preparation for the treatment of diverse types of anaemias, including macrocytic and microcytic. Livules owe their efficacy to their ability to supply all the factors concerned in the regeneration of the blood.

COMPOSITION

Each capsule of Livules contains:—

Proteolysed Liver Powder	from 50 grs. of fresh Liver.
Proteolysed Stomach Powder	from 15 grs. of fresh Stomach.
Ferrous Sulphate Exc.	1.5 grs.
Thiamine Hydrochloride (B ₁)	5 mgms.
Riboflavin (B ₂)	2 mgms.
Pyridoxine Hydrochloride (B ₆)	0.5 mgm.
Calcium Pantothenate	1 mgm.
Niacinamide	15 mgms.
Ascorbic Acid (C)	30 mgms.
Folic Acid	1.5 mgms.
	(Livules c Folic Acid)
Vitamin B ₁₂	5 mcgs.
	(Livules c B ₁₂)

Livules c Folic Acid & B₁₂, & Livules without Iron (F.A. & B₁₂ present) are also available.

LIVULES

ALEMBIC CHEMICAL
WORKS CO. LTD., BARODA 3.



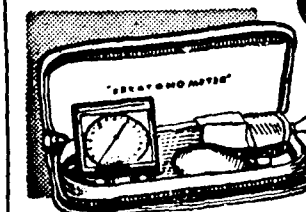
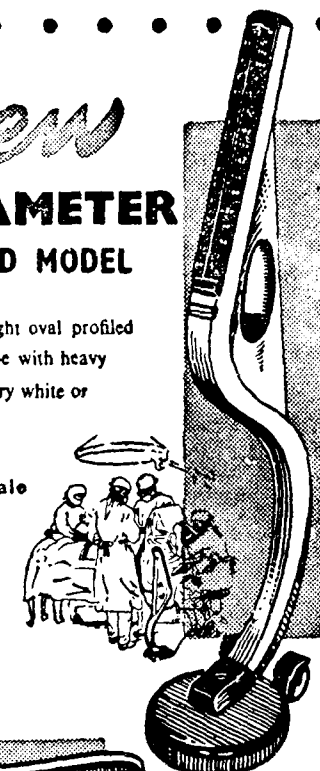
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ERKAMETER
STAND MODEL

Standfast: Light oval profiled aluminum tube with heavy iron base, ivory white or reseda green

300 mm scale



ERKATONOMETER
IN ZIP LEATHER CASE

300 mm scale

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LUCIN-H *The widely acclaimed*
NON-TOXIC HYPNOTIC

[ANOTHER OF THE
RAUWOLFIA ALKALOIDS SEPARATED BY US]

**No SIDE EFFECTS EVEN ON
PROLONGED ADMINISTRATION**

TABLETS FOR ORAL USE & AMPOULES FOR INJECTION

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115, PRINSEP STREET, CALCUTTA - 13

For aging patient...

UNI-Climacteron
Synergistic Combination of
Hormones

UNI-VITE & CHOLINE
Choline & Methionine with
Vitamins

AMPOULE
Testosterone Propionate 20 mg.
Estradiol Benzoate..... 1mg.
Desoxycorticosterone
Acetate... 2.5 mg.
Per c.c. injectible

TABLETS
Methyl Andosteron ... 7.5 mg.
Ethynyl Estradiol... 0.005 mg.
Per tablet.

CONTAINS

CHOLINE—	
H. Citrate	4000 mg.
Methionine	500 mg.
Inositol	500 mg.
Vit. B ₁	12.5 mg.
Vit. B ₂	7.5 mg.
Niacin	100 mg.
Panthenol	5 mg.
Vit. A	16000 I.U.
Vit. D	5000 I.U.
Vit. C	250 mg.

per Fl. Oz.

UNICHEM LABORATORIES, BOMBAY 26

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than each of the two component
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indicated in Rhinitis, Sinusitis,
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DERMIC OINTMENT
for Pyodermitis, Impetigo,
Ecthyma, Folliculitis, Furun-
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OPHTHALMIC OINTMENT
Conjunctivitis, Blepharitis,
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Ulcers.

PENICILLIN
HIGH POTENCY PURITY STABILITY
FOR THE PHYSICIAN

Manufactured by

The Govt. of India Undertaking HINDUSTAN ANTIBIOTICS LTD., Pimpri, Near Poona.

Prepared and vialled under strict and exacting requirements of Govt. of India
Drug Rules. Available in the following varieties and dosages at current trade prices.

CRYSTALLINE PENICILLIN G SODIUM for aqueous intramuscular injection,
supplied in 2 lac, 5 lac and 10 lac units per vial.

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15 lac units per vial.

PENICILLIN G PROCAINE FORTIFIED WITH CRYSTALLINE PENICILLIN G SODIUM
for aqueous intramuscular injection, supplied in 4 lac units per vial. Contains 75%
Penicillin G Procaine and 25% Crystalline Penicillin G Sodium.

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5 letters that spell the best in penicillin

The name Glaxo has been linked inseparably with penicillin since the earliest days of its manufacture in Britain. From the first, Glaxo played a major role in developing this unique drug and in solving the many problems of its large-scale production. From this background of experience emanate the versatility and quality of penicillin preparations by Glaxo.

PENICILLIN *Glaxo*

pure crystalline sodium penicillin G—first choice in penicillin therapy. Vials of 200,000; 500,000 and 1,000,000 units.

ESTOPEN

penicillin ester with unique affinity for the lungs and respiratory tract. Single-dose vials of 500,000 units penicillin.

SECLOPEN

dry powder for aqueous injection—300,000 units procaine penicillin G and 100,000 units sodium penicillin G per dose. Single-dose and 5-dose vials.

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200,000 units crystalline penicillin G per tablet—for systemic therapy by mouth. Tubes of 10.

CRYSTAPEN *Ointment*

2,000 units crystalline penicillin G per gram—for superficial penicillin-sensitive infections. $\frac{1}{4}$ oz. tubes.

CRYSTAPEN

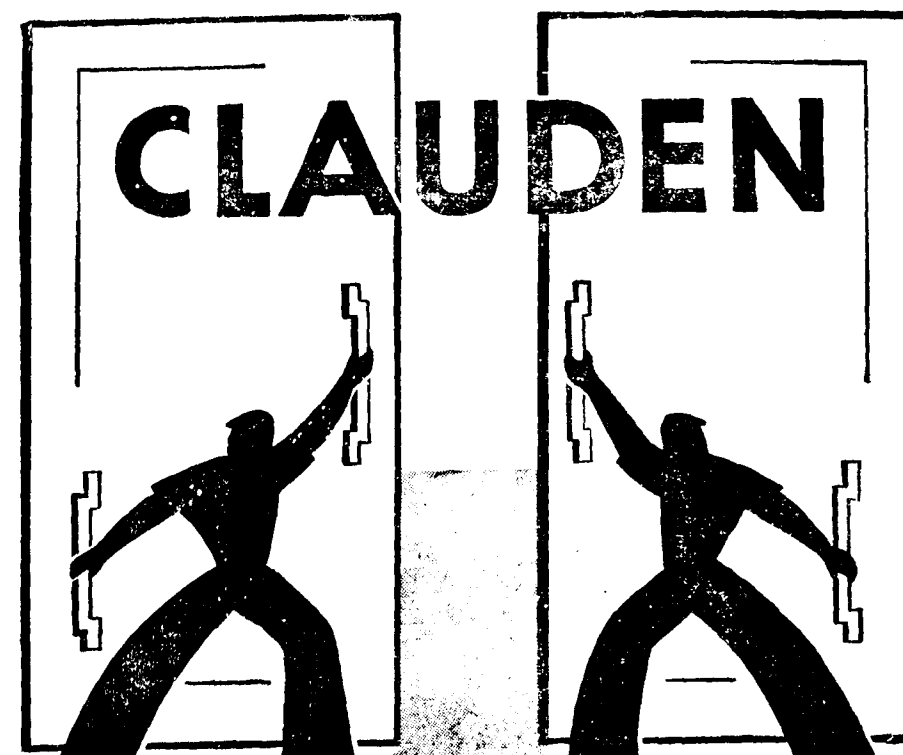
High Potency Ointment

25,000 units crystalline penicillin G per gram—for ophthalmic use and treatment of more resistant skin infections. One drachm tubes, with ophthalmic nozzle.



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stops bleeding at its very source

The haemostatic Clauden represents a reliable bolt in cases of bleeding of every description

Solution — Tablets — Powder

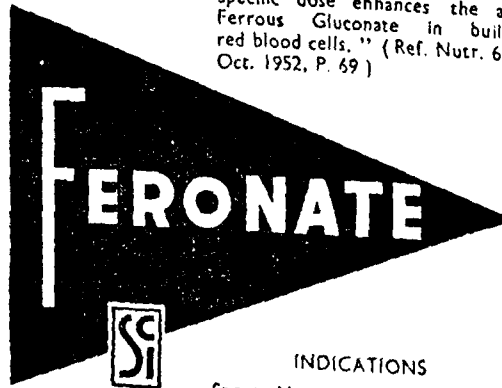
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FOR BUILDING RED BLOOD CELLS.

* "Recent clinical investigations have proved that COBALT GLUCONATE, the only organic salt of Cobalt, which has close relationship with Vit. B₁₂, in specific dose enhances the action of Ferrous Gluconate in building up red blood cells." (Ref. Nutr. 6 bs. V. 13 Oct. 1952, P. 69)



INDICATIONS
Sprue, Nutritional, Megaloblastic
Hypochromic and all other types
of anemias

Each tablet contains:

Ferrous Gluconate	325.0 mg.
* Cobalt Gluconate	25.0 mg.
Copper Sulphate	0.5 mg.
Mn. Hypophosphite	0.5 mg.
Folic Acid	1.75 mg.
Vitamin B ₁₂	5.0 mcg.
Vitamin C	25.0 mg.
Vitamin B ₁	3.0 mg.

PACKING
In bottles of 25, 50 and 500 tablets

THE SANITEX CHEMICAL INDUSTRIES LTD.
INDUSTRIAL ROAD, BARODA-3 (INDIA)

52/5/5



FIGHT CRIPPLING ARTHRITIS

with **D'ORLAN**
MILK with COLLOIDAL GOLD

for Non-specific Protein Therapy Each ampoule contains
1/20 milligram of colloidal gold

In Arthritis, Osteo-arthritis, Rheumatoid Arthritis and Arthritis Deformans; also in chronic inflammatory conditions, e.g. endometritis, cervicitis, salpingitis, ovaritis etc.

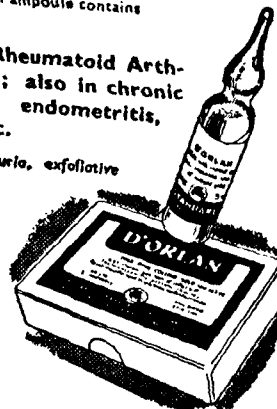
Free from toxic effects of gold such as albuminuria, exfoliative dermatitis etc.

DOSAGE:

Should be regulated so as to produce a moderate reaction
(vide literature)
Administration: by I. M. injection into the gluteal muscles

Samples on request:

STANDARD PHARMACEUTICAL WORKS LTD.
CALCUTTA-14



Rational liver extract therapy,
Can Vitamin B₁₂ and folic acid
replace LIVER EXTRACT?



PROLEX

Will's Factor or other multiple factors
Essential amino acid & Tyrosine
Whipple's Factor
Minerals (Fe, Cu, Cobalt)
Vitamin B₁₂ and B₁₂ Complex
Folic acid and B-Vitamins Thymine
Thymidine
L. Citrovorum factor

All present in PROLEX obtained
from liver after proteolysis

Is the answer to the question.
PROLEX contains all the
natural haematopoietic factors
of WHOLE liver and cannot
be replaced by any artificial
mixture of vitamins.

Indication: In intensive treat-
ment of Anaemia—Macrocytic,
Megaloblastic & Pernicious type
in Pregnancy.

Mode of Issue: 2cc. & 5cc. ampoules in packs of 6, 12 & 50. 10cc. R/C. Phials.

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Ergoapiol-(Smith)
A Menstrual Regulator . . .

When the periods are irregular, due
to constitutional causes, ERGOAPIOL
(Smith) is a reliable prescription.
Containing apiol (M.H.S. special) to-
gether with ergot and oil of savin of
the highest quality, this preparation
effectively stimulates uterine tone and
controls menstrual and postpartum
bleeding.

In cases of Amenorrhea, Dysmen-
orrhea, Menorrhagia and Metrorr-

hagia, Ergoapiol serves as a good
uterine tonic and hemostatic. Valu-
able in obstetrics after delivery of
the child.

DOSAGE: 1 to 2 capsules 3 or 4
times daily. Supplied only in pack-
ages of 20 capsules. Literature on
request.

As a safeguard against imposition the letters
MHS are embossed on the inner surface of each
capsule, visible only when the capsule is cut in
half as shown.



MARTIN H. SMITH COMPANY
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vitamin protection
for the young child

HOMICEBRIN

(Homogenized Multiple Vitamins)

a pleasant-tasting,
teaspoonful-dose form

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EACH TEASPOONFUL (5 CC.) CONTAINS

Vitamin A Synthetic (Palmitate) 3000 U.S.P. or I. units
Thiamin Chloride (Vitamin B₁) 1 mg.
Riboflavin (Vitamin B₂) 1.2 mg.
Pyridoxine (Vitamin B₆) Hydrochloride 1 mg.
Nicotinamide 10 mg.
Vitamin B₁₂ (Activity Equivalent) 3 mcg.
Ascorbic Acid (Vitamin C) 60 mg.
Vitamin D Synthetic 1000 U.S.P. or I. units

IN BOTTLES OF 120 CC.

DOSE

Usually 1 teaspoonful daily.



ELI LILLY AND COMPANY OF INDIA, INC.
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'IMPLETOL'

NEURAL THERAPEUTIC

for the
treatment
of

functional and organical headache, functional disturbances after head injury, neuralgia, sciatica, rheumatic complaints, angina pectoris, asthma, chronic affections of the stomach and gall bladder, sympathicus neurosis.

Original Packaging:
10 ampoules of 2 c.c.
5 ampoules of 5 c.c.



"Bayer"

Leverkusen, Germany

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Branches: P. O. Box, 8943, Calcutta-13. P. O. Box 1743, Madras-1.

In all forms
and stages of
Leprosy

'Conteben'

rapid curative action

freedom
from sensitivity reactions

not anaemia producing.



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Tablets of 0.025 g. and 0.05 g.
and as a fine powder.

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Branches:

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Antispasmodic-Analgesic

PRIMOSPASMYL

PAPAVERINE

Hydrochloride

Each tablet contains:—

Amidopyrine ... 1-5/6 gr.
Phenacetin ... 2-1/4 gr.
Phenobarbital ... 1/3 gr.
Papaverine HCl ... 1/3 gr.
Atropine Methyl Nitrate 1/200 gr.

Indications:—Various spasmodic conditions such as intestinal, biliary and renal colic, whooping cough and bronchial asthma.

Packing:—Bottles of 25, 100, 250 & 500 tablets.

Each tablet contains:

Papaverine HCl 1 gr.

Injectable: 3/5 gr. Papaverine HCl in 2 cc. ampoule.

Indications: Spastic conditions of the smooth muscles such as intestinal, gall bladder, renal and ureteral colic, pylorospasm, angina-pectoris, dysmenorrhœa, embolism of arteries.

Packing: Bottles of 25 & 100 tablets
Box of 6 and 50 ampoules.

Product of

PRIMCO LIMITED,

Lamington Chambers, Lamington Road, BOMBAY-4

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Madras Office:

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P. A. S.

has been proved to be of immense therapeutic value in the treatment of Tuberculosis as a compulsory adjuvant to Streptomycin

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is our Brand of P.A.S. available as Sodium and Calcium salts and also as

PAMIZID

with Isonicotinic acid Hydrazide and Vitamins C, D & B₁

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CALCUTTA-29.

Grams: 'SULFACYL'

Phone: Pk. 3820

OPIL

OPIMALT

Opimalt is a very palatable preparation in malted base of vitamins, calcium and iron which are of fundamental importance for the balanced functioning of the organism. Their therapeutic administration is desirable: (1) when their supply with the food is low; (2) during periods of increased need (growth, pregnancy and lactation); and (3) when the organism is under strain (disease, allergies, overwork).

COMPOSITION: Each 8 oz. contains:

Vitamin A	10,000 I.U.	Choline Chloride	25 mg.
Vitamin D	2,000 I.U.	Methionine	5 mg.
Vitamin B1	10 mg.	Inositol	2 mg.
Vitamin B2	1 mg.	Ferrous Gluconate	300 mg.
Vitamin B6	1 mg.	Calcium Glycero-phosphate	65 mg.
Vitamin C	100 mg.	Calcium Gluconate	130 mg.
Calcium Pantothenate	3 mg.	Malted Base	q.s.
Nicotinamide	30 mg.		

INDICATION: As a nutritious and assimilable food for children. During periods of increased need such as growth, pregnancy and diseases such as tuberculosis.

Available in bottles of 8 oz. and 16 oz.

ORIENTAL PHARMACEUTICAL INDUSTRIES LIMITED,

64-66, TULSI PIPE ROAD,

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SYRUP BETACHOLINE

Syrup Betacholine contains all the known lipotropes, Choline, Methionine, Vitamin B₁₂, Betaine, Folic acid and Inositol. Recent researches on lipotropic therapy have made it more and more evident that the lipotropic factors, although chemically diverse, constitute a group of related substances responsible for effecting transformations of fundamental importance to the liver cells. The individual constituents of Syr. Betacholine have more or less lipotropic function and their inter-relationship of the specific function has made it an efficient remedy for hepatic dysfunction.

PACKINGS:

Phials of 2 and 4 ounces and Bottles of 1 lb.

FOR ORAL USE

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22-7211

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Original German



new! Priatan Cough Syrup

Bronchial relaxant and Expectorant
for Tracheo-bronchitis and
similar spasmodic coughs

INGREDIENTS

ℓ-3,4-dimethylphenyliminothiazolidine hydrorhodanate
ℓ-ephedrine hydrorhodanate
Herbal extracts
Corrigents

Packing: Bottle of 180 g.

Toniazol Tonic *Knoll*

Physical and mental fatigue
Anorexia, low blood pressure
and rapid convalescence

Packing: Bottle of 170 g. liquid



KNOLL A.-G.
Chemical Works, Ludwigshafen-on-Rhine Germany

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DIDROMYCINE

Dihydrostreptomycin
base as sulphate

DIDROSTREPTINE

Association of
Dihydrostreptomycin and Streptomycin

P. A. S.

Powder - Tablets

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New and Different treatment for Angina Pectoris,
Acute Coronary Thrombosis and Chronic Coronary
Insufficiency—Myocardiosclerosis

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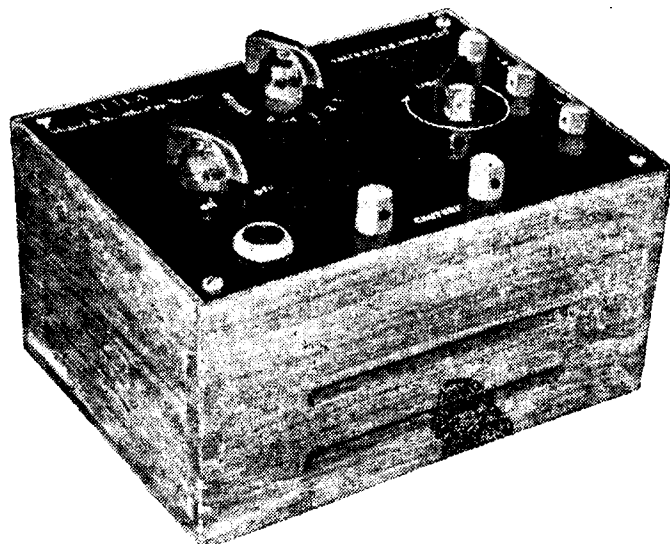
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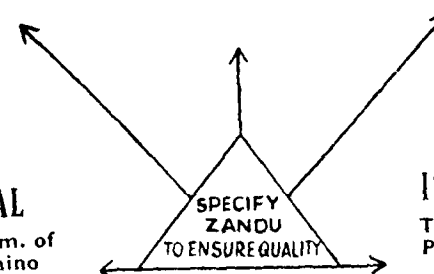
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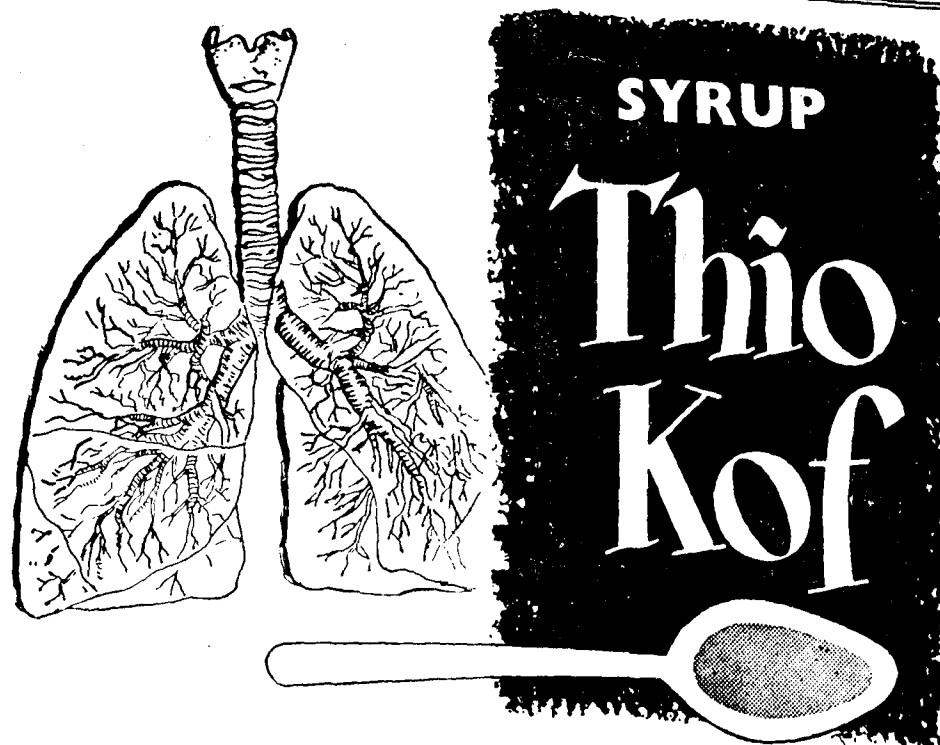
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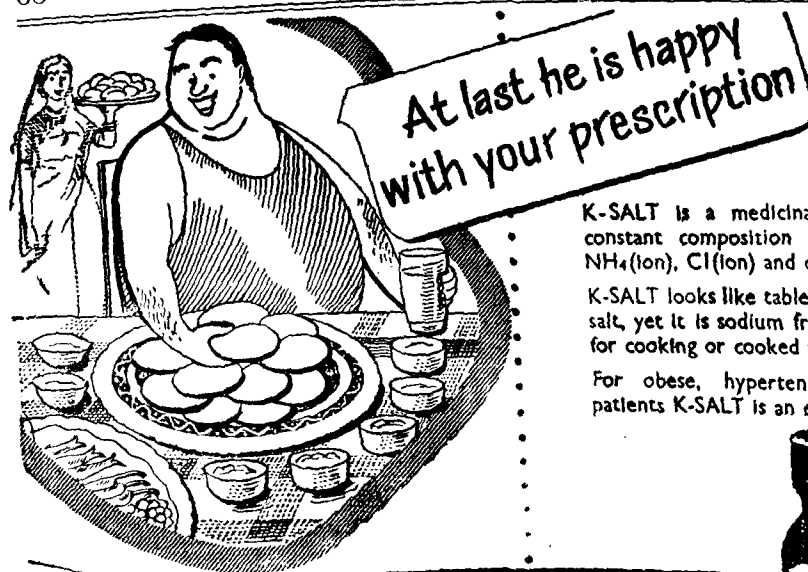
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Original Articles

PAIN IN THE RIGHT LOWER ABDOMEN*

NORMAN S. MACPHERSON, M.B., F.R.C.S.,

Associate Professor of Surgery, Christian Medical College Hospital,
Vellore, S. India

“PAIN in the Right Iliac Fossa”—Of how many diseased conditions is this a leading symptom, and how often does it cause a difficulty in diagnosis! I have, however, chosen “Pain in the Right Lower Abdomen” as the title of this article instead of “Pain in the Right Iliac Fossa” because one needs to think in terms of the whole of the right lower quadrant rather than of the more limited area of the iliac fossa. Physicians, surgeons, gynaecologists and radiologists are all interested in this problem and all are from time to time, perplexed by it, particularly when the pain is chronic.

Let us, however, consider first the question of acute pain in the right lower quadrant and what may cause it. One naturally thinks first of acute appendicitis which, though much less common in India than in some western countries, is always liable to turn up and has to be watched for. There should also be no difficulty in the diagnosis of acute appendicitis when the symptoms and signs are definite; and without discussing this question in detail, I would refer to some of the difficulties in the not-quite-definite case. One quite often sees patients whose symptoms and signs suggest acute appendicitis but who prove not to be suffering from this condition, either by the discovery of a normal appendix at operation or by the subsequent course of the illness, and one should be as concerned to avoid an unnecessary operation as to perform a necessary one.

It is, of course, well known that apart from tenderness in the appendix region—and even this may occasionally be absent—the

* Specially contributed to the ANTISEPTIC.

symptoms and signs of acute appendicitis are very variable, but they usually suffice to enable a diagnosis to be made in a definite case.

The following points, however, should make one hesitate to diagnose acute appendicitis:—(1) Pain which begins in the right side of the abdomen and not in the mid-line; (2) High fever—above 101.5°F. in an adult or 102°F. in a child; (3) The absence of both rigidity and hyperæsthesia.

One must remember that acute appendicitis is not an emergency condition of the same order as a strangulated hernia or a perforated ulcer and that it is always legitimate to spend some hours in the observation, of a doubtful case; such observation, however, must be at frequent intervals—it is not good enough to say, “we shall see how things are tomorrow”—and preferably with the patient in hospital. An accurate record of the temperature and pulse-rate and of the abdominal condition must be kept, and both food and morphine must be withheld until a diagnosis is made. It is naturally better to operate in a difficult doubtful case and find a normal appendix than to refrain from operating and let a perforation occur, but the number of cases where, after judicious observation, there is still uncertainty is very small. Here one may well stress the importance of making a rectal examination and possibly a vaginal examination also. This may reveal pelvic appendicitis or some other pathological condition in the pelvis.

Conditions that may closely simulate acute appendicitis.—

1. *Salpingitis*:—This is, of course, a well-known problem which can generally be solved by a careful abdominal and pelvic examination; this may show inflammation of the cervix and of the left tube as well as of the right.

2. The onset of a *dysentery* or, occasionally, of an *enteric fever*. In such cases it will be found that hyperæsthesia and rigidity are both absent, even though other symptoms and signs suggest appendicitis.

3. *Ureteric calculus*:—Although the pain in this condition is usually the characteristic severe colic, yet it is not always so, and may closely resemble that of acute appendicitis, except that it begins to the right of the mid-line; further, muscular rigidity is absent and microscopic examination of the urine will probably show some red cells.

4. *Acute pyelitis*:—This may produce symptoms very similar to those of acute appendicitis, especially in children. The temperature, however, is likely to be higher; dysuria with a frequency of micturition may be present and loin tenderness and pyuria will probably be detected.

5. *Chest conditions*:—One is inclined to forget the importance of a routine careful examination of the lungs in all cases of what appear to be acute inflammatory conditions in the abdomen: a

suspected acute appendicitis sometimes turns out to be an early pleurisy or pneumonia.

6. *Adenitis*—mesenteric or iliac:—Iliac adenitis generally reveals itself by its position low in the iliac fossa and by the existence of a palpable lump in the vicinity of the external iliac vessels: mesenteric adenitis on the other hand, may simulate appendicitis so closely as to make distinction impossible.

7. *Filariasis*:—This occasionally turns out to be the cause of severe pain in the right lower quadrant as in some other regions: the severity of the pain for which no explanation is apparent may suggest filariasis.

The above is not a complete list of conditions which may resemble acute appendicitis, but will serve as a reminder that, if one wishes to avoid making serious mistakes from time to time, one must not automatically diagnose “acute pain in the iliac fossa” as that of acute appendicitis.

When chronic pain is met with, in the right lower quadrant the problem becomes more difficult. A great deal of the difficulty centres round the question of “chronic appendicitis” and it is very simple to advise the removal of the appendix; if however, this simple course is followed it is likely that the only resulting benefit will be the financial gain to the surgeon—which is hardly justifiable! Of the reality of recurrent appendicitis there is no doubt, but it is seldom that chronic pain in the appendix region, in the absence of any history of an acute attack, is due to disease in the appendix. True chronic appendicitis is more likely to show itself as dyspepsia than as appendix pain.

The number of conditions listed in a text-book on differential diagnosis as causing right lower quadrant pain is astounding!

A. If a palpable mass can be felt, then diagnosis is facilitated though here it is well to remember two facts:—(1) A normal cæcum is quite often palpable especially if it is of the big, mobile variety and is palpated when distended with gas or when in a state of contraction; and (2) a low-lying kidney which may or may not be causing symptoms can sometimes be felt in the right lower quadrant.

B. If no mass is present the following common conditions have to be thought of:—

(1) *Chronic amœbiasis*:—This can produce such a variety of symptoms of chronic abdominal disease that it must always be kept in mind as a possible cause of chronic abdominal pain. It is also important to remember that one negative stool examination is not sufficient to rule out chronic amœbiasis; at least four and preferably six examinations should be made.

(2) *Pelvic conditions*:—It is easy for the general practitioner, physician or surgeon to send a woman patient to the gynaecologist; sometimes a careful enquiry into the time of maximum occurrence of the pain along with a pelvic examination, under an anæsthetic, if necessary, will show that the trouble is in the pelvic viscera but as often as not, these are normal and further search has to be made.

(3) *Cæcal abnormality*:—A healthy organ should naturally never cause pain: in the case of the cæcum, however, it is difficult to define the boundary-line between the healthy and the unhealthy, for I think most clinicians will agree that the large bulky, mobile cæcum does sometimes cause pain and tenderness on pressure without being in any way diseased. Whether this is due to a drag on its attachment to the posterior abdominal wall or to an undue tendency to gaseous distention it is difficult to say; suffice it to remember that the apparently healthy cæcum can be the seat of chronic pain.

(4) *Renal or ureteric calculus*:—Though a stone in the kidney or ureter will nearly always cause a severe pain at some time or other, yet it may be completely or relatively silent. Sometimes it may cause persistent aching pain in the right lower quadrant. Other renal conditions, such as chronic pyelitis or mobile or low-lying kidney, have also to be borne in mind.

(5) *Mesenteric adenitis*:—Often this condition will produce a palpable mass but in a fat abdomen it may not be possible to make out any swelling: it is usually tuberculous in nature.

(6) *Spinal conditions*:—These form a group which are easily forgotten, but vertebral tuberculosis or osteo-arthritis, also postural defects or old injuries may result in persistent pain referred to the right lower quadrant: an iliac cold abscess may be present in Pott's disease and make the diagnosis clear, but even this may be difficult to detect in an obese patient.

(7) *Psychogenic causes*:—There is in my opinion little doubt that there is a psychological basis for some cases of right lower quadrant pain and it is a matter of great difficulty to be sure whether one is dealing with organic or with non-organic disease. If a very thorough clinical investigation fails to reveal any organic cause, then it will sometimes be found that simple psychiatric examination will reveal the reason for the pain.

(Where a lump is to be felt in the right lower quadrant, then the question becomes one of the differential diagnosis of masses in that region; this will not be discussed here).

In trying to get at the root of the difficult problem of chronic pain in the right lower quadrant, the first essential is of course an accurate history, paying special attention to the mode and circumstances of onset, periods of maximum pain,

state of the bowels, previous attacks of dysentery or other gastrointestinal illness, or any abdominal operations. At the same, it is important to form an estimate of the patient's psychological make-up and gain information regarding work, home and family conditions, general mode of life, habits etc.

Next comes a careful general physical examination, with special attention to the abdomen—including a rectal examination and, when possible, a vaginal examination—and to the spine. Chemical examinations of the urine should be supplemented by a microscopic examination, and when pus cells are found, by a bacteriological investigation.

An examination of the faeces for parasites, especially *Entamoeba histolytica* or its cysts, is very important and such examinations if negative must be repeated several times. Sigmoidoscopy will sometimes, though not often, reveal small symptomless ulcers, and any mucus found in the bowel should be examined microscopically.

Radiology can help in some cases; often a renal or ureteric calculus will show up, as will spinal disease, though not minor degrees of joint-subluxations which may cause the pain; a barium enema or meal will usually reveal disease of the cæcum, but on the vexed question of chronic appendicitis, the radiologist will seldom go further than reporting that this condition may be suspected because there is no sure way of recognising chronic appendicular disease; non-visualization, prolonged retention of barium within the appendix, tenderness over the appendix—none of these can be taken as conclusive evidence of disease.

It is not essential to go through all these investigations in every case though they may be necessary for definitely excluding organic disease. If all are negative, then it is tempting—and the patient or the patient's relatives often urge it—to remove the appendix; a definitely diseased condition is seldom seen, even though pathological examination may reveal some evidence of fibrosis; this, however, may be found even in a quite symptomless appendix. In most cases the pain will disappear, in some cases permanently but usually temporarily; one has then to admit having made a mistake in operating. If the cause of the pain is psychological, a removal of the appendix will not effect a cure; neuroses cannot be cured by operation! It is a mistake to think or say that an unnecessary abdominal operation does no harm; it may do considerable harm, and so every effort should be made to avoid one.

Thus, many cases of chronic pain in the right lower quadrant cannot be explained on physical grounds and they offer a challenge to the skill of the doctor. To the general practitioner particularly—for it is he who should know the patient best—is the opportunity given to use his wisdom to discover the real underlying cause: which may be some personal problem, maladjustment or tension,

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Solitary diverticulum of the ascending colon is usually considered a rare condition. Thomson reported 3 cases of solitary diverticulitis of the caecum and cited 8 cases from the literature. Statton (*Am. Surg.*, 104 : 478) and Shier (*Canad. M.A.J.*, 39 : 264) each reported a case; in all these thirteen cases the condition was diagnosed as acute appendicitis.

The syndrome presented by appendicitis is capable of simulating the clinical picture of other abdominal conditions, such as carcinoma or diverticulitis of the caecum and terminal ileitis. If a normal appendix is revealed at laparotomy, a close search is made which will reveal in some cases, acute diverticulitis of the ascending colon.

The conditions described differed but slightly from acute appendicitis, except that the pre-operative course was milder and more gradual and that about 20 per cent of the patients had also complained of spells of intermittent diffuse pain in the abdomen for some months or years prior to the attack for which they sought admission into the hospital. In the acute stage, X-ray examination of the colon with a barium enema is not only dangerous but has little value because the diverticulum is often filled with a faecalith impeding the passage of the contrast medium through the neck of the diverticulum. As to differential diagnosis the surgeon, if he is confronted with a large amount of inflammation and induration of the ascending colon, should bear in mind the possibility of a diverticulum.

No general rule can be laid down for the surgical treatment of diverticulitis, but simple invagination or local incision may be sufficient. Dr. Sarni considers that this may however, be difficult at times, because of the oedema, induration and extension of inflammatory changes in the wall of the large bowel. He has reported on an interesting case. Mrs. A. C., aged 29 was admitted on 23rd August 1953, complaining of pain in the right lower abdominal quadrant of 8 to 10 hours' duration, with vomiting and definite tenderness in the region of McBurney's point. Rebound tenderness and muscle spasticity were noted. The menstrual history was normal. The tentative diagnosis was acute appendicitis. A right lower rectus incision was made and peritoneum entered; no fluid or peritonitis was seen. The appendix was normal. A palpable mass was located midway between the caecum and hepatic flexure, in the lateral wall of the ascending colon. A right hemicolectomy was performed, intestinal continuity being maintained by end-to-end ileo-transverse colostomy. The abdomen was closed without drainage; gastrointestinal suction and intravenous therapy were applied for 2 days and the patient was discharged on the eighth post-operative day.

The pathological diagnosis of a specimen of the excised tissue revealed chronic diverticulitis with acute exacerbation. Roentgen studies made 3 months later showed generalized spasticity of the entire colon, with an increase in the number and depth of the haustrations throughout. There were a few small slightly irritable diverticula along the entire colon, involving particularly the splenic flexure. The impression was that of (1) mild spastic colitis, (2) mild diverticulitis of the colon and (3) a considerably elongated, redundant transverse colon.—(*Jour. Internat. Coll. Surg.*, 24 : 1, July 1955).

SOME PSYCHIATRIC PROBLEMS IN CHILDREN*

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CHILD psychiatry is a very vast subject, embracing several problems in its scope:—

1. *Mental symptoms* appearing as a result of organic diseases of the brain e.g., encephalitis lethargica, suppurative meningitis, encephalopathy following measles and mumps, post traumatic personality changes.

2. *Epileptic states* and epileptic equivalents—with EEG abnormalities.

3. *Nervousness*—as manifested by:—(a) ready tears, fears e.g., fear of the dark, (b) disturbances of sleep e.g., difficulty in falling asleep, wakefulness at night, nightmares, night terrors, sleep walking, (c) disturbed appetite, and (d) anxiety states and hysteria.

4. *Physical symptoms* having an emotional basis e.g., (a) pain in the abdomen, back, head, or limbs, (b) vomiting, (c) bowel upsets, (d) enuresis, (e) attacks of asthma, (f) fits, and (g) speech disturbances e.g., stammering.

5. *Behaviour problems* e.g., (a) truancy, (b) wandering, (c) temper tantrums, (d) uttering falsehoods, (e) pilfering, and (f) cruelty.

6. *Juvenile delinquency.*

7. *Psychological problems* of physically handicapped children.

8. *Poor performance in school.*

9. *Problem of mental deficiency.*

10. *Psychotic disorders.*

[NOTE:—Mental deficiency, epileptic states and organic diseases of the brain being major subjects are *per se*, beyond the scope of this article. The remarks which follow will be confined to some aspects of the maladjusted child].

Incidence.—About one or two per cent of all children require some psychological help (Mayor-Gross *et al*, 1954), which indicates the magnitude of the problem. If all these children were to be treated by trained psychiatrists or psychologists, the number of trained persons required for the purpose will be enormous, and impossible to secure. So the brunt of the task will have to be borne by the family physician. It is believed that adult mental illness is the cumulative result of mental habits acquired and ingrained throughout childhood; hence by giving timely psychological help to the children who need it, we shall not only be doing

*Specially contributed to the ANTISEPTIC.

good to the children who need it, but creating also a well-organised child psychiatric service that will be a sound prophylactic measure aimed at reducing the number of breakdowns in adults.

Child guidance clinics.—The idea of applying psychological methods to the handling of difficult children originated in the U.S.A. where the first clinic named the Chicago Juvenile Psychopathic Clinic was started in 1909 by the efforts of Healey. It confined its attention to the delinquents from the Juvenile Court. The first child-guidance-clinic in the U.K. was established in 1927 in East London. A large number of child guidance-clinics are now in existence in Western countries. A start has recently been made in the larger towns in India also and child-guidance-clinics are functioning in Bombay, Calcutta and Delhi.

It has been found from experience that a team of three experts is the minimum required for the efficient functioning of such a clinic i.e. a child psychiatrist, a psychologist and a psychiatric social worker. School authorities, juvenile courts, and medical practitioners refer problem children or children showing neurotic symptoms to such clinics. But owing to the very limited number of such clinics in our country the bulk of the work will have to be done by the family doctor.

Emotional development—Before coming to the causes of maladjustment in children and its treatment it would be advantageous to mention briefly the various stages of emotional development through which a child passes—what the psychologists call the stages of psycho-sexual development:—(a) the oral stage—early and late, (b) the anal stage—early and late, (c) the phallic phase, (d) the oedipus stage, (e) the latent phase and (f) the genital phase.

(a) *The oral stage* (the first 15 months):—The earliest stage at which all satisfaction is derived from the mouth and the lips. For the first 6 months it is only a passive satisfaction which then passes into active biting and sucking.

(b) *The anal stage*:—The passage of a stool is believed to give a sensuous satisfaction and the satisfaction derived from a large motion is greater than from a small motion, hence there may be a tendency to delay evacuation so as to obtain the stronger sensation.

(c) *The phallic stage*:—The child starts taking interest in his body, particularly the sex organs. There is a tendency to self-display. These three stages of psycho-sexual development are also collectively known as the *auto-erotic* stages in contrast to the later phases called the *allo-erotic* stages.

(d) *The Oedipus stage or Oedipus situation* has received considerable attention from some authorities. The term was originally used by Freud. According to Greek mythology Oedipus was a son

of Laus, King of Thebes and his wife Jocasta. The king learned from an oracle that he was fated to be killed by his son; therefore, when a baby boy was born the King handed the infant to a shepherd who was to leave it on a mountain to perish. The shepherd took pity on the infant and gave him to another king who was issueless. When Oedipus grew to early manhood he met his father during one of his journeys, picked up a quarrel with him and slew him. He then travelled to the land of his birth, where he was given a riddle to solve; and when he had successfully done so, the Thebans in gratitude proclaimed him king and gave him the widowed Jacosta for a wife. It was only after four children had been born to the unwittingly guilty pair that they came to know of the truth. The queen hanged herself and Oedipus blinded himself.

According to the psycho-analysts, all children pass through the Oedipus situation or family-romance. The boy of 5 to 7 becomes attached to his mother and hates the father. It need not cause any trouble if there are no other difficulties and if the mother does not feel flattered and the father does not bother. A similar situation arising in the case of a female child is called the *electra complex* or situation.

(e) *The latent phase*:—When the child has successfully solved the oedipus (or electra) problem he passes into the relatively calm and educative period of sexual latency which lasts until puberty.

(f) *The genital phase*—about the time of puberty there develops a normal heterosexual interest. This is usually preceded by a period of homosexual interest.

The development of a child may be arrested at any of the earlier stages giving rise to psychological abnormalities.

It may be mentioned that all children need:—(1) security, (2) valuation, and (3) freedom.

(1) *Security* as manifested by love, attention and some consistency in environment. Frankness and honesty to the child and between the parents is an important step in this direction.

(2) *Valuation* as an individual and not just as a member of the family or for a particular achievement. Desire for affection and approbation is universal and it should not be curbed.

(3) *Freedom*:—Discipline should not be strict and fierce. Punishment should fit the crime—'one crime one punishment' should be the rule. Messy play e.g. sand play in the garden should not be forbidden. A tendency to self-assertion is normal i.e. wish for personal predominance. Rivalry and jealousy among siblings may be the result.

Psycho physiological relationship.—A physiological point which is worth remembering is that the general metabolism in a child is less stable and the requirement of carbohydrates varies

widely in the twentyfour hours and the acid-base balance readily shifts under emotional as well as physical factors.

Causation of maladjustment.—The relationship between the child and his parents and other members of the family is very important. Any sudden change in environment may produce an emotional crisis in the insecure or over-sensitive child; *e.g.*:

1. *Domestic factors resulting in a sudden change of environment*:—The death of or separation from mother in early age; changing the nurse before the second year of life; lack of oral satisfaction in the first year; going to school; admission to hospital; being left to stay with a relative; the arrival of a younger brother or sister; the introduction of a step-mother; over-protection by parents; the mother building up strong emotional ties with son as a compensation for unhappy married life; pampering by grand-parents; dissensions between parents; exhibitions of strong bursts of anger or fear by parents; excessive strictness or leniency and indulgence lead to disturbances of behaviour and the child either becomes rebellious or unduly docile and passive.

2. *Other domestic factors are*:—The unwanted child; the child's failure to come up to the parents' expectations; the adopted child; the only child; position in the family—the first and the last child problem of the working mother.

3. *Stresses outside the home*:—Tactless handling by teachers; school work not in keeping with the child's intellectual capabilities.

The majority of children are able to adjust themselves to any of the single environmental factors mentioned above. But a combination of two or more factors or the suddenness with which the environment changes, usually determines the onset of maladjustment. Most of the disturbances have their origin in loss of love during the first five years. Anything which makes the child feel that it is not wanted or is less wanted or insecure produces a psychological disturbance which may either be of a temporary nature or may become permanent depending upon how the situation is handled by the parent or guardian.

DIAGNOSIS:—History-taking is important but as a direct approach is not available except in the case of teen-agers it is necessary to interview one or both parents separately and obtain as much information as possible. In school-going children an objective report should also be obtained from the head of the institution. A thorough physical examination should then be made of the child after which indirect methods of approach to unearth the emotional problem should be tried.

Play technique.—Play is the language of the child and play technique has now been developed to a high degree of efficiency. The material used for play-therapy is sand and water, plasticine,

dolls, toy motor cars and engines, toy guns, animals, toy lavatories, watering cans, bricks, pencil and paper. Melanie Klein (1937) compares play to the free association of adults. The child is allowed to choose from the material and use it in any way he chooses (Rogerson, 1939). The therapist may join the play and put in encouraging remarks from time to time.

An example of the usefulness of the play technique:—A girl who was referred for temper tantrums and was very jealous of her younger brother when given two clay dolls of different sizes, would always knock off the head of the smaller one.

In many instances the child improves without any interpretation being given to his play. Although play is the method of choice a practitioner may not have the time or inclination for this technique which is both diagnostic and therapeutic.

Other methods.—Other indirect methods of approach are: story telling; story writing, drawing and painting. Kanner (1948) advocates another simple method. This is based on children's love for fairy tales. After a good relationship is established the child is asked what his choice would be if a fairy was to grant him any three wishes. The answers will, in most cases, provide a great deal of useful information.

In case of the behaviour problem *e.g.* truancy, the possibility of the child being mentally subnormal should be borne in mind. Some of the habit disorders *e.g.* temper tantrums are considered as manifestations of perverted aggression, others *e.g.* head banging are believed to be masturbation equivalents and still others as enuresis, in some cases as a revolt against bad management at home.

TREATMENT:—Only after the diagnosis as to the origin of the maladjustment has been made can an effective treatment be planned. Explanation and re-assurance to the parents and to the child if old enough, is important. Uncritical discussion with the parent of the disturbed child-parent relationship and a brief outline of the normal development in children may be helpful. Attempts should be made to rectify the environmental cause. Drug therapy is usually disappointing.

A few of the commoner symptoms will now be considered:—

Enuresis.—Boys are more commonly affected than girls. History-taking should include an account of the child's physical and mental growth, his relationship to the parents, siblings, companions and teachers and his performance in school and at play. Infections of the urinary tract and other organic causes should be excluded. Parents should then be reassured and advised *not to punish* the child for bed-wetting. Attempts should be made to remove any environmental cause which may exist. The child should be encouraged to keep a *record of the dry nights* and some *reward* for each such night given. The child should be awakened fully at his bed-time and made to pass water.

In some cases drugs like ephedrine (2/3 gr. t.d.s.) or belladonna may help. The child who is difficult to awaken may be given 2.5 to 5 mg. of amphetamine sulphate at bed-time to lighten the depth of sleep (Hubble, 1952).

Disturbances of sleep—The common disturbances of sleep are nightmares and night-starts.

The difference between the two is that night mares may occur in adults or children. The patient wakes from a frightening dream and recollects the dream content atleast partially. In the case of night terrors, however, the condition is found in children only. The child sits up in bed terribly frightened, appears bewildered, may scream loudly but is unaware of his surroundings. In the morning he does not recollect the incident.

Some authorities classify these disorders as well as cyclical vomiting of children as "Glycopenic disorders" although as a rule hypoglycaemia is not found even immediately before the attack (Henderson and Gillespie, 1950). But a dose of four drachms of glucose at bed time in the case of disturbances of sleep and three times a day in cyclical vomiting is usually sufficient to prevent the attacks. One of the explanations given is that in the emotionally unstable children, the easily aroused emotions cause too rapid a depletion of the glycogen stored in the liver. Psychotherapy alone is usually infructuous.

I recently treated two such cases and the case history of one of them is given below:—

Case Report.—S.R., aged 10½, son of a highly placed Government Official was referred for irregularly occurring nocturnal attacks when he would set up in bed, appearing extremely terror-stricken having a vacant look and start screaming loudly. His body would become stiff and the patient made bizarre movements with his hands as if groping in the dark. The attack lasted for 3 to 5 minutes and the patient remembered nothing about the attack on the following morning. The child is the younger of two children of his parents, his only brother being ten years older. The birth of this child was normal. At the age of 2 he had high fever with convulsions. There was another attack of pyrexia at the age of 4, otherwise there was nothing significant in the past history. The patient is an intelligent child, good at his studies. His elder brother whom he likes immensely is his ideal, whom he wants to copy. This elder brother is a brilliant scholar and recently got a first Master's degree from an English University.

The first attack started in 1952 when the elder brother left for U.K. and recurred at irregular intervals. The child is described by his father as shy and timid by nature, above the average in his studies. He prefers sports like swimming to those requiring team work. There are no children of his age in the neighbourhood and his only playmate is a cousin of his who lives in the same house and is being brought up by his parents. He has never been separated from his mother. The father being a busy man has not been able to show any active interest in the child's affairs. Except for the fact that he is a thin child, there is nothing abnormal physically. His fasting blood sugar and glucose tolerance curves are within

normal limits. He is an intelligent, overactive and easily excitable boy having a tic involving the left side of his face. He is ambitious and his three wishes are to have an aeroplane, to be a very rich man and to be 'Congress leader.' He appears to be very shy.

After reassuring the child and the parents, a nightly dose of glucose was prescribed and the patient was free from the attacks for about a year. He was recently sent to a boarding school where he missed his daily dose of glucose several times and had two attacks. It could not be found out whether these attacks came on the same nights when he had omitted taking glucose.

In this case psychological investigations apart from revealing the back-ground have not been availed of, in treating the patient.

Behaviour disorders.—In the hyperkinetic, irritable and ill-tempered children showing episodes of aggression and abnormal behaviour the E.E.G. is usually abnormal. Such cases sometimes benefit from the use of 5 to 15 mg. of amphetamine sulphate in the morning. Glucose should be given simultaneously to counteract the loss of weight (Sargant and Slater, 1954).

Summary.—In this article the following points have been stressed:—1. Child guidance clinics being too few, the bulk of the work has to be done by the family doctor. 2. The stages of the emotional development of the child have been outlined. 3. Security, valuation and freedom are the three important psychological needs of a child. 4. The child-parent relationship is very important and the cause of a maladjustment usually lies in this sphere. 5. Play technique is a useful measure both for diagnosis and treatment. 6. Some of the conditions like disorders of sleep, and some behaviour disorders can be treated by simple measures. One such case treated recently is described.

References:

1. Henderson, Sir David, and Gillespie, R. D. (1950)—A Text Book of Psychiatry, Seventh Ed., Oxford University Press, p. 658.
2. Hubble, D., (1952)—Refresher Course for General Practitioners, B.M.J., London, p. 409.
3. Kanner, L. (1918)—Child Psychiatry, 2nd Ed., Baltimore.
4. Klein, M. (1937)—Psycho-analysis of Children, 2nd Ed., London.
5. Mayor-Gross, W., Slater E., Roth M., (1954)—Clinical Psychiatry, Cassell, London, p. 510.
6. Rogerson, C. H., (1939)—Play Therapy in Childhood, London.
7. Sargant, W., and Slater, E. (1954)—An Introduction to Physical Methods in Psychiatry, 3rd Ed., Livingstone Edinburgh and London, p. 143.

PSYCHIATRY AND THE GENERAL PRACTITIONER

The general practitioner now recognizes that many physical complaints formerly characterised as 'functional' really arise from chronic emotional states stimulating the vegetative nervous system with the resulting disturbance of physiological functions which, if persistent, tend eventually to produce pathological changes. Frequently 30% of his practice will consist of patients who present symptoms that have no organic basis but arise from life-situations that provide no emotional satisfactions or ones that give rise to anxious tensions, feelings of hostility or guilt, to bottled-up resentment, smouldering discontent and other disturbing emotions.

First, psychiatry can be defined as that branch of medicine which deals not only with clinical manifestations and treatment of disturbed thinking, feeling and behaviour but also with the influences that give rise to these disturbances and

how these influences operated to produce symptoms that although apparently meaningless have nevertheless a real meaning and serve some purpose in the mental and emotional life of the patient. Sometimes psychiatry is spoken of as the branch of medicine which deals with such disordered and undesirable functionings of the personality as disturb either the subjective life of the individual or his relations with other persons or with society. It is obvious that processes of maturation and development of the body go on from the time the organism is formed by the fusion of male and female germ cells until adult maturity has been reached. Each person, therefore, has an anatomical structure conforming in general to the species pattern, yet unique in certain details. The distinctive whole formed by the integration of the relatively permanent patterns relating to temperament, intelligence, etc., may be spoken of as personality and its maturity attained only through successive stages of maturation. Each stage of development should be characterized by patterns of feeling and thinking appropriate to it.

Psychiatry may, therefore, be briefly defined as the study of the pathogenesis and pathology of the personality and the application of therapeutic techniques to its disorders. The external shaping of the personality of the child starts with mother-child relationship, which is vital for emotional growth and healthy personality development, as are vitamins for physical growth. Essential as a foundation for healthy personality development the child must feel that he is wanted, loved and enjoyed by his parents. Quite early in the growth of the child's personality some psychological processes come to function on a conscious level and others on an unconscious level and exert their influence on the individual's life without his knowing of their existence. While further development of the personality continues to be directed from both these levels, its pattern, whether rigid or neurotic, or flexibly adaptive to changing external realities, will depend largely on the extent to which psychological and emotional needs from these two levels pursue incompatible goals and to what extent unconscious motives and objectives dominate the personality.

Adolph Meyer, Professor of Psychiatry, Johns Hopkins University, from 1910 to 1941 stressed the concept that mental expressions of life are no less biological than are the physical ones and that the psychiatrist should study man's mental expressions as an interaction of an individual organism with its life-situations. The self-conscious personality with its intense need for a sense of security and self-esteem evokes mechanisms of a protective nature as instinctively as self preservation prompts avoidance of approaching physical danger.

Most mental disorder, however, is not a disturbance in the function of a single organ, like the brain, but the maladapted and disordered behaviour of a particular individual. Physiological disturbances of the brain cannot alone explain disturbances in belief, mood and behaviour; there is no functional impairment in the nerve tissue of the brain; rather does the mental disturbance represent the reaction of an individual personality to its specific life-situations including its social and emotional experiences. Such disturbances are described as psychogenic, *i.e.*, the sources from which they sprang are "mental" and are related to emotional needs, guilt producing situations, irreconcilable desires, disturbing inter-personal relations and other emotional stresses and tensions.....

The age at which the psychosis develops is one when adjustments to new situations and circumstances are no longer easily made. The manifest symptoms of the psychosis are often preceded by a period during which the patient exhibits hypochondriacal trends, becomes irritable, peevish and pessimistic, is perhaps suspicious and shows a disinclination for effort. We must not think of the involuntarily expressive reaction as a circumscribed entity resulting from clearly defined bodily changes but rather that we have to do with an individual whose mental disorder the logical but unfortunate culmination of lifelong personality tendencies —

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TREATMENT OF ANTHRAX IN MAN*

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OVER 150 patients suffering from anthrax receive treatment at the Infectious Service of the Firoozabadi Hospital every year; 90 per cent of these are affected on the face or neck. The majority of cases are of the serious type but anthrax of the internal organs is rare.

The classical treatment in use at our Hospital till the end of October 1954 consisted of injections of Penicillin, oral administration of sulphonamides with streptomycin and sometimes Lugol solution in addition. Local applications consisted of sulphonamide creams and other antiseptics. As anthrax serum was not found to give significant results, its use had already been given up. The results obtained in treating over 200 patients suffering from cutaneous anthrax using the classical method outlined above, showed that, apart from the inconvenience caused by the prolonged period of treatment necessary (1) the symptoms of the disease—fever, oedema etc., and the condition of the patient did not show any improvement during the first 3 or 4 days after beginning treatment, and the symptoms started diminishing only after 5 days and disappeared only on the 7th day; (2) even when the treatment was started very early even before the onset of fever and oedema, the course of the progress of symptoms and complications including the condition of the wound, was not materially arrested; (3) the wound scar was usually deep rooted and started subsiding *only* after 30 days and a deep exudative ulcer developed under the scar requiring prolonged local treatment till it filled up with granulation tissue; and (4) the resultant cicatrix showed up as a brown coloured, cheloidal or/and deformed type, sometimes necessitating plastic surgery.

In addition to the above drawbacks and complications, certain practical difficulties had also to be reckoned with *viz.*, (1) the high cost of hospitalization; (2) the necessarily long occupation of hospital beds that could be otherwise utilised for other and more urgent cases; (3) the desire and insistence of the patients to get discharged early, so as to enable them to earn their living which involved the potentially grave risk of making direct transmission and recurrence of the disease possible.

It was therefore, considered desirable and necessary to evolve some other method of treatment that would overcome the above

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defects and difficulties and would in addition have some definite advantages:—(1) Ease of procedure which would eliminate the need for hospitalization, which cannot be had in many rural areas without hospitals, or for being seen by a physician everyday, (2) the comparatively shorter duration of treatment, and consequent saving on expenditure, and loss of income due to absence from work; (3) the relative freedom from potential risk of transmission of the disease, and (4) the comparatively small size of the resulting cicatrix, without causing deformity or inconvenience to the patient.

Sensitivity of B anthracis to Antibiotics.—Several strains of B anthracis, isolated in Iran tested for their sensitivity *in vitro* showed that they were (1) very sensitive to penicillin and streptomycin, (2) moderately sensitive to Chloromycetin, Aureomycin, Terramycin and Achromycin and (3) least sensitive—almost negligible—against sulphonamides. Similar *in vitro* tests and bioassays made in other lands confirmed our findings with regard to penicillin, and so did not help us in our venture. Gold's observations in U.S.A. and Clarke's in England showed however, the inapplicability of the results of *in vitro* tests to the assay of therapeutic agents *in vivo*; in view of this finding and of the results obtained by other scientists on a limited number of patients, which were obviously inadequate to draw conclusions of value, and also of the fact that the doses of antibiotics used by them erred on the side of too much, because the optimum dose had not yet been ascertained, we decided to carry out a controlled series of experimental clinical tests (repeated as often as necessary) on the relatively larger number of patients who were available to us. We hoped by so doing to be able to determine the antibiotic of choice, the optimal dose required for therapeutic use, and the response of the condition to the antibiotic found suitable. The observations of Gold in America that chloromycetin was better tolerated, led to our giving it a trial to start with.

Our study on the use of chloromycetin relates to the four months *viz.*, November 1954 to February 1955, during which 21 patients were treated; 8 were males and 13 females. One was a child of 15 months, and three were old men; the others were youths or adults.

The site of the lesions.—Nineteen of the 21 had lesions on the face or neck; one on the breast and the other on the head. Three women amongst the 19 had 2, 3 and 4 pustules respectively on the face at the same time.

Technique of the examination.—They were all examined clinically twice or thrice a day. Specimens for bacteriological examination were obtained from the lesions every 24 hours in all cases except in the few first ones who were tested several times a day; specimens were taken with a sterile metallic rod, for culture and direct microscopical examination from (a) vesicles when present



Fig. 1-a Before the treatment Fig. 1-b One week after starting the treatment Fig. 1-c 10 days after starting the treatment Fig. 1-d 25 days after starting the treatment



Fig. 2-a Before treatment Fig. 2-b After treatment



Fig. 3-a Before treatment Fig. 3-b 8 days after starting the treatment Fig. 3-c 4 weeks after starting the treatment

(b) from part of the scar and (c) from the tissues under the scars. Blood-cultures were also taken in the case of patients who had pyrexia on admission.

TREATMENT:—*Dosage and method of administration:*—The adult Iranian weighing 60 kilogrammes (about 132 lbs.) was given 0.5 g of chloromycetin orally every six hours for 3 days. The first 4 patients however, received a higher dose for a longer period, but repeated bacteriological tests and the clinical response enabled us to fix the oral dose of 0.5 g. 4 hourly for 3 days as the optimum. No local applications to the lesions were used in some cases, while topical chloromycetin and dry gauze were applied in some others so as to avoid risk of secondary infections e.g., impetigo.

Clinical results.—(1) *General:*—Very interesting and brilliant results were obtained; the symptoms started going down immediately after commencing the treatment and recovery was prompt and rapid without any complications. The cicatrix was prompt size. The sooner the treatment was instituted, the better and quicker were the results obtained.

(2) *Effect on temperature:*—Patients who had no fever on admission did not develop it after treatment except one who had a rise of temperature 12 hours after treatment started but became normal in 24 hours. In those who had fever on admission, the temperature came down in 12 to 18 hours after treatment. Some of these had a subfebrile condition for about 36 hours. Two of these were exceptions to the above in that the temperature persisted for 30 hours in one, and then came down with a crisis and in the other the temperature shot up for 6 hours after treatment was started and then subsided.

(3) *Effect on the œdema:*—Those who had no œdema at the beginning of treatment remained œdema-free. While in those who had it on admission we noted that the œdema subsided in 18 to 24 hours, leaving a small soft œdema round the lesion, which also disappeared completely in 36 to 48 hours. In one however, the œdema persisted for 38 hours after treatment and then however, tely subsided; in another the œdema developed twelve hours after treatment and lasted for 30 hours.

(4) *Effect on the lesion:*—Generally the lesion got arrested soon after treatment was started, the pustule started drying up in one to three days; after 72 hours only a dry scab was left behind.

(5) *Effect on B. anthracis:*—The results of frequent and regular bacteriological tests showed that the bacilli gradually lost its powers of growth in culture as a result of the treatment and the period required for the sterilization of the pustule varied from 36 to 72 hours.

(6) *Effect on the complications:*—No complications occurred after start of treatment. Complications that occurred prior to treatment

were:—repeated epistaxis, (1 case), vomiting (1 case), torticollis (1 case) and dyspnoea (several cases). All these complications ceased with the treatment.

(7) *Effect on the general condition:*—After treatment was started, local complaints such as itching, tightness and heaviness over the lesion were eliminated and the patients ate and slept well.

(8) *Effect on the ganglia:*—The ganglia were still enlarged after treatment was completed, and became normal in shape only after an average period of about 10 days thereafter. In one case, however, in which the wound was wide and deep, the ganglia were still large after 50 days (*See case A under case reports*).

(9) *Effect on the scars:*—The subsidence of the scars following chloromycetin treatment occurred in about 12 days on an average, as compared with the 30 days of the classical treatment. With chloromycetin the dried scabs fell without leaving an ulceration below, which was not the case with the classical treatment.

(10) *Effect on the cicatrix:*—In patients who received treatment on the day following the onset of the disease, the lesions and the peeling off of the skin disappeared and natural skin appeared. (*See cases B, C and D under case reports*) In patients who had treatment only on the 2nd or 3rd day after onset, the formation of skin varied; in some the natural skin appeared and in others a small cicatrix remained. (*See case E under case reports*).

When treatment was started on the 4th and subsequent days after onset, the cicatrix was always small, external, soft and subject to the lines and movements of the skin and there was no deformity. A patient who had a pustule on the lower eyelid recovered without ectropion: this would not have been possible with the classical treatment.

(11) *Resistance to antibiotics:*—Patients who were treated previously with penicillin but derived no benefit, responded quickly and well to chloromycetin. None of the 21 cases studied, showed any resistance to chloromycetin.

Conclusion.—A comparison of the results obtained by the classic therapy (using penicillin, streptomycin, sulphonamides, and lugol solution) with those obtained by administering chloromycetin in cases of anthrax, shows that chloromycetin is the drug of choice as, (1) it is rapid in its action, (2) it is easy to administer even without hospitalization, (3) the resulting cicatrix is not ugly in appearance and (4) the treatment is comparatively economical because the patient can get back to work in 3 to 4 days.

Case reports.—(A) Mrs. S., 45 years old. Employed in wool and leather factory, was hospitalized on the fifth day of the disease, with a deep triangle shaped necrosis extending from the right ear to the corner of her lip and under the jaw. The depth of the dead tissue was of such a dimension that a steel rod touched the bone of the jaw with a little pressure. In spite of the abundance

of excretion there was much oedema, temperature was 38°C which after 12 hours of treatment became normal; oedema disappeared on the 4th day and the wound became dry, but the scar fell after 50 days, leaving a cheloid and deforming cicatrix.

(B) Mrs. B., 55 years old. Employed in a wool and leather factory was hospitalized 23 hours after the onset of the disease, with a malignant oedema covering the whole face and neck, the right eye and the eye-lid being hidden by the oedema; liquid excretion from the eye, contained *B. anthracis*. Temperature 40.5°C, which became normal after 12 hours of medication, when the oedema also disappeared with the exception of a soft oedema round the eye, which however, did not hinder the patient from opening her eyes. However, the conjunctiva was a little red and the excretion did not show *B. anthracis*. The patient left the hospital on the 7th day without any sign of the disease.

(C) Mrs. S., 22 years old, wool and leather factory worker reported to hospital 24 hours after the onset of the disease with a wide brown speck on the chin with much itching (Laboratory diagnosis). She was started immediately on chloromycetin; the local itching was relieved after 2 to 3 hours and the colour of the speck became pale and disappeared after 36 hours. On the fifth day she developed external desquamation of the speck, and left the hospital with a natural skin.

(D) Mrs. A., 64 years old, working in a wool and leather factory, reported to us 24 hours after having a vesicle on the face with much oedema. Temperature was 39°C. Treatment was immediately commenced. The temperature was absorbed very rapidly, vesicle became dry, but on the fourth day impetigo cicatrix appeared.

(E) Miss P., 14 years old, to whom anthrax was transmitted by her father, referred to us after 2 days; had 4 simultaneous pustules on her face, which responded to the new method of treatment, but the falling of scab occurred at two different times (with 5 days' interval). She developed natural skin on two places and apparent cicatrix on the other two.

Our grateful thanks are due to Dr. M. B. Mashayekhi, Chief of the Public Service General Office of the Ministry of Health for his valuable cooperation in this study.

References:

1. Gold, H., and Boger W. P. (1951)—*New Eng. J. Med.* 244: 391.
2. Clarke, P. S. (1952)—*Br. Med. Jour.* 86: 12, 1: 1952.

CHLORAMPHENICOL

Bacterial resistance is becoming an obstacle to the continuing benefit of antibiotics to mankind.....For a short time it was thought that the broad spectrum antibiotics were not going to engender resistance but before long these hopes were shattered. Chloramphenicol resistance has been produced *in vitro* in a number of bacterial species. It developed gradually and appeared when the resistant organism was cultured in chloramphenicol free media. Thus it resembles the penicillin pattern more closely than the streptomycin type. It has also developed with *S. aureus*, with hæmolytic and non-hæmolytic streptococci, and during treatment of typhoid fever.

It is not yet known whether chloramphenicol resistance results from the development of alternative metabolic pathways or from increased production of enzymes capable of hydrolysing chloramphenicol.

In its mode of action, it is bacteriostatic mainly and is known to act on a number of cellular systems.....It somehow inhibits protein synthesis, but how is not known.—(*Univ. Leeds Med. Jour.*, Feb. 1955).

CRUDE LIVER EXTRACT USED INTRAVENOUSLY IN HEPATIC CIRRHOSIS*

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THE precise ætiology of hepatic cirrhosis is still unknown. Infectious hepatitis, chronic infections, toxæmia, disturbances of metabolism, tissue susceptibility and undoubtedly central nervous system influences *e.g.* in hepato-lenticular degeneration, all play their roles in the causation of the disease. Alcoholism tends to reduce the intake and utilization of B-complex factors, by decreasing the appetite, and thus leading to temporary or permanent avitaminosis. In our country inadequate diet, specially poor in proteins, the excessive use of spices and condiments, avitaminosis and parasitic infections play an important role. The present-day view is in favour of including cirrhosis in the list of dietary deficiency diseases.

Various treatments have been tried without knowing the exact ætiology. Liver extract has long been used in the treatment of cirrhosis in the hope of supplying some substance which has become deficient due to liver damage. Patek (1937) advised the regular administration of liver orally as well parenterally. Giliberti found the use of purified liver extract intravenously in increasing doses to be of definite therapeutic value in his cases. The Rockefeller Institute for Medical Research also reported good results from the intravenous administration of liver two or three times a week. Labby *et al* also recommend purified liver extract intravenously. Kari *et al* (1953) gave crude liver extract intravenously in gradually increasing doses in hepatic coma. Kalk *et al* (1953) also gave unpurified liver extract intravenously every day in 3 to 4 cc. doses for three to six months, diluted with lævulose and reported satisfactory results. None of the cases in which intravenous crude liver extract was tried by us were given any other drug. They were on ordinary hospital diet which consisted of *chapattis*, *dhal* and vegetables with no extra proteins.

First, an intradermal test was done for sensitivity and if the patient showed no signs of sensitivity, 0.5 cc. of the product diluted in 10 cc. of 25% glucose was given slowly in 5 minutes on the next day. The dose was increased by 1 cc. every day to 5 cc.; up to 15 injections, it is given daily and then on alternate days. We have tried it so far in 20 cases and the results of treatment with other relevant particulars are presented in the tabular statements appended to this article.

* Specially contributed to the ANTISEPTIC

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Name, age, sex, date of admission	Symptoms and signs	Clinical diagnosis	Liver functions and biopsy	Number of I.V. injections of crude liver extract	Conditions after treatment	Remarks
O. 35, male, H. 22-5-'54	Pain in abdomen 2 months. History of fever and chills. Liver just palpable; spleen 3 fingers. Anemia and free fluid in abdomen present.	Cirrhosis of liver	T.T. 1 unit T.F. 0 Blood proteins 5.4 g. Alb. 3.1 g. Glob. 2.3 g. Liver biopsy—focal necrosis Hb. 6.8 g.	14	Feeling much better ascites reduced	Had flushing of face during first two injections
D. 20 years, female, H. 1-6-'54	Pain in right hypochondrium and epigastrium 9 months. Distention of abdomen and general weakness 15 days. Anemic, liver 3 fingers; spleen 1 finger; ascites +	Do.	T.T. 3 units T.F. 1 unit Zinc turbidity 8 units CGF 1 + Blood proteins 5.8 g.% Alb. 1.5 g. Glob. 4.3 g. Liver biopsy—loss of normal, pattern focal necrosis; islands of hyperplasia slight increase in fibrous tissue—early cirrhosis Hb. 4 g.	33	Feeling much better. No fluid in abdomen	
P. 30, male, H. 11-6-'54	Distention of abdomen 10 months. Bleeding per rectum 10 months. Tapped 4 months back. Liver not palpable. Spleen 2 fingers; ascites + + internal piles +	Do.	T.T. 1 unit T.F. 0 C.G.F. 0 Zinc turbidity 4.8 units Blood proteins 5.4 g.% Alb. 3.4 g. Glob. 2 g. %	17	No improvement	Had no reaction
N. 40, male, H. 4-6-'54	Pain in right side of chest 4 months, pain in abdomen 4 months. Loss of weight 4 months. Liver 3 fingers enlarged. Spleen not enlarged. No ascites.	Do.	T.T. 1.6 units T.F. 0 C.G.F. 0 Blood protein 4.9 g. Alb. 1.8 g. Glob. 3.1 g. Liver biopsy—focal necrosis and slight fibrosis.	17	Feeling much better on discharge on 17-7-'54	
G. 55, male, H. 27-6-'54	Distention of abdomen 2 months. Loss of appetite and general weakness 2 months; liver and spleen not palpable. Ascites + +	Do.	T.T. 3 units. T.F. 1 + C.G.F. + + Blood protein 5.4 g. Alb. 1.8 g. Glob. 3.6 g.	5	No improvement	Left the hospital
R. 13 male, H. 28-5-'54	Pain in abdomen and loss of appetite, nausea 6 months; jaundice 2 months. Liver left lobe 4 fingers. Right lobe just palpable. Spleen not palpable. No ascites.	Do.	T.T. 6.4 units T.F. + + Z.T. 9 g. Blood proteins 6.1 g. Alb. 2.4 g. Glob. 3.7 g. Biopsy—local necrosis retention of bile pigment. Evidence of protein deficiency. No evidence of hepatitis Hb. 8.5 g.	20	Feeling better	

No.	Name, age, sex, date of admission	Symptoms and signs	Clinical diagnosis	Liver functions and biopsy	Number of I.V. injections of crude liver extract	Condition after treatment	Remarks
7	S. 30 years, male, H. 16-8-'54	Distention of abdomen gradually increasing in last 2 years. Loss of appetite 15 days. Oedema over feet. Liver +. Spleen not palpable; ascites + + +	Cirrhosis of liver	T.T. 4.8 units T.F. + + CGF 4 + Z.T. 6.4 Blood proteins 4.8 g. Alb. 1.9 g. Glob. 2.8 g. Liver biopsy post necrotic scarring. Advanced cirrhosis of liver.	7	No improvement	Left against advice
8	R. 35 years, female, H. 19-8-'54	Distention of abdomen 6 months. Liver +. Spleen 8 fingers; ascites +	Do.	T.T. 1 unit T.F. + Z.T. 3 Blood proteins 5.4 g. Alb. 2.1 g. Glob. 3.3 g. Liver biopsy—focal necrosis, scanty mono-nuclear infiltration. Hb. 13 g.	15	Feeling better No free fluid in abdomen	Stool E. cysts +
9	L. 42 years, male, H. 18-8-'54	Distention of abdomen. Loss of appetite 2 months jaundice + liver 3 fingers; spleen + 3 fingers.	Do.	T.T. 7 units T.F. + + Z.T. 13 CGF + + Biopsy—cirrhosis liver. Hb. 12 g.	9	No improvement	Left against advice
10	K. 10 years, male, H. 12-8-'54	Abdominal distention 2 months. Pain in right sub-costal region. Liver 3 fingers. Spleen 2 fingers jaundice + no ascites.	Do.	T.T. 4.8 units T.F. + + Z.T. 7 Blood proteins 6.1 g. % Alb. 1.6 g. Glob. 4.5 g. Biopsy—early cirrhosis (fatty degeneration) Hb. 5 g.	13	Feeling better Hb 7.5 g.	
11	Ka. 40 years, male, H. 1-8-'54	Fever-141.73, pain in upper abdomen 1 month; liver 7 fingers. Spleen not palpable jaundice + no ascites.	Do.	T.T. 0 T.F. 0 CGF + + Z.T. 3.2 unit Biopsy—fatty infiltration; liver cells contain golden yellow pigment (hemosiderine) Blood proteins 4.4 g. Alb. 2.2 g. Glob. 2.1 g.	15	Feeling better liver 4 fingers + no ascites	On 10th injection had urticaria
12	S. 40 years, male, H. 21-10-'54	Fever off and on 2 years. Liver just palpable; spleen upto umbilicus. No free fluid in abdomen.	Do.	On 16-11-'54 T.T. 8 units T.F. + + + Z.T. 10 units CGF. 3 + Kahns test + + Hb. 9 g. Biopsy—marked hyperplasia of Kuffner cells; focal necrosis; slight fibrosis.	15	Feeling better	On 10th injection urticaria developed 8 inj. of P.A.M. also given.

S. No.	Name, age, sex, date of admission	Symptoms and signs	Clinical diagnosis	Liver functions and biopsy	Number of I.V. injections of crude liver extract	Condition after treatment	Remarks
13	J. 45, female, H. 21-9-'54	Abdominal enlargement 1 year; generalised oedema 2 months; liver 4 fingers; spleen not palpable; ascites +	Cirrhosis of liver	T.T. 5 units T.F. ++ Z.T. 8 units CGF +++ Blood proteins 4.4 g. Alb. 0.9 " Glob. 3.5 " Biopsy—areas of necrosis and fibrosis seen. Cirrhosis of liver.	50	5-1-55: T.T. 1 T.F. 0 CGF 0 21-1-55: Biopsy—periportal fibrosis and lymphocytic infiltration. Deposit of yellow pigment cirrhosis of the liver	No ascites. Liver not palpable at the time of discharge.
14	P. 30, female, H. 1-10-'54	Enlarging abdomen and general debility 4 months. Liver + spleen not palpable; ascites ++	Do.	T.T. 4 units T.F. + Z.T. 2 units C.G.F. ++ Biopsy—cell cytoplasm granular and in some areas reticulo endothelial cells hypertrophied. Increased cellularity of portal tracts. Focal areas of necrosis. Subacute hepatitis	50	No ascites. Liver spleen not palpable	
15	J. 30, female, H. 19-11-'54	Enlarging abdomen 7 months. Loss of appetite and general weakness 17 months. Liver just palpable; ascites +	Do.	T.T. 0 units T.F. 0 " Z.T. 5 " C.G.F. + Blood proteins 5.4 g. % Alb. 1.3 g. % Glob. 4.1 " Biopsy—focal necrosis.	27	Feeling much better	No ascites.
16	G. 25, female, H. 15-11-'54	Swelling over feet 3 months. Distention of abdomen 1 month. Ascites ++ liver 3 fingers; spleen + 2 fingers.	Do.	T.T. 2 units T.F. + C.G.F. 3 + Blood proteins 5.7 g. Alb. 2.4 g. % Glob. 3.3 g. % Biopsy—diffuse hepatic fibrosis. Hb 5.8 g.	41	Feeling better 10-3-55 T.T. 1 unit T.F. 0 C.G.F. 1 Blood proteins 6.8 g. Alb. 3.8 Glob. 3 Check biopsy on 17/3 Slight fibrous tissue proliferation and focal necrosis.	No free fluid. Liver not palpable. Spleen +. Even biopsy showed improvement.

S. No.	Name, age, sex, date of admission	Symptoms and signs	Clinical diagnosis	Liver functions and biopsy	Number of I.V. injections of crude liver extract	Condition after treatment	Remarks
17	J. 30 years, female, H. 19-11-'54	Swelling enlargement of abdomen 7 months. Loss of appetite 17 months; Poorly nourished; Fluid ++ liver, spleen not palpable even after tapping.	Cirrhosis of liver	T.T. 0 units T.F. 0 units CGF + Z.T. 5 " Blood proteins 5.4 g. Alb. 1.3 " Glob. 4.1 " Biopsy—focal necrosis	27	Better. No fluid in abdomen.	
18	G. 25 years, female, H. 15-11-'54	Gradual distention of abdomen for 6 months; swelling feet 3 months. Ascites ++ Liver +; Spleen 2 fingers.	Do.	T.T. 2 units T.F. + CGF +++ Blood proteins 5.7 g. Alb. 2.4 " Glob. 3.3 " Biopsy—diffuse hepatic fibrosis: cirrhosis of liver	45	15-3-'54. Focal necrosis with slight fibrotic lesion. T.T. 1 unit T.F. 0 CGF +1 Blood proteins 6.8 g. Alb. 3.8 " Glob. 3 "	There was no fluid in abdomen. Liver not palpable; spleen palpable. She showed all round improvement abdominal girth on admission 45" and on discharge 31"
19	M. 20 years, male, H. 25-11-'54	Pain in abdomen 6 months; loss of appetite 6 months; liver 1 fingers; spleen not palpable; no ascites	Do.	T.T. 1 unit T.F. 0 CGF 0 Biopsy subacute hepatitis	22	Patient better.	
20	R. 25 years, male, H. 4-1-'55	Distention and pain in abdomen. Weakness 1 months' oedema feet liver 1; + spleen 2 fingers; ascites ++	Do.	T.T. +++ T.F. 0 CGF 0 Blood proteins g. Alb. 8 " Glob. 2 " Biopsy—subacute hepatitis with acidophilic inclusion bodies in nucleus.	25	No ascites; liver and spleen not palpable.	

Discussion.—Crude liver extract from 10 g. of raw liver with 25 micrograms of vitamin B₁₂ and 5 mg. of folic acid, 100 mg. of niacinamide and 25 mg. of choline dihydrogen phosphate per cc. was given diluted with glucose intravenously to patients with cirrhosis of the liver.* 475 injections were given in all. None of the cases showed any reaction except a mild urticaria in one case and a slight flushing of the face in two cases at the beginning. There were no immediate or any delayed reactions. Out of the 20 patients treated, 16 felt better, and two left after 5 and 7 injections respectively. One left the hospital after 9 injections

* "Uni B12 & Folic" marketed by Unichem Laboratories of Bombay was used.

as he had some urgent work, and in one case there was no improvement even after 17 injections. So far, liver extract in purified form had been used intravenously, except by a few who have tried crude liver extract intravenously.

B₁₂ has also been found to have some lipotropic effect and some protective effect against carbon tetrachloride poisoning. Some believe that the proteins in liver extracts exert a better protective effect than other proteins. In cases which showed improvement there was a sense of well-being, an increase in the appetite, and diuresis and in six cases the ascites disappeared.

We have found that crude liver extract can be given intravenously without any ill effects and so we are continuing the clinical trials in order to assess the long-term results of giving crude liver extract intravenously in cases of cirrhosis.

Summary.—(1) Crude liver extract as marketed for intramuscular use was given by us intravenously to 20 patients; a total of 475 such injections were given so far, without any reactions immediate or delayed. (2) Clinical improvement was recorded in 16 of the 20 patients, as judged by a feeling of well-being, increased appetite, and also the disappearance of ascites in six cases. Check-liver biopsy was done in some cases which showed improvement *e.g.*, Case No. 16. (3) The technique of giving crude liver extract intravenously is described.

4. Purified liver extract has a definite place in the treatment of cirrhosis of the liver and hepatitis. We used crude liver extract without any untoward effects, in the hope that the proteins of the liver would have a greater protective value than other proteins and we obtained good results in 16 of the 20 cases.

We are thankful to the Unichem Laboratories for the supply of the product and for specially preparing for us, solutions containing liver extract derived from 20 g. of fresh liver per cc. for intravenous use.

Our grateful thanks are due to Prof. R. K. Goyal and his staff for useful help.

References:

1. Drill Vastal (1948)—*Proc. Exper. Bio. and Med.*, 72: 389.
2. Gilberti, J. J. (1946)—*Marquette Med. Rev.*, 12: 26.
3. Kalk, H. et al (1953)—*J.A.M.A.*, 151: 8: 685.
4. Labby, D. H. et al (1947)—*J.A.M.A.*, 133: 1181.
5. Michail M Karl et al (1953)—*Arch Int Medicine*, 91: 159-176.
6. Patek, A. J. Jr. (1937)—*Proc. Soc. Exper. Biol. and Med.*, 37: 329.
7. Spellberg, M. A. (1954)—*Diseases of Liver*, pp. 573-582, Grune and Stratton, New York.
7. Tidy H and Short, A. R. (1950)—*Medical Annual*, pp. 165-170, John Wright and Sons Ltd., Bristol.

CHEMOTHERAPY IN ANTHRAX

The principles governing the rational use of antibiotics can be demonstrated in their employment in dermatology. Before using antibiotics it is always necessary to enquire carefully into the previous use of these drugs. In treating skin reactions to antibiotics the dermal reaction responds to antihistamine drugs, but they have no effect on epidermal relations except as sedatives. Treatment with penicillin intramuscularly with Solavo's serum has proved satisfactory in anthrax: but in resistant cases good response was had with aureomycin or terramycin.—(*Univ. Leeds Med. Jour.*, Feb. 1955).

IDENTIFICATION FROM BONES IN THE TIRUNELVELI DISTRICT COMMUNIST CONSPIRACY CASE*

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THE necessity for establishing the identity of the deceased in murder cases is well known, since proof of 'Corpus delicti' is essential before a sentence can be passed by Judges after trial. This problem is rendered very difficult or even impossible of solution in many cases in our country on account of the rapid putrefactive changes that set in and as a result of the ravages by wild animals when dead bodies are left exposed on the outskirts of villages. Also exceptional facilities exist for destroying traces of murder by throwing the body into a river or disused well or concealing it in a jungle or under the ground in fields or even under the mud flooring of a house. Sometimes segmentation of the body and deliberate mutilation are done to prevent identification. In some parts of the Madras State, decapitation followed by disposal of the head and trunk in two separate places is practised with some measure of success by the criminals. Bones recovered from several cases with or without soft tissues have been received in this department for expert opinion and the reports made thereon have been invaluable during the course of trial of those cases. In the 'Alavandar Case' the medical evidence that the head and the trunk belonged to one and the same person Alavandar, was so overwhelming that the identity was not seriously questioned during the trial at the High Court Sessions.

Another case which engrossed the attention of the South Indian public for a considerable time is recorded here in order to bring home to the medical and police officers, how careful preservation and examination of bones could lead to a definite conclusion regarding identity in a case of decapitation even when the examination is made long after the murder.

The history of the case given below at some length is based on the facts recorded in the course of the judgements delivered by the Additional Sessions Judge sitting in the Court of Sessions, Tirunelveli Division on the 11th August 1952 and subsequently by another Additional Sessions Judge on 2nd November 1953. Nearly 180 witnesses and 700 exhibits were examined during the first trial and 100 witnesses and more than 400 documents were examined during the second trial. Much skill and ingenuity were shown by the investigating staff in unearthing the conspiracy and in collecting materials for unmasking the culprits.

*Specially contributed to the ANTISEPTIC.

Summary of the case.—From 24-3-1952, Ponnu and 66 others took their trial before the Additional Sessions Judge at Tirunelveli for criminal conspiracy and for offences alleged to have been committed in furtherance of the conspiracy. The duration of the conspiracy, according to the charge, was from January 1949 to June 1950. The Communist party had its head quarters at Tuticorin for about 5 months, and at other places like Palayamcottai, Melapalayam, etc. during the rest of the period. Going down the shaft of the mine, there was the nether world with the three members of the District Committee Secretariat, attached to which was the District Committee. For purposes of intensification of work and for effective supervision, the party had divided the district into several units and in each of these units, there were several cells, e.g. Mill workers' cells, Railway Workers' cells, etc. The conspiracy was to (1) overthrow the Central Government and the State Government in the Madras State by means of a general strike accompanied by armed rebellion; (2) in the meantime, to prepare the district by acts of terrorism, for a state of lawlessness; (3) to remove or disable the enemies of the conspiracy by murder and other acts of violence and (4) to train workers and peasants for the ultimate general strike and rebellion.

Among the specific charges, count 2 was that 10 of the accused along with P.W.2 (approver) murdered one Ambur Natarajan on 5-7-'49. The prosecution account of the commission of the offence of murder was given by the approver in the lower court. In the Sessions Court, he repudiated the evidence he gave in the lower court and stated that it had been procured by police torture.

This Natarajan was about 29 years of age in 1949. He was working in Harvey's spinning mills till 1940, when he was dismissed for affixing a picture of Bhagvat Singh in the mill premises. In 1947, misunderstandings arose between him and his elder brother (P.W.5); a division of the family properties took place; he squandered his share away, then went to Trivandrum where he married a Malayalee girl and was living with her for some time in Kankaya nallur; here he got involved in a case of rioting, as a result of which he had to leave the place; he went to Mannarkoil and was living in a house near those of P.Ws.5 and 6 (his brother and one Subbiah Mooppanar). Natarajan and P.W.6 were returning from Brahmadam on the night of 5-7-'49 and when they were at a distance of one furlong from Mannarkoil, they met 4 or 5 persons. Natarajan said he would stay behind to talk with these persons and sent P.W.6 away. P.W.5 was expecting his brother to return. He did not. Ten or fifteen days later, Natarajan's wife told P.W.5 that she wanted to go to her sister's house in Travancore. Neither P.W.5 nor P.W.6 had seen Natarajan thereafter. The Sub-Inspector of Police, Vikramasingapuram (P.W.129) had information about the middle of November 1949 that Natarajan was missing.

On 12-6-1950, one of the accused, A. 65, led P.W.167, the Inspector C.I.D. and the doctor to a place on the southern bank of the Karunayar, a little to the east of a temple in Brahmadam. He pointed out a spot near the burning ghat which had grass grown over it. It was uniform in appearance with the surrounding ground. The place was dug up. Sand was first seen. Then black earth was found. After digging to a depth of about 4 feet, a heavy stone was seen, which was removed. The party then found thorny shrubs which were also removed. Thereafter the soil was particularly black and foul-smelling. Underneath were found human bones. Except for a few minor bones all the bones of the trunk and the limbs including the lower half of the neck of a human being were found. The Assistant Surgeon, Ambasamudram, gave it as his opinion that the bones were those of an adult human being and that the person must have died about a year before. In order to obtain an expert opinion, these were sent to me through the Chemical Examiner. On 17-6-1950 another accused, A. 66 told the Inspector P.W.167 that he and others had dug a pit and buried—Natarajan's head in a corner of 'Kolinji' punja on the northern bank of the Karunayar. After digging to a depth of 2 feet they found two small stones, under which a human skull, some neck bones and the hyoid bone were found. Teeth and human hair were also found. These bones were also sent to my department through the Chemical Examiner, Madras.

The prosecution case was that because Natarajan had betrayed the Communist Party and was a hindrance to their underground activities, they were waiting for an opportunity to get at him, that on 5th July 1949, while he was returning home along with another person from Brahmadam, some members of the Communist Party took him away, murdered him on the same night (striking his testicles with stones after stuffing his mouth with a cloth), severed the head from the body and buried the body on the southern bank and the head on the northern bank of the Karunayar river. Some printed notices seized from the party and especially one document recovered from one Moni at the time of his arrest provided adequate proof of this murder. Among other things, the latter document stated how the Communist Party had got rid of Natarajan in these terms: "Traitor Natarajan was removed from the party. He became a spy and was wandering in this area itself. He was contacting the Police and standing as an obstacle in our way. In spite of attempts made on several occasions, he could not be taught a lesson. Today he was trapped. It was planned to give a bath to this Saturn and it was accordingly carried out successfully. In that work six comrades of Vagai and one comrade of Singai took part. I also took part." It was also stated therein that the above occurrence took place when the general body meeting was held on 5-7-'49 and hence those who participated in the occurrence could not attend the meeting.

At the trial, the presiding Judge was satisfied that the prosecution had proved that Natarajan was murdered on 5-7-49. All the assessors were of the opinion that three of the accused were guilty of the murder of Natarajan while the other 7 were not guilty and this was also the finding of the Hon. Judge who sentenced the three to transportation for life. For the other offences, 51 were acquitted and the rest were convicted and sentenced on 11th August 1952 to varying terms of imprisonment.

Out of the 10 accused who absconded, the cases against six were withdrawn and that against one other accused is still pending as he is absconding. The remaining three accused were tried by another additional Sessions Judge at Tirunelveli who sentenced two of them to transportation for life and one to rigorous imprisonment for 8 years, on 2-11-1953.

Comment.—The various steps towards establishing the identity of the deceased in this alleged murder were the following:—

I. The bones recovered on 12-6-1950 might have belonged to Natarajan who was reported missing. These consisted of 91 pieces of bones including most of the bones of the human trunk and also 19 vertebræ among which the 5th, 6th and 7th cervical vertebræ were found. These might have belonged to Natarajan because (a) all appeared to belong to a male person (hip bones, and long bones being most helpful); (b) age appeared to be between 25 and 35 years; (the fusion of the epiphyses of long bones first and second segments of the sacrum and the sternal end of the clavicle, being most helpful); (c) stature calculated from the length of the long bones being consistent with the actual height of Natarajan; (d) the time of death as judged from the bones was not inconsistent with the time of the alleged murder of Natarajan.

II. The bones recovered on 17-6-1950 might have belonged to Natarajan; they consisted of human skull bones and the upper four cervical vertebræ and the hyoid bone. These might have belonged to Natarajan because (a) the sex was male (skull-bone being helpful); (b) the age appeared to be between 25 and 35 years (sutures of the skull, wisdom teeth and mandible being helpful); (c) the time of death as judged from the bones was not inconsistent with the time of the alleged murder.

III. These two sets of bone *must have belonged* to the same person. This was proved beyond doubt (in addition to the corroborative points mentioned above separately for the two sets of bones) by the observations that (a) the lower 3 cervical vertebræ in the first set reciprocated anatomically with the 4 cervical vertebræ in the second set; (b) there were superficial linear cuts on the 5th and 6th cervical vertebræ continuous with those on the 4th and 3rd vertebræ when placed in their anatomical positions.

Special remarks.—Superimposition of the bones of the skull with the photograph of missing Natarajan and the presence of any definite bone peculiarity might have provided further proof for identification. Unfortunately, the former was not feasible and regarding the latter, the only peculiarity noticed was the presence of caries in the left second molar tooth of the lower jaw, and this could not be used for want of any reliable record about Natarajan's teeth. The Judge said in the course of his judgement on 11-8-52: "The only question for decision regarding the bones is whether the bones found on 12-6-1950 and those found on 17-6-1950 were all of them together the bones of the same human body. Doubts on that question have been removed by P.W. 130's (Dr. Jacob) keen observation. He noticed (and pointed out to all of us in Court) that the marks of a cut on the bones of the lower part of the neck exhumed on 12-6-1950 and the marks of a cut found on the bones of the upper part of the neck exhumed on 17-6-1950 were marks of the same cut. I accept the opinion of P.W. 76 (Dr. Madhavan) and P.W. 130 (Dr. Jacob) and find that the bones found on 12-6-1950 and 17-6-1950 were the bones of an adult male human being who was between 25 and 35 years of age when he died and that he died a year before June 1950.....I consider these facts adequate to corroborate P.W. 2's (approver) evidence that Natarajan was murdered on 5-7-1949 and that his corpse was carried eastward towards the place where the bones were found a year later."

Facts let in during the trial corroborated about the murder of Natarajan on 5-7-1949 and the fact of recovering two sets of bones from two different places on the testimony of two separate witnesses and the above points that they belonged to the same person were enough evidence to establish the identity in this case of murder. Thus the careful preservation and examination of even the bones (with no soft tissues) recovered long after the murder could be of invaluable use during the course of criminal trials relating to murder.

Summary.—(1) A brief resume is given of the conspiracy case including the murder of one Natarajan. (2) Steps taken to establish the identity of the bones are mentioned. (3) It is emphasised that careful preservation of even the bones and their proper examination could be of great forensic value.

Acknowledgement.—I am greatly indebted to the Honourable Judges from whose judgements I have freely drawn in framing this case report.

THE AMŒBICIDES

With the development of each new amœbicide it becomes increasingly difficult to state categorically the best treatment for amœbiasis. The physician is confronted with the following groups of drugs:

1. *The alkaloid group*: Emetine.
2. *The arsenicals*: Carbarsone, Milibis, Thio-Carbarsone, Treparsel and Balarsen.
3. *The halogen derivatives* of oxyquinoline: Diodoquin, Vioform, Chiniolon.

4. *The aminoquinolines*: Chloroquine (Aralen).

5. *The antibiotics*: Aureomycin, Terramycin, Fumagillin, Bacitracin and Magnamycin.

For the treatment of the acute dysenteric disease and acute amoebic hepatitis: Emetine, Chloroquine and the antibiotics are indicated. For the asymptomatic cases the arsenicals or the oxyquinoline derivatives are used.

Emetine is administered intramuscularly: One grain per day for five to ten days. It is not used in chronic amoebiasis as the encysted forms are not affected by the drug and therefore, it must be followed by one of the intestinal amoebicides.

Toxic effect:—The toxic effects of emetine are well known and its incidence of toxicity is said to be approximately 0.5% of the cases. However in one series of 100 patients receiving emetine, routine electrocardiograms showed changes in approximately 2/3 of the cases.

Chloroquine (Aralen) is a satisfactory substitute for emetine for amoebic hepatitis and it is reported to cure over 90% of such cases. It is not effective in intestinal amoebiasis and again one of the intestinal amoebicides should be used concurrently. Dosage is one gram per day for two days followed by 0.5 gram daily for two to three weeks. The parenteral preparation is also available.

Arsenicals:—Of the arsenicals, carbarsone has been a very satisfactory amoebicide and satisfactory rates of cure have been obtained. Milibis is likewise a very efficient amoebicide, perhaps more so than carbarsone; and currently may be more popular than carbarsone in the treatment of amoebiasis. It is administered in the dosage of 0.5 g. three times daily for seven days. The potential dangers of exfoliative dermatitis, arsenic encephalopathy, leukopenia and agranulocytosis must always be borne in mind. Such reactions however may be successfully controlled by BAL.

Of the hydroxyquinoline derivatives, diodoquin produces few or no toxic symptoms and is the most dependable preparation. Dosage is one grain tablet three for ten days.

Amoebicidal properties:—Terramycin and Aureomycin have well established amoebicidal properties and cure rates have been reported from 60 to 90%, with Terramycin perhaps more effective, according to reports. Dosage is 2 g. daily, if tolerated, for seven to 10 days. Nausea, vomiting, diarrhoea may deter their continuance.

Fumagillin (Fumidil) is a potent intestinal amoebicide in adequate doses of 10 to 20 mg., three times daily for 10 to 14 days, but may be attended by some mild side-effects, such as palpitation, dizziness, drowsiness and epigastric distress.

Not bactericidal:—Although Fumagillin is a most potent amoebicide and has appeared most active in even chronic drug-refractive intestinal amoebiasis, it is not bactericidal. This could be an important point, as amoebae are dependent upon bacteria for survival and they will not survive and reproduce in a test tube unless the culture is contaminated with viable bacteria. This dependency is also suggested by the marked but temporary improvement seen in patients with amoebiasis of the colon following the use of such bacterial agents as penicillin, the sulphonamides and streptomycin. Thus it would seem logical to use one of these agents in conjunction with Fumagillin. Such combination of amoebicides with other chemotherapeutic agents awaits further study.

Bacitracin has been reported to be effective, with a cure rate of 80% with few side-effects. It is not absorbed from the gastrointestinal tract and therefore, has no effect on amoebic hepatitis. Dosage is 60,000 units daily for 5 days.

Magnamycin has also been reported to be effective where other amoebicides have failed but reports are scanty and side-effects have been noted.—(*South West Medicine*, March 1955).

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NEUROBLASTOMA—HUTCHINSON'S SYNDROME*

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THE malignant neuroblastoma has been more frequently recognised during recent times. It arises from the supra-renal medulla, or sympathetic nervous tissue inside the abdomen or thorax or elsewhere and the manifestations are mechanical and metastatic but not hormonal. The tumour is large, hard and hæmorrhagic and consists of small round cells (may be occasionally in rosettes); and primarily retro-peritoneal. The secondary deposits occur either in the liver (the Pepper syndrome) with the primary growth in the right suprarenal; or in the skull bones (Hutchinson's syndrome) and long bones; the latter being common to primary growth in both the right and left suprarenals.

Neuroblastoma like Wilm's tumour, is met with typically in children though at a later age, and with about equal distribution as regards sexes.

The primary tumour may be discerned as a large mass inside the abdomen or may be completely an insignificant condition but with orbital deposits first attracting attention as in the patient presently to be described below. Calcification may be present in the tumour and even detected by X-rays. Intravenous pyelography may show a displacement of the renal pelvis or ureter. The prognosis is grave.

The following case report illustrates the incidence of a case of Hutchinson's syndrome.

Case Report.—M., a female child, 10 years of age was admitted on 10-11-1954 for low fever and headache of 2 weeks' duration. The patient is the third of three children, the other two being elder brothers. The mother had no abortions or miscarriages.

The parents noticed small lumps protruding from the forehead two months prior to admission which gradually increased in size. (Figs. 1, 2 and 3, see page 840).

Clinical:—Ill-nourished child had exophthalmos and ecchymosis, more around the left eye-lids; also a few lymph glands palpable in the left inguinal and left posterior triangle of the neck. Multiple vascular tumours were seen on the head on the frontal and occipital regions. The liver was enlarged one inch below and the spleen half an inch below the costal margin. The heart sounds were of poor quality. Lungs:—Showed nothing particular. The B.P. was 110/70 mm. of Hg. The pulse was feeble, and the rate was 140 per minute. The condition was almost afebrile throughout. The child was discharged in a comatose condition.

* Specially contributed to the ANTISEPTIC

[849]



Fig. 1

Fig. 2

Fig. 3

Ophthalmic examination:—Slight proptosis was present in both eyes. Blue lines were seen on the skin along the orbital margins (sub periosteal hæmorrhage). Eye movements were present in all directions. Pupils were active; media clear. *Fundi*: Papilloedema about three dioptries was present in both eyes. Veins were engorged. No hæmorrhages or exudates were seen.

Investigations.—*Urine*: No sugar; no albumin; phosphatic crystals were seen. No malignant cells were detected microscopically in centrifuged deposit.

Blood: Kahn test was negative. Red cells: 2.99 millions; Hb. 42%. White cells total 6400; differentially:—P.: 63%, L.: 28%, E.: 9%. No erythroblasts and no sickle cells were seen.

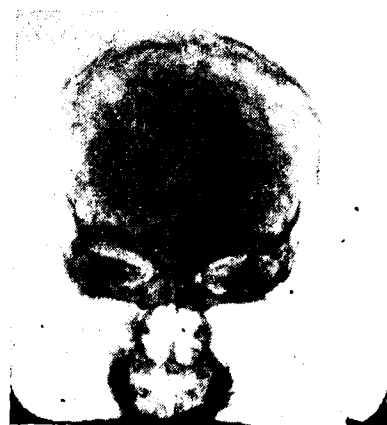


Fig. 4

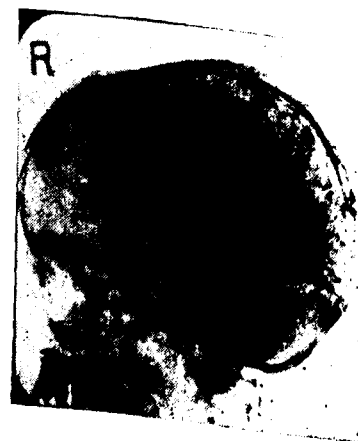


Fig. 5

X rays of the skull:—Infiltrations were seen in the diploë and tables. *Long bones*: Generalised rarefaction was seen (Fig. 6, see p. 851). *Chest*: Nil particular.

Biopsy:—A portion of the tumour mass from the frontal region was examined and the report on the same read:—“Shows bone and fibrous tissue and collection of small round cells some with hyperchromatic nuclei and spindle-shaped fibrils. Stains dark-purple

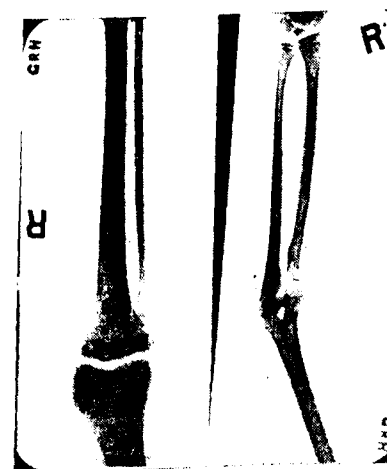


Fig. 6

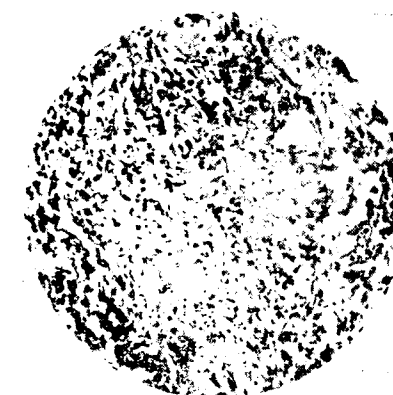


Fig. 7. Microphotograph x-320

with hæmatoxylin. These are collections of small round cells on a loose fibrous and reticular network. No definite rosette seen. The appearances are consistent with that of secondary neuroblastoma.” (vide microphotograph x-320).

Comment.—The report furnished in this communication relates to a characteristic cachectic picture with malignant deposits in the skull bones and ecchymotic eyelids.

Hodgkin's disease, Cooley's anæmia, scurvy, chloroma, congenital syphilis and secondary neuroblastoma are the entities in the differential diagnosis. The blood-picture and the negative Kahn test rule out Cooley's anæmia, chloroma, and congenital syphilis. Radiological study of the long bones and skull is not in favour of scurvy. Biopsy study rules out Hodgkin's disease and favours only secondary neuroblastoma. (Fig. 7). Fundus findings also favour the last condition.

(Dr. M.A. Latif Khan, M.B., B.S., Superintendent, Government Royapettah Hospital, Madras has always encouraged us and our thanks are first due to him. Dr. G.S. Viswanathan, M.D., Professor of Pathology, Medical College, Madras, very kindly studied and advised on the biopsy specimen; further, in spite of the pressing calls on his time, he made for us microphotographs of the slide of the section of the tissue. We are therefore specially indebted to him. Dr. H. T. Veera Reddi, M.B., F.R.C.S. (Edin.) kindly did the biopsy for us; Dr. N. Srinivasan D.O. (Oxon.), D.O.M.S. (London) kindly advised us on fundus findings; Dr. M.K.T. Rajan B.A., M.B., B.S., D.M.R. kindly helped us with advice on the radiological data; Dr. P. S. Chinnaswami, B.Sc., M.B., B.S., kindly studied the hæmatology and also gave the blood transfusions to the child; to all of them, our grateful thanks are due).

References:

1. Sheldon, (W. 1946)—Disease of Infancy and Childhood, V Edition.
2. Boyd, William, et al.—Pathology of Childhood.

NEUROGENIC TUMOURS OF THE MEDIASTINUM

Neurogenic tumours are the most common primary tumours of the mediastinum. They arise from either the nerve sheaths or the cells of the sympathetic ganglion. Nerve sheath tumours are referred to as neurilemmomas when arising from the outer nerve sheath and neurofibromas when they develop from the inner supportive sheath. However, by usage all nerve sheath tumours are usually designated as neurofibrosarcoma when malignant. Sympathetic ganglion cell tumours are called ganglioneuromas when benign, ganglioneuroblastomas when they show areas of malignant degeneration and neuroblastomas when they are highly malignant.

The fact that these tumours originate from the nerve roots, sympathetic, vagus or intercostal nerves explains their location in the posterior mediastinum. They are usually solid, round and well encapsulated. However, when the tumour arises from the nerve roots they may have a dumb-bell or hour glass shape. The intraspinal portion is usually smaller than the extraspinal or mediastinal portion, and both parts are connected through the intervertebral foramen by a narrow neck of tumour.

Symptoms from a benign neurogenic tumour may be absent or mild, and it is not infrequent for the lesion to be discovered on routine X-ray examination. Pain may be vague or radicular with intercostal nerve involvement, or a Horner's syndrome may be present when the inferior cervical ganglion is involved, or pain in the arm may be observed with brachial plexus involvement. If the tumours are large, pressure on the lungs may result in cough and dyspnoea, while displacement of the oesophagus gives rise to dysphagia. The intraspinal portion of an hour-glass tumour may cause spinal cord compression. In the presence of a malignant neurogenic tumour, the clinical manifestations are more severe and rapidly progressive.

Roentgenographically, the tumour appears as a rounded, well-circumscribed mass in the posterior mediastinum (usually the superior portion) or more specifically in the paravertebral gutter. Occasionally they may be separated from the mediastinum and originate from the posterior chest wall. There may be smooth erosion of ribs or vertebrae from pressure from a benign neurogenic tumour or irregular destruction of these bones from malignant invasion. A clue to the presence of these tumours may be widening of an intercostal space with slight elevation and rotation of the rib at the site of the tumour. The intervertebral foramen may be enlarged in the presence of an hour-glass neurogenic tumour. Calcification may be present especially in the ganglio-neuromas.

Since these tumours are extrapleural, the reflection of the pleura over them may be seen, especially in oblique views. Artificial pneumothorax usually will demonstrate their extrapulmonary location. Because of the hazard of malignancy and because of pain or symptoms due to progressive enlargement, neurogenic tumours should promptly be removed.—(*G.P.*, Feb. 1955).

RETICULO-ENDOTHELIAL DISEASE

A psychosomatic study was made of 20 consecutive cases with all types of leukaemia and lymphomas, admitted to the general hospital. The symptoms leading up to the recognition of lymphoma or leukaemia, and manifested during the course of the diagnosed illness, frequently included anorexia, nausea, vomiting, pain and varying degrees of anxiety reaction and depression.

These symptoms may have been responses to psychological stresses. Three hypotheses are suggested: (i) consideration of the reticuloendothelial system in terms of anxiety of the fight-flight responses; (ii) consideration in terms of a mechanism to deal with noxious agents, including psychic stress, within the organism; (iii) the possibility that alteration in the reticuloendothelial system may occur as a nonspecific response to changes in the organism more specially related to psychological stress.—(*Psychosomatic Medicine*, May June, '55).

THE LOBE OF THE AZYGOS VEIN*

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An abnormal condition of the azygos vein and the right lung was noticed in an adult male subject, in the anatomy dissecting room of the Madras Medical College on October 15, 1943. The right lung showed a vertical fissure commencing 1½ inches lateral to the apex. It cut into the lung for a depth of 3 inches, and the most dependent part of the fissure was about 1 inch lateral to the root of the lung. The medial lobe contained the apex. The opposing surfaces of the two lobes thus separated were in close contact except at the lowest part of the fissure where they were slightly apart, to lodge the azygos vein. (*Fig. 1*)

The right pleural sac was cut by a fold of pleura at its upper part into medial and lateral portions. On the edge of this fold was the azygos vein. The attached margin began at the level of the 4th thoracic vertebra and the vein could be seen through it. The actual fold began a little more laterally. It was vertical, coming down to about 3 inches from the dome of the pleura. It came to the middle of the posterior thoracic wall and turned downwards and forwards to disappear in the anterior thoracic wall a little lateral to the first costal cartilage. (*See Fig. 2 on p 854*).



Fig. 1. Right lung: posterior view.

It was a typical case of "the lobe of the azygos vein" of Stibbe but the point of interest is that it did not conform to any of his 3 types. According to Stibbe's classification, types B and C have vertical fissures; in type B, the fissure cuts at the apex and in C on the medial side. In the case described above the fissure was vertical but it cut at the lateral side. This may be mentioned as a fourth type.

* Abstract of a paper read before the Anatomical Society, Madras in 1944
Specially contributed to the *ANTISEPTIC*.

Another interesting point that struck the writer when going through the literature, was that though the lobe of the azygos vein is not very common, a number of cases of its occurrence have been reported in radiological journals. The cases that have been noticed

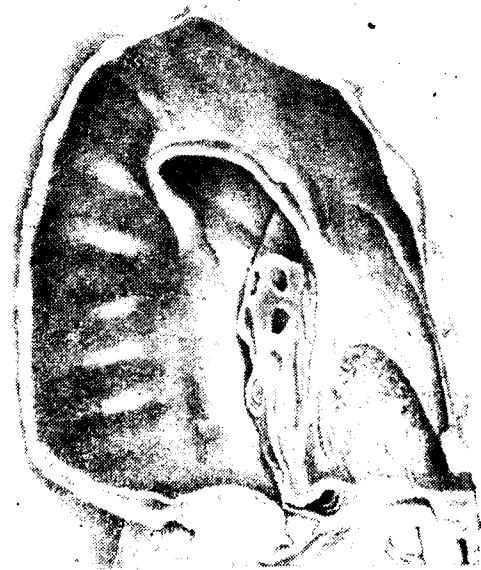


Fig. 2 Pleural fold with azygos vein at free border

in the dissection rooms have been very few. Stibbe collected about 22 cases up to 1919 from the literature and described a case of his own. Cairney in 1923, reported 3 cases. About 137 cases have been diagnosed radiologically up to 1943, in which confirmation could be made in only 4 cases by post-mortem examination.

The cause of the abnormality is most probably the difference in the growth of the two structures, the lung and the azygos arch, so that the lung does not completely clear the arch and a portion gets caught. Many explanations have been given as to why it should occur, but they are all mainly speculative and no conclusion can be arrived at till more work is done on the subject.

Summary.—1. A case of the lobe of the azygos vein seen in the dissection room of the Madras Medical College is described. It does not conform to any of the three types of Stibbe. 2. The number of cases seen in the dissecting rooms have been very few, when compared to the number diagnosed radiologically. 3. The cause of the condition is not clearly understood.

References:

1. Bettaliga, M. (1933)—*Radiol.*, 22: 649.
2. Cairney, J. (1923)—*J. Anat.*, 59: 51.
3. Choussat, H. (1938)—*Radiol.*, 31: 782.
4. Cockayne, E. A. (1933)—*Proc. Roy. Soc. Med.*, 26: 118.
5. Jallet, J. (1930)—*Am. J. Roentgenol.*, 24: 325.
6. Raman, T. K. (1941)—*J. Ind. Med. Assn.*, 13: 98-99, Jan.
7. Stibbe, E. P. (1919)—*J. Anat. Physiol.*, 53: 305.
8. Vita, G. (1933)—*Radiol.*, 22: 648.
9. Volmer, F. (1930)—*Am. J. Roentgenol.*, 24: 699.
10. Zawadowski, W. (1930)—*Ibid.*, 25: 109.

RAYNAUD'S DISEASE

The results of sympathectomy in these patients have been disappointing especially as related to the index finger and colour changes. Poppen advises operation only when considerable trophic changes of the skin have taken place or when there is associated scleroderma.—(*Post Graduate Medicine*).

EFFECT OF 'SARPANKH' JUICE ON BLOOD-SUGAR LEVELS OF RABBITS RENDERED DIABETIC BY ALLOXAN*

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SARPANKH (*Tephrosia purpurea*: *Nat. order Papilionaceae*) has been claimed in indigenous Indian medicine to be a cure for diabetes. Swift *et al* (1949) showed that fresh *Sarpankh* juice, extracted from fresh roots of *Tephrosia purpurea var. pumila*, lowers the blood-sugar levels in normal rabbits when given by the stomach tube. Clarke and Banerjee (1910) had isolated rutin from *T. purpurea* roots and it was reported by Swift *et al* (1951) that rutin is not responsible for the hypoglycaemic effect of *Sarpankh* juice. In fact, it was reported that rutin, on the other hand, raised the blood-sugar levels of normal rabbits. The effect of rutin on the blood sugar levels of rabbits rendered diabetic by intravenous injection of alloxan was found to be erratic. We studied the effect of *Sarpankh* juice on the blood-sugar levels of rabbits rendered diabetic by intravenous injection of alloxan.

Method.—Normal male and female rabbits weighing 1.5 to 1.75 kg. were used. The fasting blood-sugar level of the animals was determined by the method of Hagedorn and Jensen, on blood drawn directly into the blood-pipette from the outer marginal ear-vein of the animal. A freshly prepared 5% solution of alloxan in water was injected into the outer marginal ear-vein of the animal, allowing 150 mg. alloxan per kg. of body-weight of the rabbit. Food was presented to the animal and half an ounce of 50% glucose solution was given by a catheter passed into the stomach after 4 to 5 hours, to obviate death from initial hypoglycaemia. Blood-sugar levels were determined daily till the animal had developed diabetes.

Food was removed from the cage of the diabetic animal on the evening prior to the experiment. Water was allowed *ad libitum*. In the morning, blood was drawn as usual for determination of fasting blood-sugar level and 4 cc. of the juice was extracted in the press from *Sarpankh* roots collected on the same morning and given through a stomach tube. The tube was washed into the stomach with 11 cc. of tap water. Blood-sugar levels were determined at intervals of two hours for eight hours. Nothing was allowed to the animal during this period.

* Specially contributed to the ANTISEPTIC

Controls.—A parallel series of alloxan diabetic animals were treated in the same manner except that 15 cc. of tap water was given to the animals instead of *Sarpankh* juice.

Occasionally the juice was tested on normal rabbits to ensure that it had not lost its hypoglycæmic activity, due to season.

The alloxan was obtained from the British Drug House; it, was pink in colour, soluble in water and left no residue when so dissolved. *Tephrosia purpurea* var. *pumila* was collected from the vicinity of Amritsar during the months of October, November and December.

[The various vernacular names of this plant as given in the Indian Materia Medica (Nadkarni) are:—*Skt.*—Sarapunkha; *Bengalee*—Bannilgach, Bon-nil; *Bom.*—Janglekulthi; *Guj.*—Jhela; *Mahr.*—Unhali; *Tel.*—Vempali, Pamparachottu; *Tam.*—Kolinji, Kollukaiwelat; *Mal.*—Kazhinnila; *Can.*—Kaggi; *English*—Purple tephrosia.—ED. ANTISEPTIC].

Results.—The results are given below:—

Animal No.	0	2	4	6	8	Hours
5	293	341	350	377	400	
6	266	279	305	300	281	
7	275	263	310	307	295	
10/1	461	526	501	463	501	
10/2	562	645	651	602	626	
10/3	656	640	673	682	692	
10/4	540	530	540	645	602	
3/1	441	516	432	620	585	
3/2	394	445	501	402	398	
3/3	380	462	596	424	422	
3/4	416	466	496	424	378	
CONTROLS						
10	648	604	628	580	595	
3	384	400	385	400	382	
5/A	399	384	396	402	411	
5/A	347	325	331	340	345	
9	442	438	445	424	415	
9	497	502	479	484	484	

They represent animals at different stages of development of diabetes, the fasting blood-sugar levels ranging from 266 mg.% to 656 mg.%. The animals survived for a fairly long period. This helped us to compare the response of the same animal at different times.

In the case of the diabetic rabbits, the blood-sugar levels showed a marked rise in all cases, except that there was a slight fall

during the first two hours in three cases. The change in the blood-sugar level was much less in the controls. In the six controls, only a slight rise in the blood-sugar levels was noted in three cases. The maximum rise in the case of rabbits treated with *Sarpankh* was 216 mg.% in 4 hours (3/3) and the minimum of 35 mg.% in 4 hours (7). Expressed as per cent of initial level, the maximum rise was 56.5% in 4 hours (3/3) and the minimum 5.5% in 8 hours (10.3). Comparative figures for controls were 16 mg.% in 2 hours, and 3 mg.% in 4 hours respectively or, expressed as per cent of initial level, 4.1% in 2 hours and 0.6% in 5 hours respectively.

In two control rabbits the blood-sugar showed a fall of 68 mg.% and 22 mg.% i.e. 10.5% and 6.5% of fasting blood-sugar respectively.

The significance of the mean of differences between the basal blood-sugar levels and peak blood-sugar levels reached within 8 hours of administration of *Sarpankh* was tested. Value of *t* comes to 5.48, which is highly significant. In the case of control animals which were not treated with the juice, the difference between the base levels and the highest levels attained was not significant. (*t*=2.0).

Although the blood-sugar rose in every case, the peak level was reached at different times in different cases. In some cases, it tended to come back to the fasting levels in 6 to 8 hours, but in two cases it was rising even after 8 hours, while in most cases the condition after 8 hours was between the peak level and the fasting level. Five rabbits are represented in this analysis. Three were treated only once each, while the other two (Nos. 10 and 3) were treated four times each at different periods. In neither of these two was there uniformity of response.

A note on toxicity.—It was proposed to assess the effect of *Sarpankh* on the development of diabetes, when given repeatedly for a few days before the injection of alloxan. This experiment could not be pursued as the animals died spontaneously about seven days after the administration of the juice, even when the dose was reduced to half the usual single dose used in the experiments i.e. 2 cc. every day. Histological examination of the various organs in one of the animals revealed acute congestion in the kidneys, spleen, liver, and the lungs. The pancreas could not be examined for lack of special stains to demonstrate the cells of the islets of Langerhans.

Discussion.—It has been shown by Crismon *et al* (1951) that metarterioles and pre-capillary sphincters of rat meso-appendix became more sensitive to adrenaline after it had been given rutin. Wilson and De Eds (1949) and Clark and Geismann (1949) demonstrated the protective action of rutin on adrenaline. Besides

rutin, *Sarpankh* juice appears to contain an active hypoglycaemic factor which counters the effect of adrenaline. The hypoglycaemic factor seems to be effective only in the presence of intact islets of Langerhans. Its effect is perhaps due to the stimulation of the islet-tissue to produce more insulin. In the case of the diabetic animals, the islet-tissue available is small, so that the hyperglycaemic effect of rutin predominates.

Conclusion.—*Sarpankh* juice contains two active principles, rutin and another factor which lowers the blood-sugar level. This latter factor may be useful in the treatment of diabetes. This factor however, deteriorates on keeping. Efforts are being made to isolate it for purposes of detailed study.

Summary.—The effect of *Sarpankh* juice on blood-sugar levels of rabbits rendered diabetic with alloxan, has been studied. *Sarpankh* juice contains two active principles, rutin and an active hypoglycaemic factor; pure rutin raises the blood-sugar level in normal rabbits but *Sarpankh* juice lowers it. *Sarpankh* juice however, raises blood-sugar levels in the alloxan diabetic rabbits. The pure hypoglycaemic factor of fresh *Sarpankh* juice may be useful in the treatment of diabetes. Efforts are being made to isolate it.

References:

1. Clarke, C. and Banerjee, S. C., (1910)—*J. Chem. Soc.*, 1833.
2. Clarke, W. and Geismann, T. A., (1949)—*J. Pharm. and Exp. Ther.*, 95: 363.
3. Crismon, J. M. Berez, R. R., Madden, J. D. and Fuhrman, F. A., (1951)—*Am. J. Physiol.*, 164: 391.
4. Swift, H. B. Sethi, M. S. and Amar Singh, (1951)—*Ind. Med. Gaz.*, 86: 42.
5. Swift, H. B., Sethi, M. S. and Sarcon, K. H., (1949)—*Ind. Med. Gaz.*, 84: 243.
6. Wilson, R. and De Eds, F. J., (1949)—*Pharm. and Expl. Ther.*, 95: 399.

CHLORPROMAZINE IN THE TREATMENT OF EMOTIONALLY MALADJUSTED CHILDREN

Dr. Gatski conducted a study on the use of chlorpromazine in the treatment of emotionally maladjusted children. From a group of 150 children, hospitalized in a cottage-type residential treatment centre, nine boys, ranging in age from 6 to 13, who were acutely disturbed and chronically acting out, were selected for the study. All subjects were hospitalized, and given chlorpromazine orally, with an initial dose of 10 mg. daily and gradually increased over a week's time to 10 mg. four times a day.

The oral administration of chlorpromazine made them more tractable and better able to adjust and learn to conform to the normal of the group. Moreover, it facilitated their communication and formation of a relationship with their therapist. Consequently, they are more likely to become amenable to reason and to benefit from other influences. The problem of getting the subjects to take the medication never occurred when they were segregated from the group. However, when the subjects returned to their cottages they defaulted on taking the drug because they were ridiculed for doing so by the other children. For this reason chlorpromazine seems well-suited for use in maladjusted children who are living at home where only the child, his parents, and the therapist will know of his taking a medicament.—(*J.A.M.A.*, 167: 1298-1300, April 9, 1955).

Cases and Comments

PSEUDOMUCINOUS CYSTADENOMA OF THE OVARY ASSOCIATED WITH PREGNANCY

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A Hindu female aged 38 years, referred from the K. R. Hospital to this hospital was admitted on 25-11-1954 with a history of amenorrhoea with hydramnios of 24 weeks' duration.

The patient complained of distention, a sort of vague pain and discomfort in the abdomen since 3 months. Her appetite was impaired for the past 3 to 3½ months. Her bowels were constipated and moved only once in three or four days.

Past history:—Her health had all along been good and she had not noticed any mass in the abdomen previous to this distention.

Personal history:—She was married about fourteen years ago, and is the mother of two children. Her two previous deliveries were normal. The last delivery was 4 years ago. Her periods were regular and her husband and children are healthy.

Physical examinations:—The patient was a middle-aged woman of average build but emaciated and mildly anæmic. She was slightly dyspnoeic—could not lie down flat on her back. The pulse 80/m. was of regular volume and the tension was fair. Her respiration was 28/m. and her blood pressure was 120/75.

P.A.: The abdomen was uniformly distended and no prominent veins were seen. It was smooth and tense but not tender. The size of the uterus or the parts could not be made out. Foetal heart sounds were not heard but foetal movements were present. It was uniformly dull to percuss. No fluid thrill or shifting dullness could be elicited. Nothing was heard on auscultation. The height of the abdominal swelling was 22" and the girth was 43". The other systems were found to be normal.

Pelvic examination:—The os was 2 fingers loose and membranes were present. Small foetal parts were felt. There was a tense bulging in the anterior fornix.

Laboratory investigations:—R.B.C. 3.4 million cmm. Hb. 60%. W.B.C. 12,000. Differential Count: Poly. 72%. Lympho 25%. Eosinophil 3%.

The urine and motion showed no abnormality.

An X ray of the abdomen: showed the skeletal parts of a single foetus.

Clinical diagnosis:—Pregnancy with hydramnios.

TREATMENT:—Soon after admission she was put to bed with a back-rest.

As she suffered great discomfort, labour was induced prematurely in the sixth month of her pregnancy. High rupture of the membrane was done artificially at 5-40 p.m. on the same day—only a small quantity of Liq. amnii escaped. The size of the abdomen did not get reduced. She normally delivered at 10-30 p.m. on 27-11-'54, a premature live baby weighing 1lb 10 oz. which however, died eight hours later. Even after the delivery, the size of the abdomen did not go down.

P.V. on 27-11-'54 after delivery:—The os was 2 fingers loose. A solid uniform mass which was not tender was felt in the anterior fornices. The size of the uterus could not be made out.

An ovarian tumour was then suspected. As she developed a mild rise of temperature varying from 99°F to 101°F (which subsided with penicillin) for 4 or 5 days after delivery, the abdomen was opened only 10 days later i.e. on 7-12-'54 by a median incision under local anaesthesia (planocaine) supplemented by general anaesthesia (chloroform).

A white glistening mass—a pseudomucinous cystadenoma of the ovary was exposed. The size of the tumour was reduced by aspirating four pints of a thick sticky and mucinous fluid. Then it was excised and left ovariectomy and salpingectomy were done. The right ovary and tube were healthy. The abdomen was then closed in layers after putting in 10 lacs units of penicillin. The size of the cyst after aspiration of the fluid was 29 cm. x 29 cm. x 12 cm. and its weight was 30 lb. The cut surface revealed a multilocular pseudomucinous cyst which was confirmed microscopically; the mucous lining showed a tendency for the formation of papillae. The patient made an uneventful recovery, and was discharged on 31-12-'54. When she reported for a general check-up a month later, she had put on considerable flesh and adipose tissue and presented quite a different picture to the emaciated condition seen during her admission.

Conclusion and Discussion.—The previous regular periods, the history of amenorrhoea of six months' duration, the previous absence of tumour in the abdomen and the sudden distention of the abdomen with pressure symptoms, led the clinician to the view that this condition was one of pregnancy with hydramnios; the proper diagnosis was made only after delivery. These ovarian tumours are difficult to diagnose, when associated with pregnancy. The pseudomucinous cysts are usually benign ovarian tumours, and rarely go on to malignancy. Though they give rise to extreme cachexia the patients recover all right with the removal of the tumour, as in this case.

Acknowledgement.—My grateful thanks are due to Dr. Padmasundaram, Superintendent, Chelvamba Hospital, Mysore and Dr. B. R. Moray, Resident Medical Officer, for permission to report the case.

HEMIPLEGIA IN CHILD-HOOD

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and

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ABOUT one child in every 1000 children of school-going age in England has cerebral palsy and many of them benefit by specialised treatment by physiotherapy and occupational therapy in an Institute. Similar figures are not available for India and we are not aware of any specialised clinic to deal with this type of malady, nor of any such institution which is available in India.

Cerebral palsy may be: pre-natal, natal or post-natal in origin.

Some of the pre natal and natal cases are only recognised when the child is about three years old and these cases are due to congenital cerebral defects or trauma during delivery; and 22 to 25% of these are cases of hemiplegia. In our hospital the number of cases of hemiplegias in children and adolescents has been very small, and they were mostly secondary to cardiac disease or tubercular meningitis, and they have not yet attained any statistical importance.

In the post-natal cases, the causes may be vascular, inflammatory and degenerative.

Vascular:—1. *Embolus* is the commonest cause and occurs in association with cardiac disorders; (2) *thrombosis* occurs in prolonged illness with dehydration and wasting e.g., (a) typhoid fever, (b) chronic diarrhoea and dysentery; (3) *haemorrhage*—due to congenital defects in the arteries.

Inflammatory:—Hemiplegia is associated with: (1) tubercular meningitis or (2) polio-encephalitis.

Case report.—Recently we had a case of spastic hemiplegia in a girl of thirteen years. V, aged 13 years, female, Hindu, resident of Sindh migrated to Lucknow during the partition; she was admitted to the G.M. and Assoc. Hospitals on 24-3-1954 with the complaints of:—(1) weakness in the right upper and lower limbs of 7 years' duration; (2) impaired mental faculties of 7 years' duration and (3) fits of unconsciousness with convulsions of 4 years' duration on the right side of the body.

Family history:—Showed nothing of importance. Brothers and sisters are healthy.

Past history:—The patient was mentally and physically normal till she was seven. She was a full term child and crossed the mile stones at normal ages. Intelligence and physical development were normal till 7.

Present illness:—In 1947 the patient suffered from enteric fever for forty one days, during the last days of which she developed paralysis of the right side of the body and face. After recovery from the fever, the power in the limbs improved but the intellect remained dull. After six months' treatment, the paralysis of the face and limbs improved without any improvement in the mental behaviour; the improvement was marked in the lower limb—there was also an osteomyelitis of the occipital bone during the illness.

About four years ago, she had an attack of abnormal movements with semi-consciousness, followed by high fever and she remained unconscious for a whole night. A similar attack followed after two months, and since then the frequency of attacks has been variable. In the beginning she used to have 2 to 6 attacks in a day but now the interval has been longer but variable, the maximum being one month. The duration of the fit is from ten minutes to two hours. There is no aura. The patient suddenly becomes semi-conscious and twitchings are seen on the right side of the face near the angle of the mouth followed by convulsive movements of the right upper limb and then spreading to the right inferior extremity the duration being 2 to 10 minutes; after this the patient goes to sleep, which lasts from a few minutes to a few hours. During the fits, there is frothing in the mouth and there is also a history of bitten tongue and involuntary micturition. There are also accounts of falls with injuries during the attacks, and about 20 days back she got her right clavicle fractured as a result of a fall during a fit.

The results of the examination are given below:

General condition:—Fair; mostly lying in bed. Conjunctivæ: pale; Pupils: normal; Lips: normal; Teeth: a few carious and the gums were hypertrophic and bleed on pressure; Tongue was coated; Nails were pale; Bowels were constipated; Temperature normal; Pulse was 74/p.m. and respiration 20/p.m.; Blood-pressure was 90/50.

The circulatory system was normal in every way, as also the respiratory and alimentary systems, the spleen and liver were also normal.

Nervous system:—Consciousness (degree) was normal; the speech was slurred. The intellect was low and the patient was disobedient, wept or cried and laughed; memory was poor. Gait was hemiplegic; the cranial nerves were normal except the 7th nerve which showed upper motor neuron paralysis.

Motor power:—Power was diminished in the right upper and lower limbs but normal on the left. The nutrition and co-ordination were both normal. Tone increased on right upper and lower limbs but normal in the left and in the trunk; there were no abnormal movements; the sensory system was quite normal in every respect.

Reflexes were all normal on the left side; but the *superficial conjunctival* on the right was normal. Abdominal reflex was sluggish. Plantar reflex was extensor.

The *deep* reflexes were all normal on the left but those on the right biceps triceps, supinator, knee and ankle were all brisk. The organic reflexes on both sides were all normal.

Further laboratory investigations:—*Urine* was normal: *Stools*: showed few ova of *ascaris lumbricoides*, few R.B.Cs. and pus cells. (After a course of *santonin* the stools became normal); *Blood*: Total W.B.C. 8,400/c.mm. P.: 69%, L.: 27%, E.: 4%. Total R.B.C. 3.06 mill./c.mm. and Hb.: 57% (18.55 gm.) E.S.R. was 18 mm. for the first hour with 35% P.C.V.; *X-ray of the skull*: showed a small bony aperture 1" in diameter below the occipital protuberance. *Ventriculography*:—Atrophy of the cortex on the left side was seen.

RESPONSE TO TREATMENT:—Her fits were controlled and her power improved but still she was very disobedient and naughty. She is still being given massage, active movement and muscle relaxants for her residual paresis.

Discussion.—The bony deficiency in the occipital bone has no relation to the nervous lesions. She had, probably developed cerebral thrombosis as a complication of typhoid fever—the atrophy of the cerebral cortex was secondary to cerebral thrombosis—or due to typhoid encephalitis. Why did the higher centres not improve in proportion to the physical improvement? The other problem is: will surgery do her any good? Although we have controlled the convulsions, and the patient can walk about, her mental abnormality is still a marked feature. In my personal opinion, surgery may improve the mental condition after hemispherectomy, but the limbs will get worse and walking will become very difficult. Do we want a physical cripple or may we rest content with a mentally deficient hemiplegic lady?

We shall be grateful for any suggestions for treatment, as the patient is still under our O.P.D. care for rehabilitation.

SYMPATHETIC BLOCKS IN THE REHABILITATION OF HEMIPLEGICS

Cerebral vascular accidents (CVA) rank third as the cause of death in U.S.A., exceeded only by cardiac disease and malignancy. Hemiplegia is the commonest neurological disability met with in medical clinics or in general practice. Increase in life-expectancy and in age level with a high incidence of arteriosclerosis, hypertension and obesity will further increase the incidence of CVA and hemiplegia.

In treating a hemiplegic we are primarily concerned with saving the patient's life. Proper management from the outset increases chances of survival and extent of recovery and prevents many complications.

Prognosis as to survival and degree of recovery are influenced by several factors. In thrombosis and embolism the immediate mortality is much lower

than in hæmorrhage; the survival time is 15 times longer and the recovery is much greater. The survival time is slightly longer in females than in males and longer in the 30 to 40 age groups than in those over 60. Extent of recovery is not always related to survival time. Early mortality is almost doubled and survival time and extent of recovery greatly diminished if the patient also suffers from nephritis, diabetes, syphilis, toxæmia of pregnancy, cerebral tumour, hyperthyroidism or cardiac disease.

Restoration of maximum function must be kept in mind from the very beginning of treatment: 80 % of hemiplegics can be restored to self-care and 20% to some gainful employment. Rehabilitation aimed at the patient benefits the family and community. When the helpless victim learns self-care, several attendants are released, thousands of man-hours of nursing care are made available elsewhere and costly medical care is reduced. In planning a rehabilitation programme, attention must be paid to economic home and domestic problems.

Good nursing care, family co-operation, and proper utilization of physical therapy and medications cannot be over-emphasized. If there is aphasia, special attention must be paid to speech therapy and to aids for re-establishment of communication such as providing a typewriter and encouraging its use with the sound hand. Some of the medications used in the treatment of the acute cerebrovascular accident should be continued during the period of rehabilitation.

It is not likely that sympathetic blocks or any other therapy can restore destroyed neurones. Probably block-therapy and other modalities that increase cerebral blood-flow are of benefit in the surrounding zone of less severely damaged vessels. There is relief of spasm in arterioles and metarterioles, reduction of cerebro-vascular resistance, and opening of potential collaterals. This results in increased and improved arterial and capillary flow and damaged brain cells are provided with the urgently needed oxygen.

There are other factors too: Relief of venospasm improves venous flow, reduces local oedema, and helps to remove the accumulated metabolites. There is a reduction of excessive capillary permeability and of capillary stasis. Cerebral blood-flow is also assisted by the increased "head of blood pressure" resulting from reduced intracranial pressure, stimulation of cardio-respiratory centres and improved cardiac action. Whether improved cerebral blood-flow helps in re-training of inactive but not completely destroyed neuromuscular mechanisms in old hemiplegics, is not clear. In a few patients with post-hemiplegic causalgia (thalamic pain) some relief has been obtained with contra as well as ipso-lateral blocks. Dr. Albert Fields of Los Angeles has been able to achieve greater success with prolonged or continuous middle cervical sympathetic blocks than with single or repeated stellate ganglion blocks. Either a long-acting blocking agent can be used or repeat injections made through a fine polythene tubing with shorter-acting agents. It should be remembered that cervical sympathetic blocks are of no value unless accompanied by good nursing care and active rehabilitation.

An important factor in aggravating disability in hemiplegics, has been the acceptance of prolonged bed-rest as good treatment. With prolonged bed-rest there is circulatory impairment, reduction of pulmonary ventilation, intestinal stasis, and generalized glandular dysfunction. The result is disturbed electrolyte and body fluid balance, skeletal demineralization, renal complications, retention of toxic products and lowered resistance to infection. In hemiplegics there is the added factor of loss of muscle tone, balance and co ordination. All hemiplegics should therefore, be out of bed as soon as possible. They should be made to walk with support on both sides, then with walkers, parallel bars, crutches and canes. Wheel chairs should be used only for short periods. Gait-retraining should be practised with the help of strong attendants..... Stabilization of the weak knee is obtained by standing on both feet with the affected leg slightly behind the sound one..... To overcome foot-drop when the paralysed leg is lifted, a double-bar short leg brace with a 90° stop at the ankle may be used, —(*Medical Times*, June '55).

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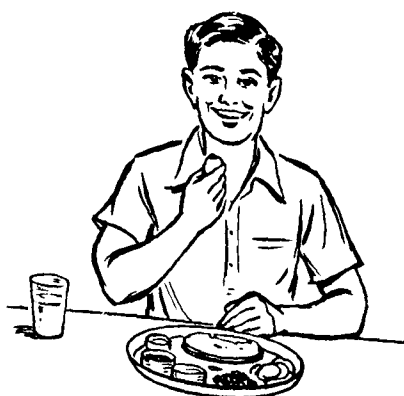
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Editorials

PREVENTIVE vs. CURATIVE MEDICINE

(THE NEED FOR A FUNDAMENTAL RE-ORIENTATION)

THE shifting of the emphasis from curative to preventive medicine was the central theme which naturally dominated the proceedings of the three-day Conference of the State Health Officers inaugurated by the State Chief Minister Shri KAMARAJ on the 11th of October 1955. Shri KAMARAJ observed that after Independence there was a new awakening amongst the people who were *now* willing to follow advice given to them on public health matters, and that their enthusiasm should be properly harnessed and turned to good advantage by the State Health Officers.

The State Health Minister Shri A. B. SHETTY, gave an exhaustive resume of the work of WHO established in 1948, which ushered in a new era of international co-operation in health matters. This wonderful organization has been giving technical advice and financial aid on virtually all matters connected with public health and materially contributing to the raising of the standards of healthful living throughout the world. The combination of foreign aid and new techniques evolved from time to time to suit individual and local needs, is responsible for making it feasible for the poor underdeveloped countries to bring under effective control within a few years the public health enemies which had handicapped these nations for centuries. Thus Malaria-Control programmes, mass BCG vaccination campaigns, and large scale operations against venereal diseases and yaws in different regions of the world were being carried on with the active co-operation and liberal aid coming from WHO, UNICEF and other international organizations. Two prominent members of the Medical Team, which visited India in 1953, Drs. EVANG and GORDON, recorded it as their opinion that "the

basic medical problem in India was "Rural Health," and that the appalling health problems of the Indian villages cannot be solved by the introduction of curative medicine alone. It was obviously more important to build latrines than hospitals." This was obviously intended to stress the greater importance and urgency of prevention rather than cure.

The problem of rural medical relief has been a vexed one for years and we are not in sight yet of any definite scheme or plan of action to meet this crying need. The advice is being tendered to medical graduates on every conceivable platform, to go and settle in the villages and in this context Shri A. B. SHETTY told the Conference "we must produce a new type of doctors who can settle in rural areas and solve, with the co-operation of a simple staff of auxiliary personnel, the manifold health problems of the villages. A fundamental re-orientation is thus essential to switch the emphasis from curative to preventive medicine; very high priority should be given hereafter to environmental sanitation, nutrition and population control." People must be made to understand that the more important factors determining the people's health were good housing, adequate diet of the right quality, proper sanitation, provision of protected water supply and health education. In the past, the doctor's prime duty had been to heal the sick. Medicine in the future should become more and more concerned with the prevention of disease and maintenance of health.

"The modern trend is to integrate medical with health care. Departments of Preventive and Social Medicine are being established in Medical Colleges. In the near future, additional resources should be concentrated on preventive work rather than on extending curative facilities. The grant of more assistance from the Centre and the State for urban and rural water supply schemes in the present year and in the period of the Second Five Year Plan was a welcome indication of the trend of events in the future."

Curative medicine has so far been given greater importance and attention than preventive medicine in the field of national health; but this state of affairs should be reversed and there should be more hearty cooperation and better and greater understanding between the medical and the public health staff. The trend at the present day over the whole world is towards an integration of the medical and the public health services. If this should be achieved in our country too, the kind of medical education should be of a different kind. Foreign experts who have visited India and studied the conditions obtaining here in relation to medical education state that the kind of education imparted now in our Medical Colleges was such as to produce doctors suitable for countries like Britain and U.S.A. The doctors needed for India should develop a rural outlook and interest in preventive medicine. This

is all very true. But we do not yet know how those responsible for introducing these reforms, propose to set about ordering the plan of education to meet the desired end.

The Health Officers in our country are really "Medical Officers of Health" and should be styled as such and given the status and importance due to them this would greatly help in creating a cheery optimism amongst this class of very devoted officers and a healthy atmosphere amongst the people who would then begin to appreciate better the value of the humanitarian work they unostentatiously turn out. without the beam of the search-light of publicity turned on them. Their work is mainly educative but very often they are looked upon as meddling persons who needlessly interfere with people's liberties in the matter of observing (or not observing) the rules of personal hygiene, sanitation and public health generally. When people get ill, the curative side takes over and when people get well, they are all in praise of the doctor and his marvellous skill, that cured them. The public health officer does not get talked about when he energetically controls an epidemic and prevents it from spreading and levying a heavy toll of human lives. It is therefore, most important that Government should popularise by propaganda, if necessary, and make people realize the value of the work which the Health Department is doing. They must learn that the mere fact of their continuing to enjoy good health, or having escaped from an epidemic, is not a matter for self-glorification but due to what an army of devoted Health Officers, Health Inspectors and other auxiliary personnel is doing, to prevent them from falling a prey to epidemics.

PROBLEMS FACING SOCIAL WORKERS IN INDIA

WITH the increase in population and the consequent increase in the nature and variety of the problems that face mankind, there is a growing need for the services of specially trained social workers, who would study the problems and devote themselves to the arduous task of raising the standard of living, particularly among the less favoured amongst the people. It is not enough if governments alone, in their present set-up, attempt to improve by grants of money and through their limited staff, the environmental, sanitary and other conditions of the people. Enthusiastic persons should come forward in large numbers to do social work as a regular avocation.

The Seventh Annual Madras State Conference of Social Work, which was held at Kozhikode early last month, was a momentous session at which several vital problems relating to social welfare were discussed at different levels, by responsible persons with wide and varied experience of men and matters. The State Finance Minister Shri C. SUBRAMANIAM, who presided over the Conference stressed

the need for studying the difficulties and handicaps which the children labour under and for affording compulsory educational facilities to them, as nearly 50% of them are now not attending any school. Miss EVELYN HERSSY, Social Welfare Adviser of the U.S. Embassy, at New Delhi, said that in the matter of emergency relief in times of famine, floods and other *vis majors* people in India relied primarily on Governments to come to their rescue, instead of planning relief work in the first instance through non-official welfare organizations and then securing the cooperation of Government. In America and Europe the Red Cross and other non-official organizations always took the initiative in affording relief in emergency distress.

Srimathi A. V. KUTTIAMMALU AMMA, Member of the Congress Working Committee, entered a strong plea for the evolution of a National Child Care Code, whereby children would be given full security and ample opportunities for full development. As a result of the stress and strain of life in modern society, mental ailments and neuroses were becoming fairly common and Dr. DHAIKYAM pleaded for special facilities being made available to tackle this problem.

Shri B. GOPALA REDDI, Chief Minister of the Andhra State, speaking on the Welfare of the Tribal and Backward Classes said that nearly 60% of the people in Andhra State came under the above category and that Government had to work for their uplift. "How long could Government," he asked, "spend large sums of money on such work? One school of thought was against the grant of special favours to these classes and communities as they felt that such a step would create in them a sense of exclusiveness. The Government were now thinking of settling them in houses amidst other people so that in course of time any feeling of exclusiveness might be removed." This is indeed a very good idea which should be promptly put into execution in selected suitable areas and the results watched before being universally adopted. Opposition may be expected from vested interests but can be overcome through conciliatory and persuasive propaganda.

Sri Dr. U. KRISHNA RAO put in a plea for a Model Department of Social Welfare at State Level. He pointed out that the spread of education and civilization impressed on the people the necessity to remedy some of the evils present in society today. Christian Missionary Societies extended their activities to the fields of education, health, the care of orphans and the handicapped. One of the questions to be considered was whether the time had come when social service agencies should be replaced by public authority. The advantage of having a voluntary agency was that it could, if it so desired, lavish a large sum of money on a difficult case or class of cases. A Model Department of Social Welfare at State level, should be formed and placed under the guidance and control of a State Minister for Social Services who will be assisted

by a Director of Social Services and his necessary personnel. This Directorate should concern itself with Child Welfare, Youth Welfare, Women's Welfare and the training of social workers.

Social service problems of the modern day are indeed very complex in nature and individually very little could be done to solve them. A scientific and organised approach under proper guidance and supervision is the first essential for efficient social work. Emphasis should be placed on rehabilitation and prevention of ills rather than on giving relief, which is no doubt necessary and valuable in emergencies. Social workers must be alive to the dignity of the human being and his rights. A State Department of Social Welfare will, in our opinion, be in a position to co-ordinate and efficiently canalise the activities of all branches of social work so as to serve the best interests of humanity in a Welfare State.

REJOICE WITH US DEAR READER!

(Further extracts from Reviews of our Golden Jubilee Issue April '54)

Journal of the International College of Surgeons, Chicago, Illinois, U.S.A., for Aug. '55, writes:—

The general theme of this anniversary number is medical progress in India since 1901..... Since then the ANTISEPTIC has identified itself with reform in Indian medicine and made itself a considerable force in the public life. The foreword to this anniversary issue outlines its important role in a number of medical movements, including improvements in medical education and registration, reforms in the civil service and advances in vaccination and epidemiologic measures. Through its support it was also instrumental in founding the All-India Medical Council and the Indian Medical Association.

This wide activity for public improvement is reflected in the articles of the Golden Jubilee issue, which attempt to represent every facet of the medical profession in India. For anyone concerned with the history and development of medicine throughout the world, it thus becomes a document of no little value and interest. The many articles received for this issue but postponed for lack of space promise an even fuller record as future issues appear.

Readers especially interested in the progress of surgery in India will note the generous number of articles covering general surgery and the specialties. Their titles include: "Progress in Surgery," "Fifty Years of Urology," "Fifty Years of Progress in Gynaecology," "Recent Advances in Thoracic Surgery," "Pitfalls in Surgery," "Present Status of Surgery of the Heart," "Recent Advances in Genito Urinary Surgery," "Some Orthopaedic Conditions," "Plastic Surgery for Facial Defects," "Recent Advances in Anaesthesia," "Treatment of Genital Prolapse," and "Plastic Lens in Cataract Surgery."

Gleanings from the Medical Press

MEDICINE AND THERAPEUTICS

Gallop murmurs.—(*La Presse Med.* 62: 1705, 8-12-1954. via *Internat. Med. Dig.*).

Detection of the gallop murmur requires a well trained ear. The diastolic gallop murmur, which is the most important one, has a rhythm in three stages resulting in the addition of an abnormal murmur to the normal heart sounds. This dull murmur is often very weak and is more of a shock than a murmur. It is heard during diastole and is usually presystolic and occurs before the first heart sound from which it is definitely separated by an appreciable but short interval. More rarely it is protodiastolic occurring after the second sound or it may even be mesodiastolic being heard at an equal distance between the two heart sounds. The association of the presystolic and protodiastolic murmurs is much rare and is difficult to appreciate clinically.

As a rule the gallop murmur is heard best near the apex but it may be predominant in the xiphoid region or along the right edge of the heart. The murmur may be permanent or it may only be heard after an exertion or after a sudden change of position.

A gallop murmur may be the first sign of cardiac insufficiency or it may accompany the other authentic signs of cardiac insufficiency such as dulling or accentuation of the heart sounds at the apex and accentuation of the second sound at the pulmonary orifice, distention of the jugular vein or hepato-megaly.

It is generally admitted that the gallop murmur is caused by a sudden distention of the corresponding ventricle (left or right) during diastole.

Studies of tracings of the venous pulse, cardiograms and the electrocardiogram have shown that there are two types of gallop murmur; namely, the auricular murmur and the murmur of rapid filling of the ventricle.

The auricular gallop murmur is produced at the time of contraction of the auricle (which is stronger than normal to overcome the increased pressure in the ventricle). This is the presystolic murmur.

The gallop murmur due to rapid filling of the ventricle is produced immediately after the second sound at the beginning of diastole. It is a protodiastolic murmur and only disappears after the installation of a complete arrhythmia.

At any rate the gallop murmur is a sign of ventricular insufficiency and occurs most commonly in chronic cardiopathies of arterial origin such as chronic hypertension, myocarditis due to aortocoronaritis with or without an associated renal insufficiency. It is also observed in aortic insufficiency or in acute ventricular deficiency or during the course of infarct of the myocardium. It may appear in the acute ventricular insufficiency of acute oedema of the lung.

The gallop murmur on the right side of the heart indicates right ventricular insufficiency due to emphysema or cardiopathies originating from the pulmonary artery with cyanosis.

The presystolic gallop murmur must be distinguished from reduplication of the first heart sound. In reduplication there is no appreciable interval between the two sounds. The protodiastolic gallop murmur must be distinguished from reduplication of the second heart sound which is not rare in syndromes of pulmonary hypertension.

The finding of a gallop murmur is of great prognostic importance as it indicates the existence of a ventricular insufficiency and is often the first sign of serious complications. It has been stated that patients with cardiac disease who have a gallop murmur do not live for more than 11 months. The gallop murmur may disappear when the ventricular insufficiency reacts to digitalis, but when there is no such reaction and

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the gallop murmur persists, death will occur within a short time.

There is no doubt that some patients die of cardiac insufficiency without having ever presented a gallop murmur but these are exceptional cases.

Hyperglycaemia without glycosuria.—(*J.A.M.A.*, 156: 925, '54., and *G.P.*, 11: 2, '55).

Early detection of diabetes is important if it is true that early institution of treatment, consisting of efforts to eliminate glycosuria and hyperglycaemia, will postpone progressive severity of the disease and cardiovascular-renal degeneration. Mild or early diabetes may be manifested by hyperglycaemia without sugar in the urine. This fact is commonly ignored by the clinician because urinalysis alone is so generally used as the means of detection of diabetes, and if the blood sugar tests are done, little importance is attached to mild hyperglycaemia. This study demonstrates that, in patients with hyperglycaemia without glycosuria, 4 out of 10 patients will later have overt diabetes or be considered as diabetes-suspects, as compared to 2 out of 10 in an analogous control group of persons with normal blood sugar levels. If a patient is more than 50 years of age and has an abnormally elevated blood-sugar level, yet has no glycosuria, the probability of his later showing signs of diabetes or becoming a diabetes suspect is about 56%, as compared to 20% in an analogous control group. In all age groups the incidence of diabetes or suspected diabetes is increased in the presence of hyperglycaemia beyond that seen in a control group. Nearly one-half (47%) of those patients in the hyperglycaemic group who were later classified as diabetic had signs of diabetes in the first five years after the initial examination. Most of the occurrences of diabetes in the control group were 10 to 20 years after the initial evaluation.

In this particular study, 5 out of 10 patients with hyperglycaemia without glycosuria who had a family history of diabetes mellitus subsequently had definite diabetes. Obese patients with

hyperglycaemia subsequently became diabetic in a significantly greater percentage (41%) than did obese patients in the control group (13%). As was to be expected, those patients in whom the elevated blood sugar levels were found a longer time after eating were more likely later to have diabetes than those patients in whom hyperglycaemia was maintained for a shorter period of time.

The routine blood-sugar test is valuable in detecting diabetes. McCullagh and his co-workers recommend that any patient who consistently has hyperglycaemia, even though mild and without glycosuria, should be treated as a mild diabetic and possible aggravating factors corrected in an attempt to decrease the chance of a severe diabetic state developing. Such management is much more important if one or more of the following conditions are present in addition to the hyperglycaemia: (1) a family history of diabetes mellitus, (2) obesity, or (3) an age of more than 50 years.

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Evaluation of CO₂ inhalation therapy.—(*Am. Jour. Psychiat.*, 110: 765, 1954).

The author administered over a four year period, a total of about 7,500 CO₂ treatments to 290 patients, with anxiety states, phobic reactions, some types of character neuroses and certain ill defined chronic tension states, with spastic colitis and migraine headaches. Individuals with conversion hysteria or fairly pronounced depressive or schizoid features generally show a poorer response.

Somatic complications are very infrequent with this treatment. Pregnancy is no contraindication as there is no oxygen deprivation. He treated 6 patients throughout pregnancy, including one with ulcerative colitis. Most psychiatrists have found it advantageous to combine psychotherapy with the chemical treatment. Some patients particularly those with marked anxiety, and phobic reactions, are unable to take the treatment unless supportive psychotherapy and reassurance are given simultaneously. They associate the

hyperpnea produced by the CO₂ with the choking sensation of their anxiety. This is particularly so if the period of intermediate consciousness following cessation of the breathing of the gas tends to be prolonged.

Evaluation of the clinical results of the first 100 patients, who seem representative of the total group, revealed that 42% were classified as "much improved," 39% as "improved" and 19% as "unimproved." Criteria for classification of much improved included complete or nearly complete disappearance of symptoms, significant increase in capacity for functioning at work and at home and adequate insight by the patient into the nature of his problem.

Patients with anxiety states and phobic reactions showed a generally good response, as did those with character neurosis. For the 100 patients the total number of CO₂ treatments was 2534 but many received 2 or occasionally 3 treatments at certain sessions.

CO₂ therapy is thus an important method of treatment for various types of neuroses and psychosomatic conditions. In many cases it is of therapeutic benefit by itself, but usually it is most effective when combined with psychotherapy.

The nephrotic syndrome.—(S. Afr. Med. Jour., 27-8-'55).

There is much confusion regarding the aetiology, classification, prognosis and treatment of the nephrotic syndrome; although the condition is recognised as a clinical entity. It has been concluded that it is not related to acute glomerular nephritis, although it has long been conventional to classify certain of the patients as cases of this condition. The nephrotic syndrome may develop acutely without signs of glomerular nephritis and the essential lesion is apparently an abnormal permeability of the glomerular filtering membrane to protein. There is a definite abnormal permeability to serum albumin, and this may be the result of changes in the basement membrane that have been observed by certain workers; the

changes in the tubular epithelium appear to be generally accepted as secondary in nature. In his classification of nephritis, Ellis emphasized the changes in the basement membrane in type-2 nephritis, in which type the pathological findings resemble those occurring in a long standing nephrotic syndrome.

The nephrotic syndrome may occur in the course of certain diseases such as diabetes mellitus, lupus erythematosus, and amyloid disease. A few drugs such as troxidone (Tridione), paramethadione, and bismuth, have produced the syndrome in certain sensitive persons. Hypersensitivity reactions to respiratory allergens may also produce a disease indistinguishable from the nephrotic syndrome. Thus many patients suffering from the syndrome have a history of allergy and many show a striking eosinophilia.

The mechanism by which these agents and reactions produce the nephrotic syndrome has been investigated by serial renal biopsy and by the study of experimental nephrotoxic serum nephritis. The latter method has proved the most successful. Nephrotoxic serum is prepared by sensitizing an animal to renal tissue of another species; when this serum is injected into the species from which the kidney tissue was obtained, renal changes occur which Heymann and his associates have shown to be similar to the nephrotic syndrome as observed in children. The type of disease produced in rats by this immunological technique may resemble either acute nephritis or lipaemic nephrosis, depending on the dose and potency of the nephrotoxic serum. Many agents have been studied experimentally which inhibit or lessen the renal lesions, but the results of these experimental studies are not applicable to the treatment of human disease.

There is evidence of increased amounts of the adrenal steroid aldosterone in the urine during exacerbations of the nephrotic syndrome, and of a fall in the level when improvement of the nephrotic state results in diuresis and elimination of sodium. The effects of a high level of aldosterone on the renal lesion and on proteinuria remain

to be determined. Corticotrophin and cortisone have been given as part of the plan of treatment in patients with the nephrotic syndrome; they produce an initial retention of water with oliguria, and a decrease in serum sodium if the patient is on a very low sodium intake. These hormones appear to produce their effects by acting on the underlying physiological disturbance and apparently not by direct stimulation or suppression of the secretion of aldosterone.

Much work is being done towards a proper understanding of the nephrotic syndrome and more satisfactory treatment of the condition is required. An essential problem is management of the oedema, which is notoriously resistant to treatment.

Gold and cortisone.—(Ann. Int. Med., March '55, *via Med. Jour. Austral.*, 25-6 '55).

Gold, having suffered an eclipse of popularity in the treatment of rheumatoid arthritis, achieved a partial recovery a few years ago; the availability of BAL for reducing the severity of toxic reactions may have had something to do with its return to favour. More recently there have been reports that combined treatment with gold and cortisone have some protection from gold toxicity, Bilka and Wail in an article entitled "Gold-Hormonal Therapy in Rheumatoid Arthritis," report on 50 patients who were given gold in combination with cortisone, hydrocortisone or corticotropin. Their results were no different from those that can be obtained from the use of gold alone, and they found that 22% of the patients suffered toxic reactions while the combined treatment was in progress and 24% after the hormone had been discontinued and the gold was being given alone. The authors conclude that the only benefit of the combined therapy is that the severity of the disease can be mitigated and controlled by the hormone during the period of building up the gold to the required level; the hormone is then discontinued, and thereafter, gold therapy carried on alone, with no expectation of results any different from those normally obtained

without the use of hormones. Even though these conclusions will be disappointing to those who hoped for bigger things from the combined therapy, there is still something to be gained by exploiting this small advantage.

The newer method of estimating gastric acidity.—(Am. J. Clin. Path., Feb. '55, *via Med. J. Austral.*, 25-6 '55).

Countless cathemas have been called down upon the head of Dr. G. A. Ryle, inventor of that useful little tube which so many ungrateful sufferers find so difficult to swallow. However, several workers have lately been exploring an ingenious indirect method of estimating gastric acidity—the opprobrium with which the ordeal of the tube is everywhere regarded is reflected in the name given to the new technique—"the tubeless method" of gastric analysis. Segal, Miller and Morton developed the method in 1950; it depends on the fact that the quinine with which an ion-exchange resin has been treated is rapidly released by the action of gastric hydrochloric acid, is partially absorbed, and a final fraction, about 1%, is excreted in the urine within two hours. The quinine is extracted from the urine and estimated by comparison with standard solutions according to its fluorescence under ultra-violet light. Lewis and Ford have perfected a simplified method of extracting the quinine which puts the test within reach of any laboratory possessing an ultra-violet light comparator, and have described it in detail in "Determination of Quinine in Urine in 'Tubeless Method' of Gastric Analysis." Actually, the test while accurate in indicating gastric achlorhydria, is less consistent in cases of hyperchlorhydria, but nevertheless it has a wide range of application and should prove a boon to many of those unfortunates who suffer from "tube dysphagia."

Arterial hypotension as a syndrome.—(Scien. Medica Italica, 3: 4 1955, Pp. 613-635).

There has been considerable misunderstanding of the fundamental concept that the syndrome of arterial

hypotension is quite different from, and not related to, hypotension which is a characteristic sign of circulatory failure. This syndrome, formerly known as a particular arterial sphygmie condition unrelated to peripheral circulatory failure, still presents some obscure points concerning the pathopsychology of certain circulatory patterns and concerning certain pathogenesis.

The syndrome of arterial hypotension may be defined as a particular sphygmie condition of the greater circulation, confined in typical cases to the arterial and arteriolar beds, characterised by a parallel reduction of the systolic and diastolic pressures to values lower than normal; the pressure levels in the remaining vessels of the greater and lesser circulation are normal as a rule although they may show some variations.

The hypotensive syndrome affects the function of the heart. The work of the left side of the heart, is slightly but appreciably less than normal, whereas that of the right side is either normal or slightly above normal. The total work of the heart is normal or slightly less than normal. The size of the heart during diastole measured with three-dimensional methods and corrected for the weight of the body, is normal or only slightly larger or smaller than normal.

From the clinical standpoint the syndrome may appear as a primary dysfunction which evades any precise definition. It is then known as essential hypotension, angiohypotonia, chronic hypotension. The syndrome of arterial hypotension often gives rise to other circulatory syndromes and the evolution of the disease may result in a variety of circulatory disturbances.

The syndrome therefore, constitutes a pre disposing factor of special importance for the development of severe peripheral insufficiency. The majority of the hormones can be ruled out as genetic factors, in as much as the pharmacodynamic action of most hormones, (pituitary, thyroid, parathyroid), influences the volume of the circulation and also the corresponding imbalances, either in defect or in

excess, produce significant changes in the volume of the circulation.

More particularly, we can rule out a deficit of epinephrine since direct determination shows that the epinephrine content is normal and that the increase during the muscular exercise is not below normal and persists for a longer time.

The group of the cortical hormones, on the contrary, may play a pathogenic role in the hypotensive syndrome, in as much as their increase produces a pressure-rise and their decrease a pressure-fall unaccompanied by any significant corresponding variation in the volume of the circulation. The overall steroid urinary output is less than normal and there is reason to believe that the syndrome of arterial hypotension is accompanied by a deficiency of the adrenal cortex, notably of the mineralocorticoids.

Signs of neurovegetative dystonia, notably vagotonia, are present as a rule in the syndrome of arterial hypotension. This factor may be defined as a loss of tone of the intramural system of the arteries and arterioles.

The syndrome of arterial hypotension, considered as a primary dysfunction and not as a secondary syndrome, is therefore, related to a defect in the mechanical factor of pressure and its pathogenesis is attributable to humoral and hormonal changes which are confined to the internal fluid and do not necessarily involve tissues and organs having a non-mesenchymal origin.

The syndrome is more frequent in the 20 to 50 age group, less frequent in young people and rare in people of advanced age. It is found in 6% of unhealthy persons and in 11% of persons considered to be healthy, who may show symptoms of varying severity. It is more common in women than in men and in women it develops at an earlier age.

Clinically the hypotensive syndrome—in analogy with arterial hypotension—may be almost asymptomatic for a long time, even for years, or it may give to a variety of symptoms. The syndrome may give rise to complications involving different organs and systems,

which are pathogenically referable to the syndrome itself, or it may be accompanied by complex and varied extra-circulatory changes which carry the significance of concomitant morbid manifestations.

As a primary dysfunction the syndrome is the result of a well defined constitutional pattern corresponding to hypotonic asthenia; other manifestations of a functional deficiency may be added, having the clinical character of symptoms but the pathophysiological significance of complications.

This picture is found when the hypotensive syndrome is associated with Addison's disease, with liver diseases and with tubercular infection. The extra-circulatory symptoms, characteristic of the primary disease are usually prevalent. Fairly often, however the signs of the primary disease, are scant or clinically mild in comparison with those of the hypotensive syndrome; in such cases the hypotensive syndrome may easily be mistaken for the primary form, especially since the constitutional deficiency of this form does not give rise to any distinguishing symptoms.

The primary form of the syndrome of arterial hypotension appears to be associated with certain constitutional traits which are constant although they vary in degree. The constitutional traits are associated with dysfunctional manifestations such as pronounced thinness, hypotrophy and marked hypotony of the skeletal musculature, abnormal laxity of the ligaments and the periarticular tissues, thinness and hypoelasticity of the skin, a flaccid and prematurely old appearance. A typical and significant feature of both the primary and secondary forms of the syndrome is the easy fatigability which does not always restrict the working capacity of hypotensive subjects. Actually such individuals are often very energetic and, overcoming their asthenia, they are able to accomplish an amount of work at least equal to and often greater than that of normal persons.

There are other signs of dysfunction which should be considered as compli-

cations of the syndrome. Vertigo, lipothymia, orthostatic collapse—among the symptoms arising from peripheral circulatory insufficiency—are genetically related to the mechanism of the hypotensive syndrome but they carry the significance of complications rather than of symptoms.

The differential diagnosis is possible, however, on the basis of the overall morbid picture, its duration, the presence of particular constitutional traits and the association with morbid conditions capable to induce peripheral circulatory insufficiency.

Treatment of the syndrome of arterial hypotension is purely symptomatic and directed to relieve the hypotension and the resulting clinical symptoms by means of the administration of epinephrine and its substitutes, as these drugs produce an increase in the arterial and arteriolar tone as well as in the volume of the circulation. Hypertonic therapy by means of phosphorus is of value as compensatory treatment for the phosphate depletion. Strychnine salts, given in the usual weak dosage, exert a powerful tonic effect without any significant change in the volume of the circulation. In combination with epinephrine treatment, thyroid opotherapy is often beneficial, especially for hypotensive persons with prevalent vagotonia. As a result of the functional interactions between thyroid and adrenal glands, it has the effect to reduce the cortical deficit and to facilitate the secretion of epinephrine. The vagotonia present in hypotensive subjects may be corrected by mild atropine treatment.

Desoxycorticosterone acetate, in small doses and associated with ascorbic acid and sodium chloride, is used as a pathogenic therapy and it has a considerable beneficial effect. The use of relatively large doses of this drug should be avoided as they produce a diminution of the glomerular filtration and the renal flow. ACTH, employed as a more physiologic stimulant of the adrenal cortex, is contraindicated because of the possibility that it may cause a permanent hypertrophy of the adrenal gland. In the attempt to obtain a gradual restoration of the mechanisms regulating vascular tone, special importance should be given

to muscular exercise and to physiotherapeutic procedures of circulatory stimulation in patients with dysfunctional forms. Diets rich in proteins and poor in lipids, with a normal or high glucose content and a high salt content, show a beneficial effect on the general condition and also on the sphygmie abnormality, due to their influence on metabolic disorders.

Cortisone and salicylates in rheumatic fever.—(*Lancet*, 2: 1144, Dec. 4, 1954).

A controlled investigation was made of three lines of treatment of acute rheumatic fever. Ten children received cortisone with salicylate in large dosage, 10 received salicylates in large doses without cortisone and ten others received salicylates alone in low dosage.

Group 1. Cortisone with salicylates:—Sodium salicylate was given in a dose of $1\frac{1}{2}$ grains per pound of body weight daily, the dose being adjusted to give serum salicylate level of 30 to 40 mg./100 cc. The largest dose which was given was 150 grains per day. The largest dose in relation to weight was about $2\frac{1}{2}$ grains per pound of body weight daily.

Cortisone was given by mouth 200 mg per day for four days, 100 mg per day for the remainder of the first three weeks; 75 mg. per day for the fourth and fifth weeks and 50 mg. per day thereafter, unless it had been stopped before.

The diet did not contain added salt. Sodium was restricted to less than 2 mg. per day if there was a rapid gain in weight. Potassium chloride was given by mouth in a dose of 2 g. per day to children weighing 60 pounds or less, and 3 g. daily to those weighing more than 60 pounds.

Group 2. Salicylates in high dosage:—Sodium salicylate was given in the same dosage as in group 1.

Group 3. Salicylates in low dosage:—Sodium salicylate was given in a dose of 5 grains four times daily to children weighing less than 50 pounds and in a dose of 10 grains three times daily to children weighing 50 pounds and more.

In all other ways the treatment in the groups was identical. In any group the place of sodium salicylate was taken by aspirin or Disprin if heart failure was present. The treatment in all groups continued until clinical recovery, and until the E.S.R. was normal (10 mm. or less in the first hour) for three consecutive weekly readings, or for three months, whichever was sooner. A second course of treatment was started if there was a relapse, in which the criteria for diagnosis were again fulfilled, or if E.S.R. rose above 20 mm. in the first hour and remained above 20 mm. for three consecutive weekly readings. All the patients were given prophylactic penicillin tablets (100,000 units) twice daily. The general treatment after transfer to the hospital school, was the same in all the groups.

The duration of observation was the same in all the three groups, averaging 8.1 months.

Results: It was seen that in the first week the average fall of the E.S.R. in group 1 was 35.2 mm. in the first hour, compared with 10.8 mm. in group 2 and 11.9 mm. in group 3. The corresponding figures for the first fortnight were 54.2 mm., 26.0 mm., and 21.5 mm. respectively in groups 1, 2 and 3.

These results indicate that the combined treatment produced a greater fall in the E.S.R. than did salicylate alone in either high or low dosage. The differences were of statistical significance. There was no significant difference between groups 2 and 3.

The more rapid fall of the E.S.R. in the cortisone group is, of course, reflected in the duration of treatment. The mean duration of the first course of treatment was 31.2 days, compared with 60.1 days in group 2, and 64.6 days in group 3. Some patients, however, had to have two or three more courses of treatment. When these additional courses of treatment were included, the mean duration in group 1 was 34 days, compared with 79.6 days in group 2 and 67.4 in group 3. The difference between group 1 and each of the other two groups was of statistical significance but that between groups 2 and 3 was not.

There are no grounds for suggesting that the E.S.R. would fall more quickly in younger than in older children.

The figures show that the E.S.R. fell significantly more quickly when the drugs were used in combination than when salicylates were used in high or low dosage alone, and that as a result the duration of treatment, and therefore of the period in hospital, was considerably reduced. There was evidence, furthermore, that the fall of the

E.S.R. was not merely the result of a direct chemical action on the blood, for it remained lower after the combined treatment was discontinued than in other groups.

Further study is required to determine whether the addition of salicylates to cortisone treatment is of value or not. In the meantime it seems likely that salicylates, given alone, are not the best drug-treatment of rheumatic fever.

DERMATOLOGY

Antibiotics and chemotherapy in dermatology.—(*Univ. Leeds. Med. Journ.*, Feb. 1955).

The principles governing the rational use of antibiotics can well be demonstrated in their employment in diseases of the skin.

Before using antibiotics (or sulphonamides) it is always necessary to enquire carefully into the previous use of these drugs. In treating skin reactions to antibiotics it must be remembered that the dermal (urticarial) reaction responds to the antihistaminic drugs, but that they have no effect on epidermal (eczematous) reactions except as sedatives.

ACUTE INFECTIONS:—1. *Impetigo*:—This is an infection with *Staphylococcus pyogenes* or a hæmolytic streptococcus or both. Assuming that some primary cause as pediculosis capitis or a discharging ear or nose has not been neglected, impetigo can rapidly be cured by a paint such as an aqueous solution of gentian violet (1%). This treatment is so disfiguring that neomycin cream (0.5%) is preferable (Church, 1954). A greasy ointment should be avoided. Additional treatment with a sulphonamide drug given by mouth will expedite the cure.

2. *Erysipelas*:—Erysipelas is a streptococcal infection and the acute form responds rapidly to sulphonamides or parenteral penicillin given in ordinary dosage. Recurrent erysipelas is associated with lymphangitis, lymphatic obstruction and oedema and may affect the nose, lips, cheeks, ears or elsewhere and there is often a fissure pre-

sent which is the portal of entry for the infection. It requires intensive treatment. Penicillin (0.5% twice daily for the same period) should be given intramuscularly and the fissure treated by the local application of aureomycin cream (3%) or Steroxin ointment.

3. *Boils*:—This staphylococcal infection which occurs deep in a hair follicle can readily be cleared by antibiotics such as penicillin or, if the organisms are penicillin-resistance by aureomycin or terramycin. Unfortunately when treatment is stopped further boils soon appear. The problem of recurrent boils is common and troublesome; it involves the resistance of the patient as a whole and the resistance of his skin which may be lowered by friction, maceration or other factors.

4. *Anthrax*:—This infection is not common. Treatment with penicillin given intramuscularly, with or without Solavo's serum, have proved satisfactory but recently we have had patients in whom the infection was resistant to penicillin. There was, however, a good response to aureomycin or terramycin.

SUB-ACUTE INFECTION:—1. *Infected eczematous dermatitis*. The organisms usually found are *staphylococcus aureus* and *streptococci*, both hæmolytic and non-hæmolytic. The local treatment of infected eczematous dermatitis with antibiotics and chemotherapeutic substances requires care because the eczematous skin is readily irritated and sensitized, in the allergic sense, more easily than is healthy skin. For this reason sulphonamide, penicillin, streptomycin and

chloromycetin (chloramphenicol) should never be used on eczematous areas. The risk of sensitization is less with aureomycin, neomycin or gramicidin and creams containing these may be useful. Certain chemotherapeutic substances are also of value:—Vioform cream, Ung. Quinolol Co. and Steroxin ointment may be mentioned. These however, may cause irritation and, on occasion, sensitization.

It is often advantageous merely to use bland preparations locally (e.g. calamine lotion or cream, or Lassar's paste and soft paraffin in equal parts) and to treat the infection by internal measures. The sulphonamides are useful for this purpose.

CHRONIC INFECTION:—Tuberculosis:—Antibiotics and chemotherapy have revolutionized the management of patients with these conditions though the patient's own resistance to infection is still the prime consideration. However, Calciferol in large doses, though potentially a dangerous drug, is of great value and isoniazid may help a proportion of patients. Because skin tuberculosis is usually such a chronic disease, streptomycin has only limited use as, for example, with tuberculous ulcers and sinuses.

VIRUS DISEASES:—Herpes zoster and Herpes simplex:—Treatment with antibiotics has no effect on the viruses causing these diseases but may be useful in order to combat secondary infection. In herpes ophthalmicus, this may be an

important consideration and both internal and local treatment should be employed.

Dermatitis herpetiformis:—This condition is associated with a sensitivity to iodine and a small dose of potassium iodide by mouth will cause a severe exacerbation. The remarkable effect of sulphapyridine in controlling the condition, greater than that of other sulphonamides, is certainly not from any action on micro-organisms but may be related to iodine metabolism. It is of interest that the sulphonamides have a thiouracil-like effect on the thyroid glands of rats and it seems possible that the action of sulphapyridine in dermatitis herpetiformis may result from some alteration in iodine metabolism. A dose of 0.5 to 2.0 g. daily may be continued for years without trouble except in a very small proportion of patients who cannot tolerate sulphonamides. Even more effective in the treatment of this condition is dapsone (diamine-diphenyl-sulphone) in a dose of 50 to 100 mg. daily.

Pemphigus vulgaris:—The aetiology of this disease is unknown and it may well be a reaction of the skin which can be provoked by a variety of causes. Pemphigus can be controlled in some patients by aureomycin but large doses, even up to 4 g. daily may be required. The reason for this is not understood but the effect of aureomycin on pemphigus would not seem to be antibiotic in the sense of an action on micro-organisms.

OBSTETRICS AND GYNAECOLOGY

Endocrine changes in pregnancy.
—(Med. Illustr., Aug. 1954).

From the point of view of the endocrinologist the pregnant state is characterized by the appearance of a new endocrine gland—the placenta; whose secretions altogether change the hormonal balance of the woman.

In the non-pregnant woman the corpus luteum has a secretory life, 8 to 10 days. The first endocrine manifestations of pregnancy is the continued survival of the corpus luteum. Upon

the assumption that implantation takes place 6 days after ovulation, it will be seen that within 2 to 4 days of its arrival in the uterus the developing ovum has to produce sufficient secretion to alter profoundly the normal course of the menstrual cycle. It may be that the hormone so produced—chorionic gonadotrophin—exerts its effect directly upon the corpus luteum or indirectly by stimulating the secretion of pituitary gonadotrophins. It seems likely that this is an instance where the placental secretion exerts its effect directly, as

Hisaw (1944) has shown that pituitary gonadotrophins prolong the life of the corpus luteum for only a short while, whereas chorionic gonadotrophin may do so indefinitely.

From tissue-culture experiments it has become evident that both layers of the chorionic trophoblast produce hormones. Steroid hormones such as oestrogen and progesterone are secreted by the outer syncytial layer, while the inner cellular layer (Langhans') is responsible for protein substances like chorionic gonadotrophin. Chorionic gonadotrophin when injected into the immature female rodent produces maturation of follicles followed by ovulation and corpus luteum formation. It also acts upon the gonads of lower animals causing egg deposition in the female toad and spermatogenesis in the male. These effects of chorionic gonadotrophin are utilized in the biological tests for pregnancy designed by Aschheim and Zondek, Friedman, Hogben and Galli Mainini. In hypophysectomized animals chorionic gonadotrophin causes only theca luteinization. In the human, it causes atresia of ripening follicles although it prolongs the life of an existing corpus luteum. It is likely that chorionic gonadotrophin is purely a luteinizing agent with no power to produce maturation of follicles or ovulation, its action on immature rodents being in this respect a secondary result of pituitary stimulation. This explains why it has proved to be of little use in the treatment of infertility. It would seem that there is a sounder physiological basis for the use of chorionic gonadotrophin to prolong the life of the corpus luteum in cases of threatened or habitual abortion. Here too the results have been disappointing, possibly because a waning corpus luteum is not the primary cause of abortion in many instances.

Recent work on special methods of biological assay has made it possible to get an accurate picture of the levels of chorionic gonadotrophin in blood and urine at various stages of pregnancy. The results of such an assay in Edinburgh show that the initial levels of chorionic gonadotrophin in pregnancy are high (25,000 to 30,000 international

units). The output of chorionic gonadotrophin falls rapidly as pregnancy advances until the third month when it reaches a stable low level of 5,000 to 10,000 international units. A very slight rise takes place just before parturition. The Langhans' cells from which the chorionic gonadotrophin derives involute rapidly in pregnancy and can barely be distinguishable by the fourth month. Not all the endocrine changes of pregnancy can be explained as primary or secondary effects of known placental hormones, but there is no evidence at present to suggest that the Langhans' layer secretes any hormone other than chorionic gonadotrophin.

Although the figures for urinary oestrogens and pregnanediol during pregnancy vary widely from patient to patient and from one laboratory to another, some common features are apparent. The output of these hormone metabolites remains in the neighbourhood of the highest levels achieved by the ovary during the menstrual cycle for the first 10 weeks of pregnancy. It is inferred that for the first quarter of pregnancy the trophoblast does not produce any steroid hormones and that their output is maintained by the ovary under constant stimulus by chorionic gonadotrophin. As the placenta is formed, the Langhans' layer regresses and the syncytial layer proliferates, producing increasing quantities of steroid hormones. The urinary output of their metabolites increases by leaps and bounds after the third month. The change in hormone levels far outstrips any physiological or pathological variations found in the non pregnant state. In endocrine terms, the pregnant woman becomes quite another individual with a hormonal milieu *interieur* wholly different from her non-pregnant state. The pregnant woman at term excretes as much oestrogen in 0.2 c.c. of urine as does the non-pregnant woman in the whole 24 hours. The output of urinary pregnanediol increases sixteen-fold. The change is clearly seen in the alteration of response which takes place with pregnancy. Amounts of oestrogens and progesterone which would utterly prostrate the non-pregnant woman are

daily given to pregnant ones with no observable effect.

The profound change in the production of these steroid hormones brings in its train many changes in structure and function. The alteration in the endocrine contribution to personality reflects itself in the commonly observed emotional lability, the intensity and variety of perception and frequently exaggerated response to minimal stimuli. The digestive, respiratory, excretory, vascular, nervous and endocrine system itself, all have to function in changed internal environment. They adjust accordingly and their functional inter-relationships are changed. As a result many of the physiological constants which express the relationships between systems, such as metabolic rate, blood volume, and mineral balance, are changed.

Pelvic congestion and pain.—(*Am. J. Obst. and Gynaec.*, 67: 1177-1196, 1954, via *Mod. Med.*, 1-10 '54).

Lower abdominal pain is the principal presenting symptom of a complex designated as pelvic congestion. The condition is frequently observed in women between 20 and 40 years of age. The pain is usually supra-pubic and often more severe on one side than on the other. Discomfort is intensified by fatigue, standing, sexual intercourse, and nervous strain. Disturbances of the menstrual cycle may be noted.

Physical findings are slight in relation to severity of the subjective symptoms. Tenderness of the parametrium, especially the uterosacral ligaments, is the most consistent observation. Hyper-

trophy of the uterus may be caused by temporary congestion or permanent proliferation of connective or muscle tissues. The ovaries are often enlarged and the cervix almost always shows some degree of hypersecretion. At laparotomy the uterus is softened, slightly enlarged, and purplish or mottled in colour. A recognizable oedema of the subserosal connective tissue and sometimes of the ovary may be seen. Variations in severity of symptoms may be related to changes in circulation. Improvement occurs almost invariably at the menopause when excessive vascularity in the genitals becomes impossible physiologically.

Pelvic vascular change as a psychosomatic disorder is supported by reactions of the vascular system to states of mind. Women with pelvic congestion are often emotionally unstable. Fatigue, situations of stress, and specific problems of the marriage relationship should be considered as aetiological factors.

Choice of therapy depends upon the age of the patient, reproductive history, duration and severity of symptoms, and occurrence of complicating organic disease. Patients with moderate discomfort of short duration are often benefited by simple reassurance that the condition is not serious or progressive.

In a few instances, surgery may be necessary to investigate the possibility of neoplasm of the ovary. Hysterectomy is sometimes justified for a woman over 35 years of age who has had severe symptoms for a number of years and who desires no more children.

SURGERY

The surgery of cardiac ischaemia.—(*The Med. Journ. of Austral.*, May, 2nd, 1955).

In our issue of February 26, 1955, M. P. Susman, had entered a plea for more study of the surgical treatment of cardiac ischaemia. In an article in *The Journal of Thoracic Surgery* of January, 1955, Arthur Vineberg writes on four years' clinical experience with

internal mammary implantation in the treatment of human coronary artery insufficiency including additional experimental studies. Vineberg has been working at this problem for over nine years, and the present paper gives the experimental evidence in support of the operation and its results in twenty-nine patients suffering from coronary artery insufficiency. Five of the patients

died, fifteen are completely free from pain and some of them are working at hard physical labour. These results are encouraging, especially when it is remembered that after occlusion of one coronary artery less than half of the sufferers will survive five years. Vineberg emphasises that there still must be a large amount of good myocardium remaining to receive the new blood supply; it is no good to attempt rejuvenation of fibrotic tissues in the heart any more than it is in other sites. Therefore, operation must be performed as soon as possible once the indications are present, namely; (a) progressive coronary artery insufficiency without disability; and (b) partial or total disability but without angina at rest.

Contraindications to operation are: (a) evidence of left ventricular failure, (b) enlargement of the left ventricle unless the enlargement is due to moderate hypertension, (c) advanced essential hypertension, (d) recent myocardial infarction or active disease, and (e) the occurrence of angina at rest. Operation is not advised for patients who have only occasional anginal pain on exertion of emotion, if they are able to work and live a fairly normal life. In the discussion that followed the presentation of this paper there was some adverse criticism as well as support. Several speakers pointed out that other operations may give results as good as Vineberg's. Samuel Thompson, of New York, for example, discussed the benefit to be obtained by inducing an inflammatory pericarditis by dusting the surface of the heart with magnesium silicate powder; he based his claim on 134 operations, with good results in 90%. Dr. Charles Pirstein doubted whether any of these operations gave any lasting benefit and is conducting a review of them. His findings should be carefully scrutinized when they are published.

Surgery at high altitudes.—*J.A.M.A.*, 18-12-1954.—At a meeting of the Peruvian Academy of Surgery, Dr. Victor MacCagno reported on 100 cholecystectomies performed in a period of two years at the General Hospital of Chuleo of Oroya, 3,800 metres above sea level, on patients whose physiological

characteristics differed from those shown by the inhabitants of the lowlands. Twenty-seven of the patients were Indians, 70 half-breed, and 3 white; 53 were women, and 47 were men. Their ages ranged from 17 to 66. Six patients were from towns 3,000 to 3,500 metres, 64 were from towns 3,501 to 4,000 m., and 26 were from towns 4,001 to 4,500 m. above sea-level. Most of the patients had polycythemia. The higher the haemoglobin level the more profuse was the bleeding during the operation. This complication usually occurred in spite of the most careful haemostasis. For this reason, Dr. MacCagno now bleeds patients whose haemoglobin level exceeds 19 gm. per 100 cc., drawing off between 500 and 1,500 cc. of blood. It was found that 25% of these patients with polycythemia had a coagulation time of over 15 minutes. The speaker thinks this might be caused by the fact that in patients living at a high altitude the thrombocytes do not increase in proportion to the increase in the erythrocytes. The possibility of poor absorption of vitamin K was excluded. The bleeding time of these patients was found to be normal.

The group of patients showing anaemia was treated with special care, particularly those with a haemoglobin level of less than 15 gm. per 100 cc., since such values at an altitude of 3,000 m. or more above sea level, indicate a deficient oxygen supply to the tissues. In most patients the induction of anaesthesia was prolonged and so was the return to consciousness following anaesthesia. This may be due to the slowing of the circulatory velocity in the subjects with polycythemia and to the hypotension usually observed in persons living at a high altitude. The amount of anaesthetic consumed was less during similar operations near the sea level. In almost all the patients the retrograde method was used, and only in a few patients with acute cholecystitis was the direct method used. The post-operative period was calm in 84 patients; complications were noted in 16, three of whom died. Early ambulation has been shown to reduce the number of complications, chief among which are paralytic ileus, broncho-pneumonia, and atelectasis.

The slowing of the circulation commonly seen in these patients may predispose to ileus and pneumonia.

Treatment of electrical burns.—(*Arch. Surg.*, 68: 531-537, 1954; *via Mod. Med.*).

McLaughlin and Coe, recommend early extensive debridement and skin grafting for electrical burns. Many weeks may be lost waiting for separation of a thick avascular slough, with subsequent increase in scarring and deformity.

Resistance at the point of contact is important in determining damage by electricity. Systemic effects are increased when skin resistance is low, and burns are more severe when skin resistance is high. Current tends to follow the spinal fluid and blood stream, and brain damage, cataracts, and severe vascular injuries are frequent. Adequate tetanus prophylaxis is essential because of ischemia; routine prophylactic doses of antitoxin are not sufficient. Gas-bacillus infection may necessitate amputation.

Electric markings occur at points of entrance and exit. The lesions are gray-yellow, round or oval, and have raised edges and depressed centres. Pain and sloughing occur late, and healing is slow.

Arc-burns cause destruction of large areas and considerable vascular damage. Thermal burns from ignited clothing often accompany arc-burns.

Pressure dressings are used in the early treatment to reduce pain. As soon as reasonable demarcation of the slough is discernible, wide excision and plastic repair are done.

Prognosis is reserved with severe electrical burns. Tissue destruction may be extensive, and complex reconstructive surgery is often necessary to restore structure and function.

Wound infections.—(*New. Eng. J. Med.*, 251: 411, '54).

There is evidence that penicillin-resistant strains of *Staphylococcus aureus* recovered from hospitalized patients and

personnel have increased greatly since the introduction of penicillin. At the Massachusetts Memorial Hospital, Howe found that the rate of infections of clean wounds after operation has greatly increased during the past five years despite the prophylactic use of antibiotics.

The evidence indicates that this increase in post-operative sepsis is due to an abnormally high penicillin resistant carrier rate in hospital personnel, as well as in patients as a result of the wide spread use of penicillin. Personnel are constantly exposed to dressings and to dust from sweeping and bed-making, and the nasopharynx and skin are likely to become carrier-sites for pathogenic *staphylococci*.

These findings cast doubt on the wisdom and efficacy of routine prophylactic systemic antibiotic therapy in clean surgical cases. A definite programme to lower the rate of wound infection was inaugurated at the Massachusetts Memorial Hospital. The programme included measures to prevent cross-contamination. Because, the nasopharynx is the main carrier-site for the *staphylococcus*, double masking was considered important. Surgeons and nurses were urged to wear masks and gloves for all contaminated dressings, mainly for self protection to help prevent the carrier state.

Treatment of frontal sinusitis.—(*Proc. Royal Soc. Med.*, October '54).

In sinusitis the outcome depends on the vascular connexions, the vulnerability of the contiguous structures, and the efficiency of the drainage mechanism. In the case of the frontal sinus there are vascular anastomoses with the diploic vessels, the orbit is in close proximity to the sinus, and the fronto nasal duct is narrow and drainage therefore, difficult.

Acute frontal sinusitis.—Acute frontal sinusitis must be clearly distinguished from chronic sinusitis. In acute cases treatment should be conservative, and resolution usually followed the correct use of sulphonamides and antibiotics. Hence treatment is aimed at a direct

attack on the organisms, together with free drainage of the products of inflammation. If decongestants and simple lavage of the sinus are unsuccessful, a small opening is usually made through the floor of the sinus, without interfering with the fronto-nasal duct. Normal anatomy and physiology should be restored in the uncomplicated case. The result, however, is not always so happy. The infection might spread to bone, causing the periostitis and osteomyelitis. Fortunately, with chemotherapy the acute spreading type of osteomyelitis is rare, but chemotherapy might lead to a less severe and more localized type of bony infection producing few, if any, symptoms for several weeks. Energetic treatment with antibiotics is almost invariably successful. In these cases the problem is to decide whether sequestration has occurred and whether drainage is efficient. It is essential to excise all dead tissue, after the spread of infection had been arrested, and to drain any loculi of infection. Infection could spread to the orbit directly through the bony floor of the sinus, but more commonly it spread through the venous connexions. The orbital periosteum is very tough, and fulminating acute infections are now uncommon. The treatment should be conservative and, as in osteomyelitis, surgery is indicated only to provide drainage, remove dead tissue, and drain any abscess.

Chronic frontal sinusitis.—Chronic frontal sinusitis is the major problem to-day. Treatment of the chronic state must be radical. It is difficult to say which piece of mucosa is normal and which diseased, and it is therefore, always safer to remove all the lining mucosa. The resultant scar tissue would then be healthy. It is also necessary to remove any subdividing bony septa, all the anterior ethmoidal cells, and any other ethmoidal cells that might be diseased. Chronic infection could supervene on polypsis which made the membrane more vulnerable.

It is a common experience that the new opening made into the nose in drainage operations tended to stenose. Some surgeons think that this

would not happen if the fronto-nasal duct remained undisturbed, but Mr. Ellis disagrees with this view. He removes the whole floor of the sinus, all the anterior ethmoidal cells (since chronic disease in these cells was one reason for chronic disease in the sinus), and part of the pyriform aperture of the nose. In this way a short, straight, wide channel is formed.

Coarctation of the aorta.—(R. O. Brock, M.S., F.R.C.S., (Thoracic Surgeon to Guy's Hospital, Surgeon to the Brompton Hospital, London).

Until 1945, this disease was untreatable, and consequently of little importance. In 1945, Crafoord and Nylin, of Stockholm, introduced the successful surgical treatment by resection of the stenosed segment and restoration of continuity by end-to-end anastomosis; almost simultaneously, Gross, of Boston, was evolving the same operation. The success of this procedure led to renewed interest in the condition, and to-day it holds a position of considerable importance as a disease that can be cured by operation. Although a relative rarity, it may always present as a problem to the physician or general practitioner who may be called upon to give advice.

The typical abnormality in aortic coarctation is a gross narrowing or complete obstruction at about the level reduced to about 1 to 2 mm. and the obstruction is almost linear. Occasionally, an aneurysm forms in association with the coarctation.

In spite of this severe obstruction the lower part of the body receives an adequate blood supply through the enormous collateral circulation that develops. The commonest ill-effects result from the back-pressure on the heart and the vessels to the upper part of the body; thus a hypertension occurs in the head and neck and upper limbs, the blood pressure sometimes reaching very high figures. The heart is enlarged correspondingly; occasionally the addition of a stenosed or incompetent bicuspid aortic valve may still further aggravate the heart condition.

The diagnosis is usually easy. The face may be ruddy, flushed and large, pulsating arteries are seen in the neck; the radial pulses usually reflect the same high blood pressure, although sometimes one or other may be of low tension owing to the involvement of the corresponding subclavian artery in the coarctation; the femoral pulses are absent and the pulses in the legs and feet are feeble or imperceptible. The diagnosis can then be confirmed by searching for large collateral arteries in the interscapular and axillary regions. These may be both seen and felt. A radiograph of the chest shows further evidence of the heavy collateral circulation by "rib-notching" which is due to irregular bone absorption in association with greatly enlarged intercostal arteries; the presence of cardiac enlargement is also confirmed.

A systolic murmur is usually heard over the præcordium also and at the back of the chest on each side of the upper part of the thoracic spine.

Symptoms may be completely absent or may begin as dyspnoea, a tendency to tire quickly, or any of those usually caused by hypertension, especially headache. Epistaxis is common and may be followed by a more grave episode, such as sub-arachnoid or intracerebral hæmorrhage. Although more likely to occur in older patients with severe hypertension and arterio-sclerotic changes in the vessels above coarctation, a cerebral hæmorrhage causing hemiplegia may be seen in quite young children. Sudden death may occur from rupture of the aorta above the coarctation; this may occur during exercise, and for this reason a patient with coarctation should be forbidden strenuous games.

A simple and valuable observation can be made by observing the blood pressure over a period of time; this should include observations over several days of complete bed-rest and also readings after exercise. If the diastolic pressure is, for instance, constantly over 100 mm. Hg., or 90 mm., in a child, operation is almost certainly indicated.

Electrocardiography reveals greater or lesser degrees of left ventricular hypertrophy, and in more severe cases

evidence of myocardial strain.

Special radiography by the injection of contrast medium into the blood stream (in children by the venous route, in adults through a catheter passed into the aorta through the radial or brachial artery) outlines the coarctation, confirms its site, and enables its anatomy to be studied.

TREATMENT:—It is sometimes very difficult to advise whether or not a coarctation should be operated upon, and there is still no unanimity of opinion. In the severe cases with high blood-pressure, a large heart, evidence of cardiac embarrassment or a history of vascular accidents, there is usually little or no difficulty. The uncertainty arises when the condition is found accidentally in an otherwise healthy child or young adult causing no symptoms and there is no marked rise in blood pressure.

In the hands of a capable surgeon, fully experienced in this type of surgery, the mortality should be little more than 5 per cent.

The use of the hexamethonium drugs to produce hypotonia has been of immense help to the safer conduct of the operation; it reduces hæmorrhage and allows a much easier and less anxious dissection to be made.

The operation:—The left chest is opened by a long postero-lateral incision through the bed of the 5th rib. The large collateral vessels in the chest wall can cause heavy blood-loss unless they are handled meticulously and carefully.

The dissection of the aorta above and below and at the level of the coarctation may be exactingly difficult; thorough mobilisation is, however essential.

Once the field has been fully prepared special clamps are placed across the aorta above and below the coarctation and the stenosed segment is excised. Continuity is then restored by an end-to-end anastomosis. If an adequate resection is done a full sized lumen may be achieved.

In some cases it will be found that a long gap remains after resection of a sufficient length of the narrowed

vessel and to ensure an adequate lumen; the same may occur if an aneurysm is present and one or two pairs of intercostal arteries have to be resected as well. It may then be quite impossible to bring the ends together for an anastomosis, and an aortic graft must then be used.

Arterial homografts were first introduced by Carrel before the first World War; indeed, his work in this connexion won him the Nobel prize. Their use was revived by Cross some five years ago, and they have now been used quite extensively, certainly enough to feel complete confidence in their immediate safety. As yet less is known about the distant future, and possibly the grafts may prove unsatisfactory from dilatation or calcification. At present they are the only solution to successful restoration of continuity when a long gap exists.

The homografts are obtained within 6 to 12 hours after death, preferably from subjects under 40 years of age, and are removed aseptically. The vessel can then be stored in a balanced salt solution in an ordinary refrigerator at 4 degrees centigrade. The disadvantage of this method is that the graft is of no use after about six weeks. To overcome this, grafts are now stored in deep freeze at 70 degrees centigrade, when they will keep indefinitely. —(*Med. Press*, Feb. 1954).

Anæsthesia for thoracic surgery. —(*Broadway Clinical Suppl.*, Oct. 1954).

Whilst the basic principles of anæsthesia for thoracic surgery are the same as those for any other type of surgery, the problem of the open chest introduces considerations peculiar to this branch of anæsthesia.

Among the problems involved are: (i) pre-operative preparation, (ii) the open chest, (iii) sputum control, (iv) surgery of the chest wall, (v) cardiac surgery, and (vi) post-operative requirements.

(i) **Pre-operative preparation:**—During and after operation involving the lungs it is frequently necessary for the patient to oxygenate the blood in his pulmonary circulation by means of a

reduced respiratory surface. Consequently it is important to ascertain that all bronchi remain unobstructed by sputum, that maximum expansion of the chest occurs and that adequate hæmoglobin is in circulation to carry the oxygen. An attempt is made to reduce the volume of sputum to a minimum by pre-operative physiotherapy, especially posturing. Breathing exercises are carried out daily. Modern chemotherapy has been of great assistance in sputum reduction. The hæmoglobin percentage is estimated in all cases, and the patient transfused pre-operatively when necessary.

Pre-medication is administered as in other types of surgery (*e.g.* omnopon and scopolamine), but when local anæsthesia is to be used it is common practice to give phenobarbitone 180 mg. in addition. This has a marked depressant action on the motor cortex, reducing the possibility of toxic effects of the local anæsthetic.

(ii) **The open chest:**—Once the pleural cavity is opened paradoxical respiration occurs, unless controlled by the anæsthetic. In this condition, inspiration only produces a negative pressure in the one closed hemithorax. Air is drawn in through the trachea, and from the lung on the side that is open into the sound side. The negative pressure causes the mediastinum to move towards the sound side. The reverse occurs on expiration. This causes considerable physiological upsets to the patient and a very difficult operating field to the operating surgeon. To combat this, the technique of controlled respiration was evolved. Today, this is achieved by anæsthetizing the patient with a small dose of thiopentone, nitrous oxide and oxygen. He is then rendered apnoeic by a muscle relaxant such as curare. The stimulus to breathe is reduced by rhythmical inflation of the patient's lungs with nitrous oxide and oxygen through an endotracheal tube in such a way the expired gases pass through a canister containing soda-lime. This removes CO₂, maintaining the CO₂ tension of the blood at a relatively low level. Using this technique, thoracic surgery

may be performed under very light anaesthesia. Reflex disturbances such as coughing, hiccoughing etc., may occur on manipulation of the hilum of the lung or the mediastinum. These disturbances may be avoided by the administration of small doses of pethidine intravenously, although this is not always necessary.

(iii) *Sputum control*:—Where sputum has not been reduced to a minimum by pre-operative measures, or when it is felt that the operative manipulation may release a quantity of pus into the bronchial tree, the diseased lung must be occluded from the rest of the bronchial tree, lest "spill" of the sputum occurs during the operation. This may cause post-operative collapse of the opposite lung and possibly pneumonia or a most serious spread of the disease—pulmonary tuberculosis.

This bronchial occlusion may be achieved by passing a rubber suction catheter through a bronchoscope down to the bronchus of the diseased lobe or lung in question. A small "balloon" around the end of the catheter is then inflated. This not only occludes the bronchus but enables the sputum to be sucked out during the operation. The lung beyond the blocker collapses and cannot be technically inflated with the rest of the lung. This assists the surgeon by providing a stationary operating field.

A cuffed endotracheal tube is then passed—using a laryngoscope—and the anaesthetic is administered through this. The bronchial blocker passes through the trachea alongside the endotracheal tube.

Blockers may be passed into the main bronchi and lower, middle and upper bronchial lobes, but not into segmental branches. Fortunately segmental resections are usually performed in sputum-free patients, when blocking could not be helpful. The exception to the above arises in the case of a right pneumonectomy, where the right main bronchus is too short to hold the blocker without obstructing the right upper lobe bronchial orifice. Here, the long cuffed endobronchial tube is passed (threaded over a small bronchos-

cope) into the left main bronchus and the anaesthetic administered into the left lung only.

(iv) *Surgery of the chest wall*:—Major surgery of the chest wall is performed in order to produce collapse of the lung especially the apex in pulmonary tuberculosis. Thoracoplasty consists of the removal of the upper ribs, the mobilization of the apex of the lung and the freeing of the parietal pleura from the mediastinum, down the level of the arch of the aorta or the azygos vein. The operation is performed in the extra-pleural planes in two or three stages and the pleura is not opened. In this way paradoxical respiration is kept down to a minimum. Local anaesthesia is frequently used, since the adrenaline used with this provides very good haemostasis, the patient is co-operative and the cough reflex is not depressed—preventing "spill" of sputum.

Para vertebral blocks are used to provide the necessary regional anaesthesia. The site of incision is infiltrated and relaxation and analgesia for scapular retraction is achieved by brachial plexus block and/or subscapular infiltration.

(v) *Cardiac surgery*:—The problems of anaesthesia for cardiac surgery are somewhat different to those of pulmonary surgery. The period upto and including the induction is especially dangerous. For instance, in mitral stenosis, the tachycardia produced by anxiety may cause reduced cardiac efficiency and resultant pulmonary oedema. This situation must be avoided by adequate pre-operative sedation and a tranquil induction.

The normal small fall in blood pressure produced by thiopentone may be exaggerated in the presence of a cardiac lesion; consequently, care must be taken with the induction dose of this drug.

Bearing in mind facts such as these, the techniques used are similar to any other thoracotomy. This thiopentone-curar-nitrous oxide-oxygen sequence is that most commonly used. Adequate oxygenation and accurate replacement of blood-loss are essential.

With reference to the latter the dangers of either over or under transfusing of the patient will be obvious. Many cardiac surgeons measure the blood loss at operation by such means as weighing the swabs and towels. Whilst not entirely accurate, these estimations prevent dangerous errors in transfusion, especially when the blood-loss has been unusually excessive.

(vi) *Post operative requirements*:—In thoracic surgery it is true to say that the earlier the patient is awake and in the control of his reflexes, the better is his immediate prognosis. The patient is usually conscious before leaving the theatre. Blood-loss must have been adequately replaced and the bronchial tree must be free of secretions.

A suction catheter is passed into the bronchi and trachea, bronchi and pharynx sucked out at the end of every case. Intermittent suction through the blocker and the endotracheal tube, will have been carried out during the operation.

Oxygen should be available for all cases on their way back to their ward. All major cases have their beds brought to the theatre. If any leak exists in the pulmonary tissue at the end of the operation, an intercostal catheter is left in the hemithorax and connected to an underwater seal. This prevents a pneumothorax developing on the way back to the ward. Post operative collapse of any part of the lung is an indication for immediate bronchoscopy and removal by suction of the material obstructing the bronchus concerned. —(Dr. H. Barric Fairley, M.B., B.S., F.F.A.R.C.S., of The Broadway Westminster Hospital, London).

Indications for pulmonary resection.—(*Am. J. Surg.*, 89: 16, 1955, via *G. P.*, June '55).

Removal of all or part of a lung may be indicated for conditions in which the lung tissue is so seriously diseased by tumour, infection or vascular damage that its retention will interfere with the well-being of the patient or will cause his death, according to a recent

article by Naclerio. Such conditions include primary and metastatic neoplasms, lipoid pneumonia, fungus infections, vascular lesions and traumatic injuries.

In malignant tumors of the lung, resection of the entire lung with the mediastinal lymph nodes corresponds to the basic principle of treatment employed in gastric, colonic and breast lesions of a similar nature. In rare peripheral tumours, lobectomy alone may be sufficient, and lobectomy is the treatment of choice in patients having low respiratory reserve or a poor cardiovascular system.

When the diagnosis of a pulmonary lesion is in doubt, segmental resection or lobectomy may be necessary to establish the microscopic diagnosis, since small pieces of tissue may not be representative. Non-malignant growths, including hamartoma, fibroma, chondroma, lipoma and others, may not be distinguishable from intrathoracic malignant tumours. For them lobectomy is the treatment of choice.

Surgical removal of a solitary lung metastasis is indicated under certain conditions, providing the primary malignancy has been removed and the solitary metastasis is the only evidence of spread of the disease.

Pulmonary paraffinoma may mimic lung cancer even on frozen section examination. Local resection may be necessary to establish its identity.

Two or more lobes, a bronchopulmonary segment or a number of segments may be involved in bronchiectasis. Surgical removal of the affected part is the treatment of choice, and in properly selected cases is curative.

Lobectomy also accounts to a large extent for the improvement in treatment of lung abscess since by its prompt application, satisfactory results usually are obtained. Lobectomy is indicated when the abscess is chronic, when multiple cavities exist in one or more lobes, when there is persistent disease following drainage operations, when a bronchogenic neoplasm is suspected, if foreign body is present or when the condition is found in children. Lobectomy is also of value in the treatment of chronic pneumonitis.

The indications for pulmonary resection in tuberculosis include bronchial

stenosis, destroyed lung or lobe, tuberculous bronchiectasis, tuberculoma, thoracoplasty failure, uncontrollable lower lobe disease and thick walled cavities.

The authors stated that serious cardiac disease, borderline ventilatory function, advanced age or a combination of factors which form the so-called poor surgical risk may preclude intervention for any of these indications.

Closed abdominal injuries.—(*Lancet*, 2: 877, 1954, via *Internat. Abst. Surg.*, July 1955).

An accurate anatomic preoperative diagnosis is often not possible in cases of closed abdominal injuries, since the damage is frequently widespread. The problem of diagnosis is further complicated by the high incidence of concomitant injuries to other areas of the body.

The surgeons of the Birmingham Accident Hospital, Birmingham, England, have adopted the policy of early operation in cases of suspected intra-abdominal injury; "mere suspicion must remain pre-eminently the basis for laparotomy." They do not wait for unequivocal signs since serious abdominal injuries may be present with no abdominal signs or symptoms. In the period from 1947 to 1953, 107 patients were operated upon for closed abdominal injuries. In 12 of these, no obvious explanation for signs or symptoms was found on laparotomy. During this same period, approximately 300 patients with suspected abdominal injuries were treated without surgery. Thirteen patients died without surgery.

There were 24 deaths among the 107 patients treated by laparotomy. The majority of the deaths were attributable to associated injuries elsewhere. None of the 12 patients with negative explorations died. Of the 13 patients dying without operation, only one might have been saved by early surgery. The remainder were either moribund on admission or died of other injuries.

Injuries encountered at operation involved, either singly or in combination, the kidneys, spleen, liver, pancreas, all levels of the gastrointestinal tract,

mesenteries, and blood vessels. It is interesting that there were 2 instances of rupture of the bowel within a hernia. The widespread nature of the injuries emphasizes the necessity for an incision adequate for thorough visualization as well as for palpation of all the recesses to the abdominal cavity. The author recommends delivery of the spleen into the wound in cases of rupture as the best way of arresting hemorrhage rapidly. Evisceration of the entire small bowel is helpful in exposing bleeding sites. He prefers the transabdominal approach in suspected injuries of the kidney since the pedicle can be easily controlled and further intra-abdominal injury will be disclosed.

In addition to early exploration, full use was made of replacement of blood loss, antibiotics, and refinements of post operative care. The avoidable death of only one patient in the group which was not explored, and a zero mortality in the group of unnecessary explorations justify the author's plea for early operation on suspicion of closed abdominal injury.

A five year report on the treatment of burns.—(*Plastic and Reconstr. Surg.*, 1954, 14: 271, via *Internat. Abst. Surg.*, July '55).

O'Brien and Murray review 992 cases of in-patient burns treated at Kings County Hospital, in Brooklyn, during the years 1949 to 1953. A brief outline of the method of treatment is given together with a listing of all deaths and summaries of all autopsied cases. There were a total of 45 deaths and 8 autopsies. It is believed that the critical percentage of burned surface is somewhere in the neighbourhood of 35 to 40 per cent for third-degree burns.

A patient suffering with burns enters the hospital where he is seen by the resident staff in the admitting ward. Should the burn involve 10 per cent or more of the body surface, fluids are started immediately, plasma is ordered and started, and the patient is typed and cross-matched for whole blood administration. The burn is evaluated as to extent and depth and an appropriate chart is filled out for each patient.

The evaluation follows a precise plan which is as follows: buttocks and lower extremities, 38 per cent; trunk and neck, 38 per cent; upper extremities, 18 per cent; and head, 6 per cent.

The amount of colloid used depends upon a previously worked-out formula: the percentage of body surface burned times the patient's weight in kilograms, times 1 cc. During the first 24 hours the colloid is made up of 25 per cent plasma and 75 per cent whole blood. An equal amount of electrolytes is also given. A careful record of intake and output is maintained. For every 1 cc. of normal saline solution, 2 cc. of 5 per cent glucose in water are also given. During the first 6 hours the patient should receive half of his total fluid requirements. During the next 6 hours he receives a fourth, and during the next 12 hours he receives the other fourth. On the second day he receives a half of the total amount as calculated for the first day, and on the third day and thereafter blood and fluids are given as indicated. The patient is also encouraged to take fluids by mouth—particularly the following formula which can be given with fruit juices, ice, or sugar: 2 gm. of sodium chloride and 1 gm. of sodium bicarbonate contained in 1,000 cc. of water.

The authors have found that the patients do infinitely better when they receive blood early and in large quantities. Immediate haemoglobin, hematocrit, and total protein determinations are drawn. Routine blood chemistries are also obtained daily. These include the following: carbon dioxide combining power, sodium and potassium, blood urea nitrogen, and blood sugar.

A cod liver oil ointment dressing is applied beneath semipressure dressings. The cod-liver oil ointment produces a chemical debridement by liquefying the slough. The open method has been used advantageously in a few selected cases. Most of the burns have been of circular involvement and have not responded well to the open method of treatment. Demerol is given for pain.

The use of homografts, once the burn has sloughed, has been found to be

particularly effective. Many patients who might otherwise have been lost have been salvaged by the use of homografts as temporary burn dressings. In the authors' experience, homografts survive approximately 3 weeks.

The critical point which spells the difference between life and death has been found to be somewhere between 35 and 40 per cent of the total body surface burned, in third-degree burns. This again is dependent upon many factors such as age, general medical condition, and resistance to infection. If a patient survives through the third week the chances of eventual survival are enhanced. By that time the second and first degree burns are healed, and skin grafting has been instituted. Elderly patients often have other ailments in association with their burns that decrease their chance of survival.

Several signs indicate a poor prognosis. The appearance of jaundice indicates severe liver damage. The livers of jaundiced burn patients examined post-mortem indicated a severe degree of damage. It is believed that burns are hepatotoxic in themselves. A kidney shutdown also indicates a poor prognosis, for lower nephron nephrosis is not uncommonly seen in burn patients. A tremendous haemolysis of red blood cells occurs in burn patients. Toxic psychosis occurring in the course of burn therapy indicates a poor prognosis. These patients are difficult from the management point of view.

Twenty of the 45 deaths occurred in patients with burns of more than 40 per cent of the body surface; 20 deaths occurred in patients who were 65 years of age or older. The oldest patient was 92 and the youngest, 5 years of age. Complications or pre-existing diseases were present in 22 cases. Burns in association with Parkinson's disease appeared to be particularly lethal because of an associated hyperthermia and a lack of resistance to infection.

The authors list all 45 of the deaths, together with the percentage of body surface burned and other complications or pre-existing disease. Following the list of all deaths, the posted cases were

summarized together with autopsy findings. In 5 of the 8 instances in which autopsies were done, varying degrees of liver damage were found.

This is an interesting summary that should be perused by those interested in the treatment of burns.—(*International Abstracts of Surgery*).

A comparison of vagotomy and gastric resection for gastrojejunal ulceration; a follow-up study of 301 cases—(*J. Surg. Gynec. & Obst.*, 100: 1, '55, via. *Jour. Internat. Surg.*, April 1955).

Before the advent of vagotomy the treatment of gastrojejunal ulcer was fairly well standardized. Excision of the ulcer with high gastric resection was the procedure of choice. When gastrojejunal ulcer developed after partial gastric resection the outlook was not too satisfactory, for re-resection was attended by an operative mortality rate of about 10 per cent, and only about 50 per cent of patients so treated obtained satisfactory results. By contrast the outlook of the patient with gastrojejunal ulcer after gastroenterostomy was favourable, because excision of the ulcer and high gastric resection gave excellent results in 85 to 90 per cent of the cases, with an average operative mortality rate of 4.1 per cent.

With the advent of vagotomy the results of treatment of gastrojejunal ulcer developing after gastric resection have been improved. Because of this, some surgeons are now advocating vagotomy as the treatment of choice for all gastrojejunal ulcers, including those which follow gastroenterostomy. This study was undertaken to compare the effectiveness of vagotomy with that of gastric resection in the management of gastrojejunal ulcer after gastroenterostomy and the effectiveness of vagotomy with and without gastric resection with that of gastric re-resection alone, in the management of gastrojejunal ulcer after gastric resection.

This study is important because it shows the superiority of gastric resection over vagotomy in this respect, at the same time demonstrating the important role of vagotomy in the manage-

ment of gastrojejunal ulcer after a partial gastric resection.

The complications of gastrojejunal ulcer are perforation, gastrojejunocholec fistula and hæmorrhage.

Treatment of gastrojejunal ulcer resolves itself into vagotomy, alone or combined with other procedures, and adequate gastric resection, with removal of approximately two-thirds of the stomach. There are definite indications for both procedures.

Vagotomy is generally accepted as the treatment of choice for gastrojejunal ulcer following resection of at least two-thirds of the stomach. The present study indicates that vagotomy can be expected to give excellent results in 70 per cent of such cases and carries a low operative risk.

In over 70 per cent of patients in whom the gastrojejunal ulcer develops after an inadequate resection of a third to half of the stomach, vagotomy can be expected to give excellent results, with a low operative mortality; if re-resection is deemed advisable by the surgeon, however, vagotomy may be added without greatly increasing the operative risk and may give the patient additional protection against further ulceration.

Pancreatitis.—(*N. England J. M.*, 1954, 251: 497; *International Abstracts of Surgery*, June 1955).

In acute pancreatitis correct diagnosis is imperative since operation is contraindicated. The most useful diagnostic test is the blood amylase level which remains elevated for 2 or 3 days and is frequently not diagnostic by the third day. The amylase values of peritoneal fluid remain elevated from 2 to 4 days longer.

Roentgenograms in acute pancreatitis may reveal gall stones, pancreatic calcification, or paralytic ileus. Occasionally a pleural effusion in the left lower portion of the chest may be present.

The aim of therapy in acute pancreatitis is to put the pancreas at rest and to relieve pain. Food should be withheld and gastric suction should be instituted to control abdominal disten-

tion and to remove gastric juice. Gastric juice in contact with duodenal mucosa releases a secretion which stimulates the pancreas. Atropine, banthine, and probanthine can be used to depress both pancreatic and gastric secretion. Blood volume replacement is important. Twenty-eight patients with acute and chronic pancreatitis showed an average whole blood volume deficit of approximately 1,500 cc. Antibiotics should be used as prophylaxis against secondary infection. Chlor-tetracycline and oxytetracycline are the antibiotics of choice because they are concentrated in bile. One gram of calcium gluconate a day given intravenously is required by patients with lowered calcium levels. Oral feedings should be withheld for at least 48 hours after subsidence of the symptoms. After recovery from the acute attack cholecystectomy and exploration of the common duct should be done.

Most patients surviving acute pancreatitis will not have succeeding attacks, particularly if existent biliary tract disease is overcome. However, recurrent or chronic pancreatitis will develop in some, the criteria being three attacks, calcification on Roentgenographic examination, or confirmation by biopsy. Medical management of these patients is usually futile, and surgical intervention is necessary.

Sphincterotomy, vagotomy, partial gastrectomy, and biliary shunts all have a sound physiological basis and a definite place in the management of chronic pancreatitis. Clinical results obtained by direct retrograde anastomosis of the pancreatic duct to the jejunum have been encouraging.

One hundred thirty-four cases of pancreatitis of all types were treated by

the authors between January, 1947 and January, 1954. The mortality was 12.6 per cent.

Acute hæmorrhage in peptic ulcer.—(*Act. m.d. scand.*, 1954, 150: 139 via *Internat. Abst. Surg.*).

The case material of massive hæmorrhage from gastric and duodenal ulcer for the years from 1938 to 1950 is presented. It comprises 397 individuals, with 502 acute hæmorrhagic episodes.

Severe anæmia could be found in cases of hæmorrhage of short duration, although the average duration in the cases in which anæmia of 40 per cent or less developed was 18.7 days, against the over-all average of 14.7 days.

Ninety-two of 364 patients in whom X ray examination was undertaken at the time of bleeding presented no signs of ulcer. The over-all mortality in bleeding from an ulcer was 6.8 per cent. The relative frequency of duodenal to gastric ulcer was 3.1, although no significant difference between the mortality from bleeding gastric or duodenal ulcer could be found.

The principles of treatment are outlined, and the indications for and against operation are discussed. The importance of the age factor is stressed, there being an increasing mortality with increase in age.

The occurrence in this material of 2 cases with acute bleeding in which cerebral lesions were found, is recorded. One case was apparently due to a hypophyseal tumour making an impression on the floor of the third ventricle; in the other case diffuse atrophy of the brain was present, depending on a granular degeneration present simultaneously at the posterior part of the left hypothalamus.

ANAESTHESIOLOGY

Dangers of anaesthetic drugs.—(*Modern Med.*, 1st July 1955).

Safety in anaesthesia requires adequate oxygenation of the body and elimination of carbon dioxide. Anaesthetic drugs threaten both respiration and circulation, and the anaesthetist must be sure that alveolar ventilation is maintained and that circulation is

sufficient to transport oxygen to the tissues.

Facilities for artificial respiration must be available before any anaesthetic is administered. The oxygen tank must be turned on and connected to the gas machine. The entire apparatus must be tested previously and ready for instant use.

Rapid induction with *ether* may cause transient laryngospasm. As anaesthesia deepens, the tongue may obstruct the airway. Pulling the tongue forward, creating an oropharyngeal airway, or endotracheal intubation will overcome the obstruction.

Very deep anaesthesia with *ether* results in respiratory arrest. Breathing is restored if the anaesthetic is stopped and artificial respiration started. If anaesthesia is induced even deeper, the heart and blood vessels dilate, circulatory collapse occurs, and cardiac arrest results. In patients with cachexia, shock, or thyrotoxicosis, small doses often produce circulatory failure.

If cardiac arrest is suspected, a diagnostic incision is made immediately in the fourth left interspace. If no bleeding results, the chest is opened and the heart massaged. Artificial respiration is started simultaneously. If the heart does not beat at once, 2 or 3 cc. of 10% calcium chloride is injected into the left ventricle to restore myocardial tone.

Cyclopropane may produce severe and prolonged laryngospasm. Myocardial tone is maintained, and precipitous falls in blood-pressure are usually caused by ventricular fibrillation. Ventricular irritability is aggravated if epinephrine or Cobefrin is administered with cyclopropane. If bradycardia or premature beats occur, the dose of cyclopropane is reduced. *Ether* is substituted to overcome the myocardial irritability.

Nitrous oxide is relatively innocuous, but hypoxia with excessive concentration may cause respiratory arrest and cardiac dilatation. Ventilation with oxygen usually restores cardiorespiratory function in patients who are healthy. In patients with myocardiums damaged by disease or age, however, the heart may stop completely and cardiac massage will be necessary.

Ethyl chloride is absorbed and eliminated rapidly and should be used chiefly for induction. Cardiac arrest is the principal danger.

Vinethene is also used for induction and is safe for short periods of analgesia. Convulsions and opisthotonus may occur during induction. Artificial respiration with oxygen is preferred therapy.

Pentothal and *Surital* are safe only when given slowly in small doses. Overdosage may cause simultaneous respiratory and circulatory failure. Respirations cease, the blood pressure falls, and cardiac dilatation and arrest may occur. Artificial respiration and cardiac massage are employed, and a vasopressor or calcium chloride is injected into the left ventricle. Prolonged treatment may be required because of slow elimination of the drugs.

Patients with shock and heart disease are very sensitive to intravenous barbiturates, and administration should be extremely cautious. A slow intravenous infusion of dilute Neosynephrine should be maintained during anaesthesia in poor-risk patients. When barbiturates are given rectally in children, the dose should be limited to 10 mg. per pound of body weight.

Dosage with *infiltration* or *block anaesthesia* should be as small as necessary to prevent excessive absorption into the blood stream. Slight overdosage causes convulsions which can be controlled by intravenous barbiturates and oxygen. Large overdosage results in cardiac arrest.

With *spinal anaesthesia*, the dose of the agent is not toxic, but anaesthesia above the fourth dorsal segment may cause shock and respiratory paralysis. Artificial respiration and Trendelenburg position are instituted, and intravenous ephedrine or Neosynephrine is employed in order to maintain blood pressure.

RADIOLOGY

Accuracy of Roentgen examinations of the stomach.—(*The Guthrie Clinic Bulletin*, July '55).

Even a larger group of people seek medical advice because of symptoms

which attract attention to the stomach. Moreover, the stomach is one of several organs notorious for harbouring silent lesions. Cancer of the stomach is now the first cause of death from cancer in males and the fourth in females. The

estimated annual incidence of gastric cancer varies from 15 to 46 per 100,000 of the total population, or about 1 per 900 persons over 40 years of age (Ritvo and Shauffer). The foremost means of investigating the stomach is the Roentgen examination by the opaque meal. It is the safest, most informative and most readily acceptable single method from the referring physician's standpoint and his patient's as well. During a recent six month period, 14.7 % of all newly registered patients at this institution were referred for gastroduodenal examination. The Roentgen findings weighed heavily in the determination of their subsequent fate.

One of the most difficult problems in gastric diagnosis and management is the occurrence of malignancy in gastric ulcers reasonably presumed benign by all available preoperative criteria. By present standards, the clinical term "chronic gastric ulcer" implies lesions of which 10% are really malignant.

Roentgen method can yield very significant information if properly utilized and interpreted. They should not be used merely to differentiate the normal from the abnormal. Yet, these methods are far from infallible, and are often disappointing. Inasmuch as every real improvement in diagnosis results in more enlightened evaluation of the patient, with consequently, more rational and specific treatment. Littleton and Feist, decided to determine, after establishing the present accuracy of Roentgen examinations of the stomach how and to what extent their reliability may reasonably be enhanced.

In order to assess the reliability of Roentgen examinations of the stomach the numerical magnitude of the problem was first illustrated by an analysis of 500 recent consecutive gastroduodenal examinations of new patients of the Guthrie Clinic and Robert Packer Hospital. All histologically verified gastric lesions with pertinent Roentgen examinations treated at the Robert Packer Hospital during the ten year period from 1945 to 1954 (a total of 190 cases) were reviewed, comparing the former Roentgen reports found in the hospital charts with the final histopathological diagnoses. The overall

accuracy was low.

However, 25% of the cases had not had satisfactory Roentgen examinations. Comparison of satisfactory with unsatisfactory studies yielded striking difference in accuracy (for instance, the proportion of lesions seen or suspected was 97.2 % in the satisfactory and 70.2% in the unsatisfactory groups), and showed clearly that the reliability of Roentgen reports of satisfactory gastric examinations tends to approximate, as it really should, the accuracy attainable by gross inspection of resected specimens.

Eight criteria are to be employed in the qualitative differentiation of examinations as definite indications for re-examinations: (1) Unexpected gastric lesion, (2) Roentgen diagnosis at variance with clinical impression, (3) inconclusive or suspicious findings requiring clarification, (4) inadequate preparation of the patient, (5) Excessive gastric retention or pylorospasm, (6) technically unsatisfactory examinations, (7) major discrepancy between fluoroscopy and films or between different films and (8) inadequate radiographic record of pathology seen or suspected during fluoroscopy.

Their adoption is recommended so that the diagnostic potentialities of Roentgen methods in gastric disease be more fully exploited and utilized.

Advances in the control of radium therapy for cervical cancer.—*Surg. Clin. N. America*, 1954, 34: 1671, (via) *Internat. Abst. Surg.*, July '55).

Progressive developments in the field of radiation therapy since its first introduction have changed its management from indefinite terms to those which more specially express dosage in tissues. This alteration has resulted from a greater knowledge of the anatomy of tumour spread, the physics of radiation, and the physiology of tissue response to irradiation.

Findings have indicated the origin of cervical malignancy to be at or near the squamo-columnar junction, and the spread to be through the parametrium to the subsidiary nodes. The potential avenues of spread must be considered as a volume in which the therapy has to

be directed accurately, especially in regard to radium with its limited zone of effective radiation and its hazards for normal tissues.

Attempts to control radium application have followed three general methods: (1) the use of standard isodose patterns, (2) the use of Roentgenography, (3) the insertion of ionization measurement devices into the rectum, bladder, or the peritoneal cavity with radium *in situ*.

Standard isodose patterns are useful in comparing ideal applications by different methods. Individual dosage levels are not indicated unless additional studies are performed to determine the anatomic variations of the patient. Roentgenography can be used to visualize radium element positioning or accurately to reconstruct the location of the radium and the contiguous structures outlined by radiopaque media. The former application of Roentgenography permits the correction of gross misplacement, while the latter, usually a variation of a standard pelvimetry technique, enables the therapist to determine accurately the distribution of

irradiation. The best methods require a great deal of knowledge of physical and operative techniques. They frequently prove to be time-consuming.

Ionization measurement has been done by condenser chambers and scintillation probes inserted into a hollow viscous. These direct reading measurements provide simple and rapid determinations of dosage levels. The methods do require specialized knowledge for calibration and operation of the equipment.

The control of the total amount of therapy delivered in a given time period depends upon normal tissue tolerance and effective dosage ranges for malignant cells. Although limiting values have been postulated by several authors there are still no established figures based upon a significant number of individualized determinations.

The combined application of isodose patterns, radiography, and ionization measurement should provide more information about controlled dosage and its relationship to tumour destruction and normal tissue preservation.

PAEDIATRICS

Use of a quadruple sulphonamide mixture in acute bacterial infections of infancy and childhood.—(Medical Times, 83 : 7, July 1955).

Ferguson and his associates (*Journal of Paediatrics*, 45 : 655, Dec. 1954) report the use of a combination of four sulphanilamide derivatives in the treatment of 21 cases of common acute infections in infants and children. The sulphonamide mixture contained sulphadiazine, sulphapyrazine, sulphamerazine and sulphamethazine. The initial dose of this mixture was 0.1 gm. per kg. body-weight, and thereafter 0.25 gm. per kg. was given every six hours until the rectal temperature became and remained normal for twenty-four to thirty six hours, and the patient showed definite clinical improvement. The cases treated included 4 cases of bronchopneumonia and 5 cases of lobar pneumonia, as well as cases of tonsillitis, pharyngitis and otitis media. The

organisms cultured from the nasopharynx prior to beginning treatment included *pneumococcus*, *streptococcus*, *staphylococcus* and *N. catarrhalis*. The patients had been ill for three to ten days (average four days) before treatment with the sulphonamide mixture was begun. The temperature fell to within normal limits on an average of 2.4 days after the treatment was begun; improvement in symptoms and in physical findings was noted within twenty-four hours. There was no evidence of toxic or allergic reactions to the drug in any case. In spite of the introduction of antibiotics, the authors are convinced that the sulphonamides are often useful in the treatment of infections in children, because they are more easily administered to children and are "less likely to alter the intestinal flora" and thus produce gastro-intestinal disturbances. They are also "less costly" than penicillin and the broad-spectrum antibiotics.

Reviews of Books etc.

BOOKS

Sachitra Netra Rog Vigyan (in Hindi)
—By Dr. SHIVADAYAL GUPTA. Published by 'Medical Pustak Bhavan,' Banaras. Price: Rs 8.

Books on the allopathic system of medicine in Indian languages are indeed very few—owing perhaps, mainly to the lack of appropriate scientific terminology. However, a few noble attempts have been made in this direction, particularly by Dr. Gupta, Professor, Ayurveda College, Hindu University, Banaras. In his book on ophthalmology, he has adequately covered the subject in over 500 pages, starting with the introductory anatomy of the eye. The second chapter deals with the clinical examination of the eye including Retinoscopy, Fundoscopy, Perimetry etc. The diseases of the lids, the lachrymal apparatus, the conjunctiva etc. are dealt with in the next twelve chapters. In chapter XVI are found the principles and methods used in prescribing spectacles together with an explanation of the physical properties of light. Then follows a chapter on injuries and tumours. Eye-signs in systemic diseases have been considered in chapter XXII. In the last chapter are given the remedies commonly used in the treatment of eye ailments. The treatment of the subject is simple and to the point. Hindi equivalents have been used for almost all technical terms except those for chemicals and many terms have been coined by the author himself. It is desirable that a standard vocabulary should be evolved by an expert body so that confusions arising out of the use of different terminologies by different authors may be avoided. A glossary of about 750 Hindi terms used in the book with English equivalents is appended at the end which serves also as an index. The book is inadequately illustrated; the paper and printing require, as the author himself admits, to be greatly improved. The cover-illustration may have been omitted to lend a sober appearance to the book. Today when the national language is trying to replace English, books on medical sub-

jects are most welcome and necessary. The present volume will be useful, to those persons, who, for a lack of knowledge of English have no access to standard books on ophthalmology, 'A.'

Mal, Moothra, Rakthadi Pariksha—
By the same author and publishers. Price: Rs. 2 8.

In this book on clinical pathology the author has in 160 pages, subdivided into nine chapters, described the laboratory methods employed in the investigation of clinico-pathological material. The first chapter describes the methods used in collecting the material to be tested. The chapters that follow are devoted to the examination of urine, stools, blood, sputum, CSF etc.; the physical, microscopic, and chemical characters of each are described briefly. The eighth chapter deals briefly with bacteriology, the common staining methods and serological tests like Wassermann. Kala-azar has received special attention at the end of the chapter. The ninth and last chapter is of a miscellaneous nature dealing with various skin-tests, B.M.R., etc.

The book contains several illustrations on elementary laboratory technique like heating a test tube and pouring out chemicals. There are also a few coloured plates showing blood-smear making, abnormal blood cells and parasites. The cover-page illustration shows a 'microscope' which has little resemblance to one. The book will prove a welcome guide to non-English knowing medical practitioners and open to them the methods of sure diagnosis used by the allopathic doctors. 'A.'

Sex Efficiency—Exercises for Women—By Th. VAN DE VELDE, M.D., William Heinemann Medical Books, Ltd., 99, Great Russell Street, London, W.C1. Price: 25 sh. nett.

In this interesting and instructive book, the author aims at providing a guide for women (and those who help them—doctors, nurses etc.) in the full

evolution and utilization of the feminine sexual capacities and faculties, which should include both appropriately active participation in the act of sexual congress and suitable and adequate voluntary muscular action which assists in the act of birth. To achieve this end, based on experiments and experience, the author gives detailed instructions with suitable diagrams and photographic reproductions, relating to sexual, physical and breathing exercises which will make a woman efficient at mating, during pregnancy and child-birth, and after the birth of the baby, and enable her to get back her health and genital efficiency as well as her normal physical figure and charm. The pelvic exercises will enable women to exert an active influence in coitus in the promotion and regulation of conception and by accentuating the sensations of mutual pleasure with the attendant harvest of happy memories in obtaining mutual refreshment and relief. During mating, the trained woman by a conscious control of the vaginal muscles, e.g., muscles constrictor cunni, m. c. radiolitoridis etc., can not only prolong the orgasmic climax but also increase the resultant pleasure for herself and her partner and by selected appropriate postures (described in the book) even avoid pregnancy without in any way affecting the pleasures or the health of either partner. During the time of confinement itself, the acquired and cultivated aptitude for controlling the two main muscular systems of the abdomen and perineum by contracting or relaxing them at will should be of very great help in the final stage of expulsion; this would prevent tears and undue pain.

The exercises of the pelvis and abdominal zones are designed to assist delivery of the child both directly and indirectly, directly because the range and change of position are rendered easy in the three stages of labour, and indirectly, because the abdominal muscles get more efficient and are more easily controlled. Exercises after child-birth not only restore the regenerative organs—the uterus, vagina, clitoris etc., to their normal positions and vigour but

also enable the woman to give her partner undiminished pleasure at mating. This naturally conduces to abiding devotion (love and affection from the husband) and to everlasting domestic happiness and felicity. She can be certain of her husband's continued attentions to her and to the children.

We can heartily recommend this book to the attention of all women, and of doctors and nurses who have frequently to advise women on such matters.

This book is stated to be a companion volume to the author's book on "*Ideal Marriage*" designed to teach men the technique of love. T.N.S.R.

Mother and Child Welfare (Koumare Brithyam) based on original Sanskrit texts—By Dr. LAKSHMI-PATHI BHISHAGRATHNA, B.A., M.B. & C.M. and Dr. V. SUBBA RAO BHISHAGWARA, A.M.A.C. & A.L.I.M. with a Foreword by Dr. M. S. PRABHU, M.D., M.R.C.P. (Ed.), M.M.S.A. (Lond.), former Superintendent, Government Hospital for Women and Children, Madras, pp. 378 + xxvi. Published by Dr. V. Subba Rao, 3rd Line, Arundelpet P.O., Guntur-2. Price: Rs. 10.

Going through the pages of this treatise, and perusing the Sanskrit texts (given as footnotes), one is struck by the wealth of information (gathered assiduously by the authors) in their close study of the ancient Indian Classics (of Charaka, Susrutha, Vagbhatha and Khasyapa), on the subject of Maternity and Child-welfare and the very minute and detailed directions given on the pre-natal, intra-natal and post-natal care of both the mother and the child. As Dr. Prabhu has stated in his foreword, these studies reveal a "glimpse of the pristine glory of India in the field of Medicine." Many of the observations will, however, need to be revised in the light of modern medical research and with reference to the greatly altered conditions of life. How to beget healthy, intellectual and good-natured offspring, is dealt with, stage by stage from the time of the very early life of the female child through adoles-

cence and married life, pregnancy and birth of the child.

Considerable stress is laid on the importance of breast-feeding of the infants; methods are given for improving the quantity and quality of the mother's milk; in case the mother has not sufficient or good milk, selection of a suitable wet nurse is advised, and only in the absence of a proper wet-nurse, or only as a supplement, the giving of goat's milk or cow's milk is recommended. The chapter on Diseases of Infants and Children, and their treatment contains quite a large volume of infor-

mation about home remedies using indigenous drugs.

It is unfortunate that the book should teem with numerous typographical and other mistakes (considerably more than the unusually large number listed in the errata). T.N.S.R.

BOOK RECEIVED

Refresher Course for Practitioners—
By the Journal of the Indian Medical Association, pp. 364, No. 23, Samavaya Mansions, Corporation Place, Calcutta-13. Price: Rs. 8.

Correspondence

Sir, (1)
Please have my doubts in the following two cases cleared up.

1. A girl aged 13 or 14 under-developed, height less than normal, thin and lean, markedly deficient in fat and subcutaneous tissue all over the body, breasts just appearing, very intelligent at school and in domestic affairs shows no other signs or symptoms.

(a) Will oral administration of thyroid help in this case and if so, what are the doses and how long should it be given? (b) What other specific treatment will help to bring her to normal growth and health?

2. Several patients consult me about getting rid of the small-pox marks (scars) on their faces. Is it possible to make them disappear, or at least appear fainter?

P.O. Chautala, } PREM PRAKASH GUPTA,
Dt. Hissar. } Asst. Surgeon I/ch.
21st Sept. '55. } State Dispensary.

Reply to the above

(1) The girl referred to does not in my opinion require any specific treatment at all. Such conditions are quite common during the growing period. All that is necessary is to keep the girl on good diet and normal, healthy and hygienic habits. Thyroid has no place in the treatment of this condition. It is best that over-treatment by hormones etc. is avoided.

These patients usually attain their normal growth within a couple of years.

(2) I do not know of any line of treatment which will help in obliterating the scars left by smallpox. (This reply is from a specialist.—Ed.).

Sir, (2)
I request that you will be pleased to publish the following case report so that your readers may offer their opinion.

A new-born male child, cold after birth, had to be warmed for about an hour to get normal warmth. There were rashes on the hands, feet, trunk and face which looked like erythematous patches. It did not cry briskly nor take its feed actively. The motion was black and urine scanty. The infant died on the 4th day. By way of treatment, a drop of donkey's blood drawn from its ear was given in water but was of no avail.

Tiruturai- } M. K. VASUDEVA IYER,
pundi, } L. M. P.,
22-9-55 } Hon'y. Asst. Medical Officer,
Govt. Hospital.

Reply

The data furnished are too scanty to come to a correct diagnosis and give a suitable reply. The symptoms given are suggestive of either syphilis in the newborn infant or hæmolytic disease. It is likely that the black motion was due to Melaena and not meconium as occasionally confused with it. I

it is syphilitic disease, the treatment necessarily consists in treating the mother antenatally. It is therefore, advisable to check up the mother for syphilis and if positive treat her intensively so that at least in her next pregnancy this accident may be avoided.

If however, it is due to hæmolytic disease, excepting replacement transfusion by RH negative blood and injections of vitamin K, very little can be done. The mother's blood must also be tested for the RH group.
(This is from a specialist - Ed.)

New Preparations and Inventions

Meticorten—One of the new drugs introduced—Meticorten—is a product of the Schering Corporation, Bloomfield, New Jersey, U.S.A. whose agents in India are Messrs. W. T. Suren & Co., Ltd., P.O. Box 229, Bombay 1.

It is issued as tablets for oral administration, each tablet containing 5 mg. crystalline metacortandracin. It is claimed to be useful in spondylitis, acute gout, osteoarthritis, asthma, pulmonary emphysema, rheumatic fever, severe bursitis, skin diseases and nephrotic syndrome.

The side-effects so far reported have been mild. Insomnia has occasionally occurred during the first day or two of therapy. Slight gastric distress has sometimes been noted. Slight rounding of the face has been reported in a few patients.

It is packed in bottles of 30 and 100 tablets.

For further details please write to The Scientific Department, Messrs. W. T. Suren & Co. Ltd., United India Buildings, Sir Phirozeshah Mehta Road, Bombay 1.

Benzacyl—The calcium salt of p-benzoyl-amino salicylic acid differs definitely from all PAS preparations in use till now. This new PAS derivative is manufactured by the Swiss pharmaceutical concern, Dr. A. Wander, S. A., Berns and imported into India by Messrs. Khatau Valabhdas & Co., Indian Globe Chambers, Fort Street, Bombay.

It is in the form of a tasteless powder administered as such or as tablets;

no coating is necessary to mask the taste. It is claimed that even sensitive patients can take Benzacyl without objection. It is hoped that in its present form Benzacyl will no doubt add new momentum to peroral PAS therapy which continues to represent an indispensable protective factor in the fight against early bacillary resistance to INH or streptomycin.

Rumalaya—is a new preparation introduced by the Himalaya Drug Co., 251, Hornby Road, Bombay 1. It is a combination of indigenous ingredients with a wide therapeutic range. It is reported to contain Balsamodendron Mukul and many minerals including gold, and to be effective in the treatment of rheumatic and rheumatoid disorders, arthritis, neuritis, neuralgia, fibrositis and osteoarthritis, with great possibilities in the relief of the above conditions.

It is supplied in bottles of 50, 100, 500 and 1000 tablets.

Septilin—(Himalaya Drug Co., 251, Hornby Road, Bombay-1) is a new combination of Balsamodendron Mukul and other reputed ingredients like Shankh Bhasma, Gulvol, Manjistha, Amla and Sonjna in tablet form. It is claimed to be very effective against all infective states—particularly of the ear, nose and throat, and also useful in the control and management of the common cold.

It is supplied in bottles of 50, 100, 500 and 1000 tablets.

News and Notes

Conference on Industrial Medicine

The VII All India Conference of Industrial Medicine, under the auspices of the Society for the Study of Industrial Medicine, India, will be held in February 1956 at Madurai. In addition to the scientific sessions, an exhibition of materials of special interest to industrial medical officers will be held. All medical men and welfare-officers in industry are cordially invited to attend and participate in the Conference.

Further details may be obtained from:—Dr. C. K. Ramchandrar, C/o M/s. Parry & Co. Ltd., Ranipet (North-Arcot Dt.) Madras State.

Congress on Fertility and Sterility

The Second World Congress on Fertility and Sterility open to all interested in the problem of sterility and fertility, will be held in Naples, Italy from the 18th to the 24th May, '56 under the Chairmanship of Dr. Edmundo G. Murray of Argentina. For details please write to:—Dr. C. L. Jhaveri, M.D., F.C.P.S., D.G.O., 126 Lady Hardinge Road, Matunga, W.R. Bombay 16.

The XXII Andhra State Medical Conference, Kurnool

The XXII Andhra State Medical Conference, under the auspices of the Indian Medical Association will be held at Kurnool, in January 1956. An Exhibition of medical products and appliances will also be held and a souvenir will be published. Further details may be had from:—Dr. E. Sreenivasa Reddy, Organizing Secretary, 22nd Andhra State Medical Conference, 38/56, Bus-stand, Kurnool.

Training Course for Doctors in Industrial Hygiene

A short course of three months' duration in industrial hygiene has been started at the Grant Medical College, Bombay from 1st October '55, under the Employees' State Insurance Scheme. A batch of 10 doctors has been selected in the first instance for training.

Employees' State Insurance Scheme

Since starting the above scheme, in greater Bombay, in October last, the temporary disablement-benefit paid in 18,734 cases amounts to Rs. 5,60,491. During the same period Rs. 3,23,080 was paid as sickness benefit and Rs. 8497/- as maternity-benefit.

Rural Medical Relief in India

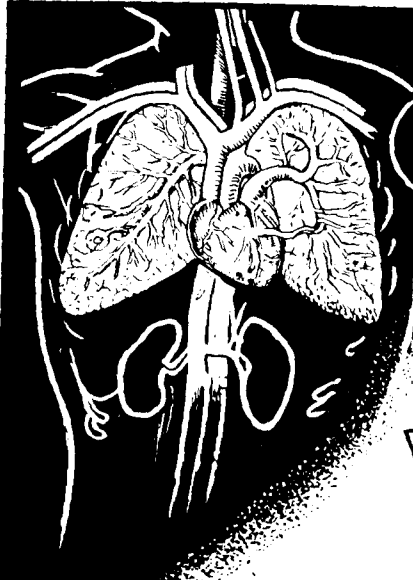
The Indore branch of the Madhya Bharat Medical Association is running two village dispensaries, one at Manglia and the other at Simrol where selected members of the branch go once a week on 'Market Day' to attend on poor village patients and distribute medicines free of cost. Medicines have been given partly by the Madhya Bharat Government and partly by Pharmaceutical concerns. Contributions are welcome for this good work and they may be sent to:—the Hon'y Secretary, Madhya Bharat Medical Association, Indore Branch, 17 Nandlapura, Indore City.

"Vaidya" and "Hakim"

The Government of Bombay has directed that in all official correspondence "Vaidya" should be mentioned before the names of medical practitioners of the Ayurvedic System of Medicine. Similarly "Hakim" should be added before the names of medical practitioners of the Unani System of Medicine.

Committee to Study and Report on the Regulation of the Practice of Vaidyas, Hakims and Homoeopaths

The Government of India have in pursuance of the resolution passed by the Central Council of Health at their III meeting held at Trivandrum on the 23rd to 25th January 1955, appointed a Committee to study and report on the above question. The Minister of Health, Saurashtra is the Chairman of the Committee and the Ministers of Health of Bombay, West Bengal, Hyderabad (Dr.) and Travancore-Cochin Governments are members while the Director of Health Services, Punjab is



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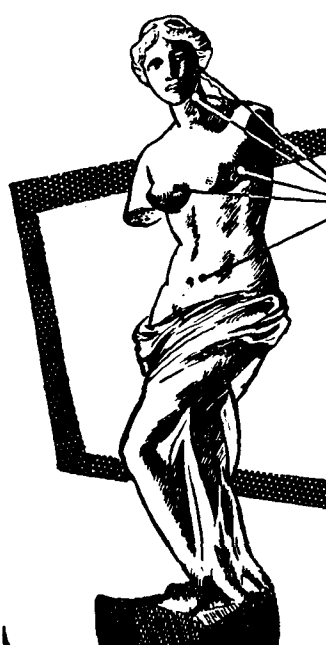
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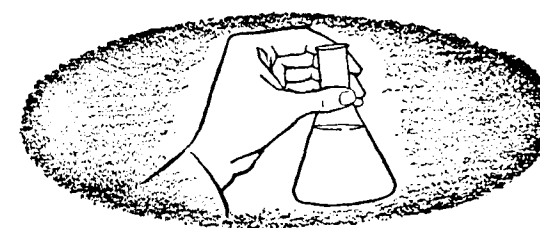
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1. Cronheim, G., Brown, W., Cawthorne, J., Toekes, M. L., and Ungari, J., Proc. Soc. exp. Biol. N.Y. (1954) 86: 120.
2. Klohs, M. W., Draper, M. D., and Keller, F., J. Amer. Chem. Soc. (1954) 76: 2843.

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4 lac Pfizer 0-11-6 Rhodia 0-8-9		10mg 2-0; 25mg 2-10; 50mg 4-12	LuerLockBD 6-12	10-0 11-12 17-031-8	
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Oilly 30 lac x 10cc 2-4		Vit. A&D 1cc 6amp 3-6 [Glaxo 3-0	Re. 1-0	more for side nozzle.	
tab. 12; 2lac 2-4; 1 lac. 1-12		B ₁ 2cc 6amp 3-2; Vit. B ₁₂ 5cc 100	M. Case Jap 2cc 2-2	5cc 3-2 10cc 4-2	
Oint doz. Eye 5-8 Skin 8-0		Eng. 10 cc. 2-6 200M 4-4	Ind. 1-2	1-10 2-4 2-12 4-10	
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Isonicotinic Acid Hydrazide German		Calci Lactas 1000	3-8	Zeal Eng USA Jap. Sup. Flat	
100 1-2; 500—5-10; 1000—10-12		Gluconate 1000	5-8	31-12 16-8 12-8 7-4	8-4 12-8
Chloromycetin kap 15-0; liq 11-8		Cuproargentum 5% 3-8 Tube	Salin app. 300 7-8	500cc 8-8	
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Terramycin 16 31-12; 8 18-0		Enterovioform 20 2-0; 100 9-0	2oz 4-8 4oz. 5-8		
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Tab 2 gr 2-4 5 gr 4-8 100		Influenza tab 1000 30-0; 100 3-8	Wall Thermometer Jap. 1-8		
1000 2gr. 18-0; 5 gr 38-12		Soda Mint 1000 1-8 How 3-4	Vit. C 50 mg 1000 8-14	100 1-8	
Howard 5gr. x 1400 49-8		Mapacrine 1000 11-14; ICI 11-14	100mg 100 2-0; 1000 15-8		
Bihyd. 2 gr 4-4 6 gr 6-14		Folic Acid 5 mg 100 5-0	Vit B Complex 100 1-5 1000 6-6		
Equiline Germ. 3-12		Multivitamin coated 1000 9-10	B ₁ 10mg, 1000 9-6	100 1-10	
[Howards 4-4; Java 3-13		Oralin 50 tab 9-4 Merlon AFD 30 3-0	5mg 100 1-6 1000 7-4		
Quin. Bihyd. 100 x 10gr x 2cc		Paludrin 1000 1 g 21-4 3 g 48-12	Artery Flocep 2-0	Scissors 2-0	
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8-8 15-0 5grx1cc 100 amp		10cc 1-2 [1000 8-12	Foot Forcep Universal	3-14	
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Aminophyllin 6x10 cc. Ger. 1-8		Riboflavin Tab 5mg 100 1-8; 500 4-8	Aletis ric 10-0	Eng. 2-8	
Calcium Gluconate 10% 100amp		10mg 100 2-2; 500 8-0	Pot. Bromide lb.	3-10	
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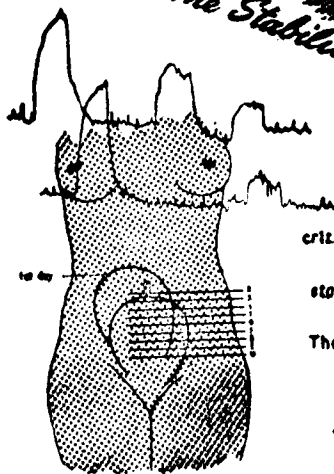
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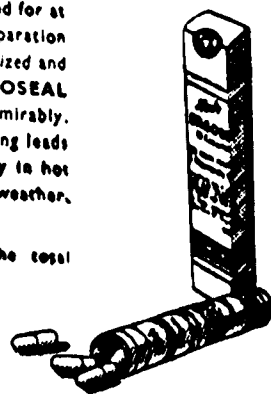
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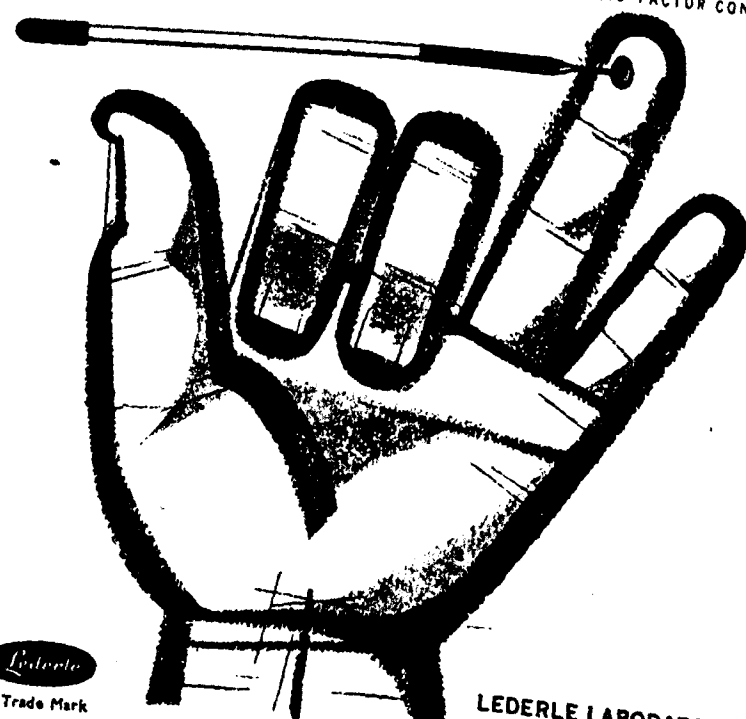
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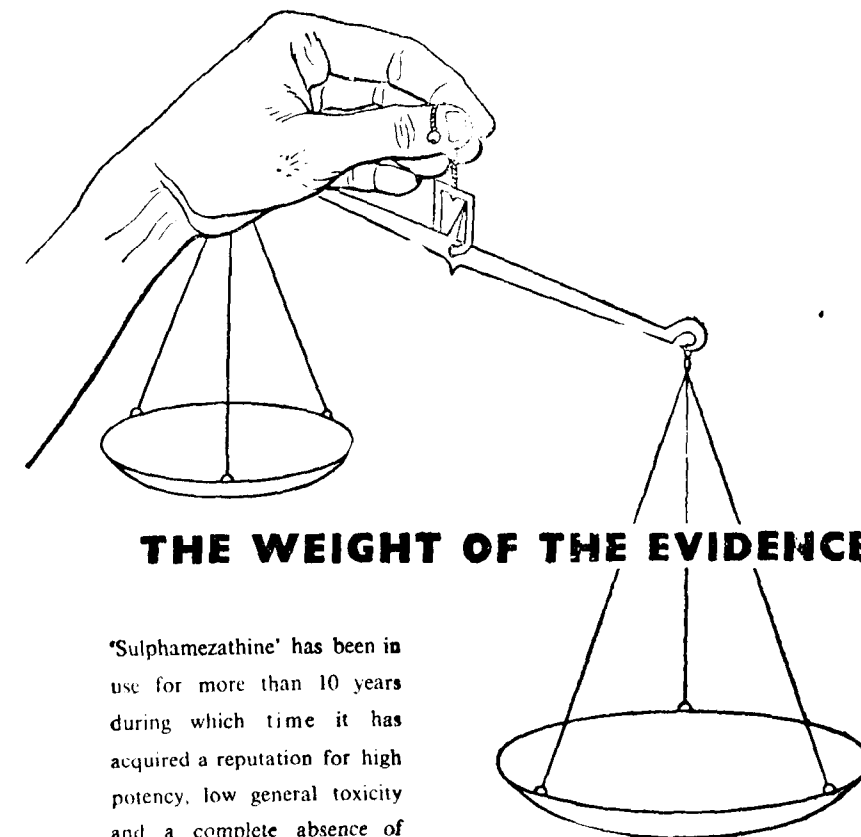
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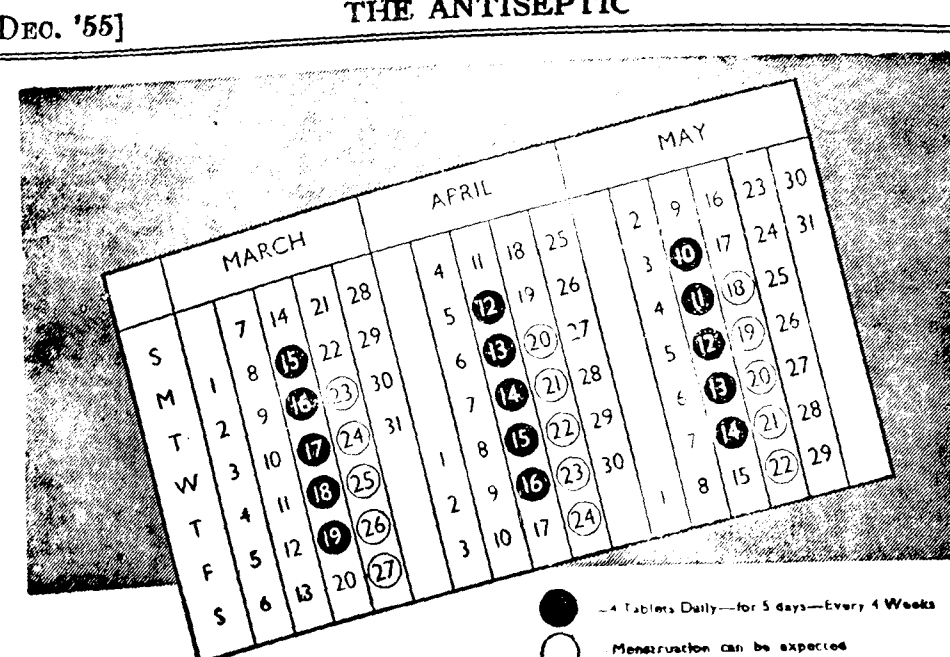
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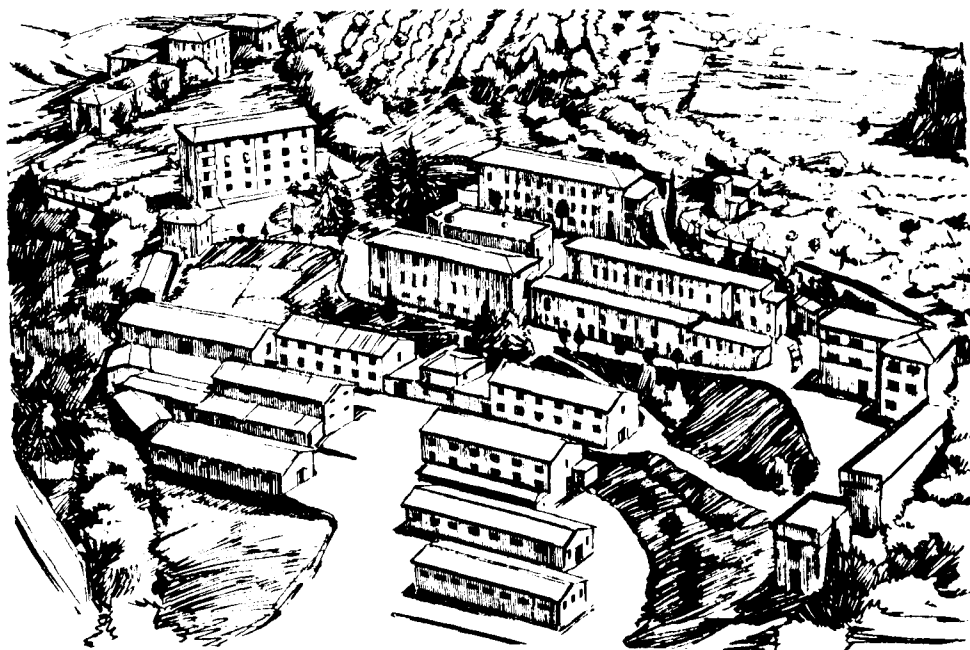
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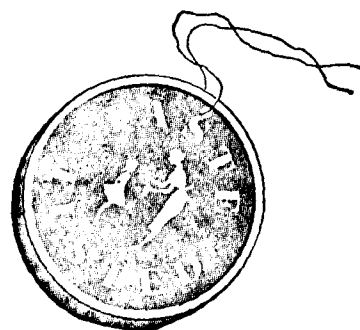
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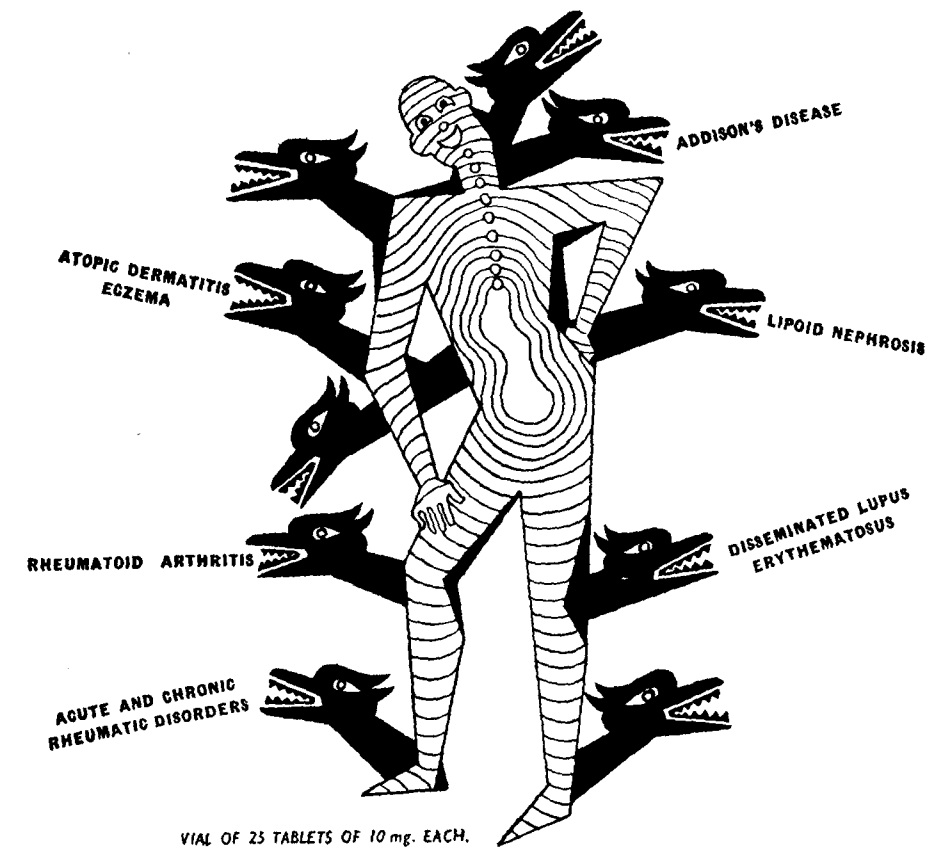
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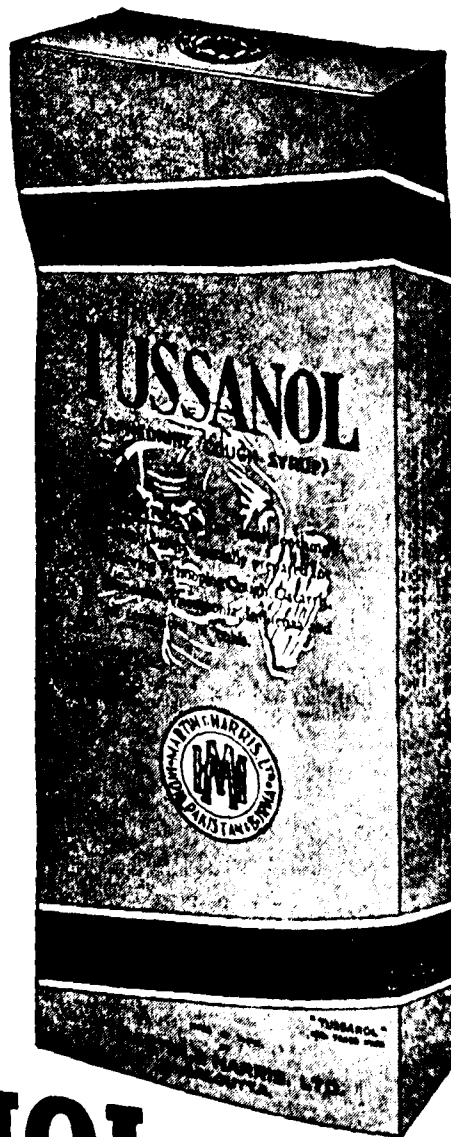
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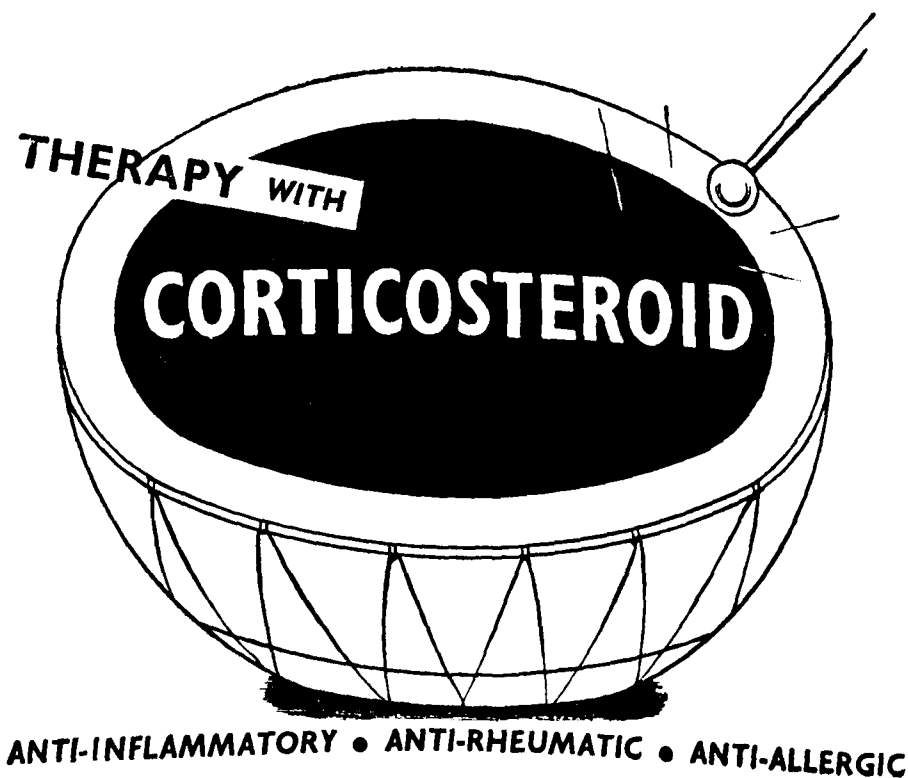
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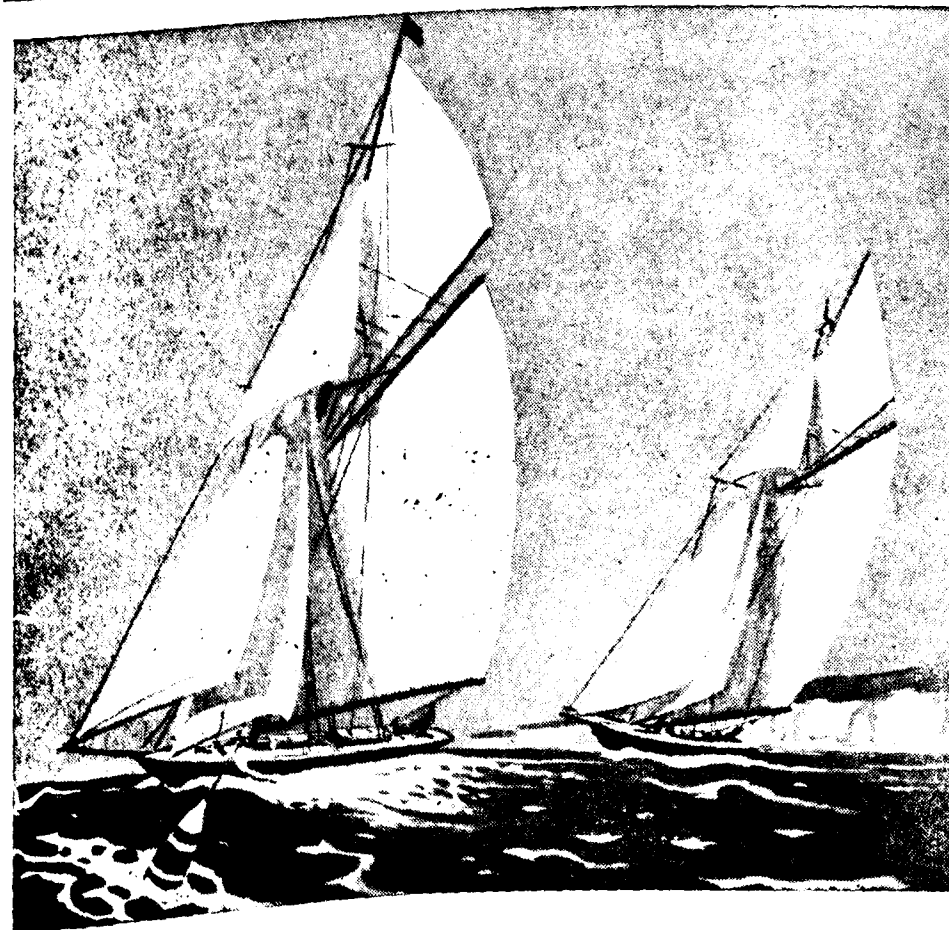
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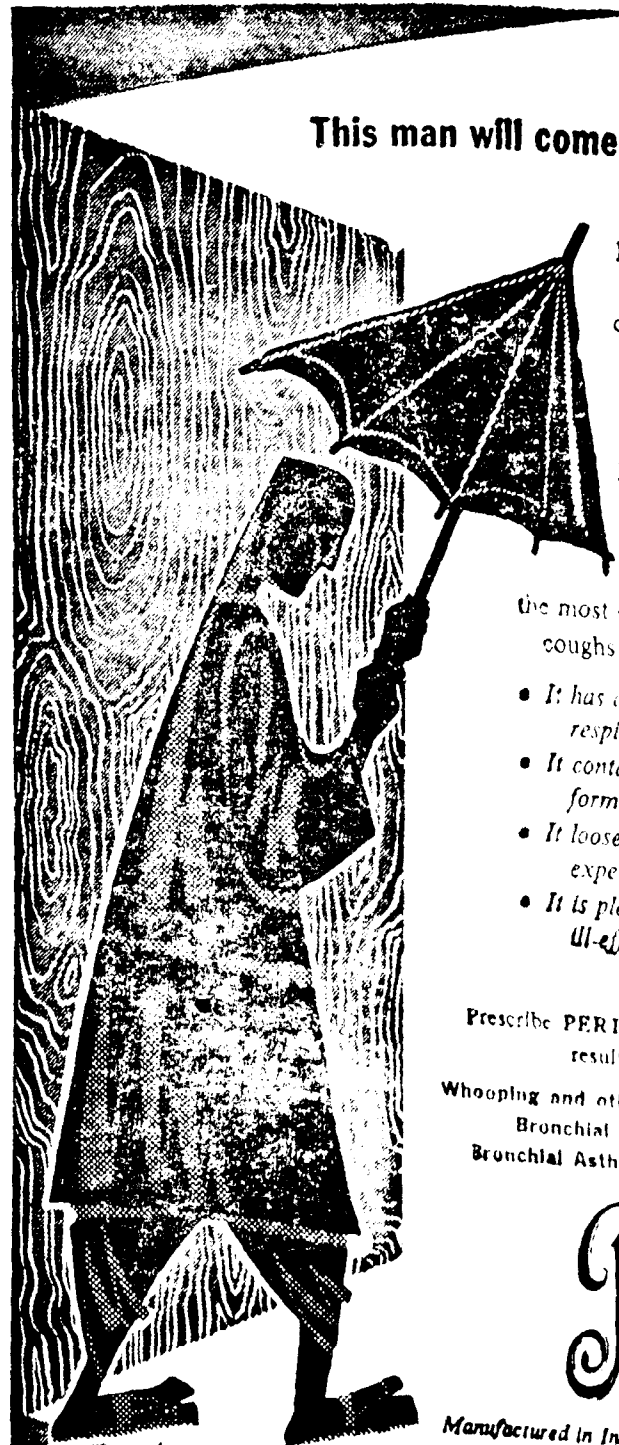
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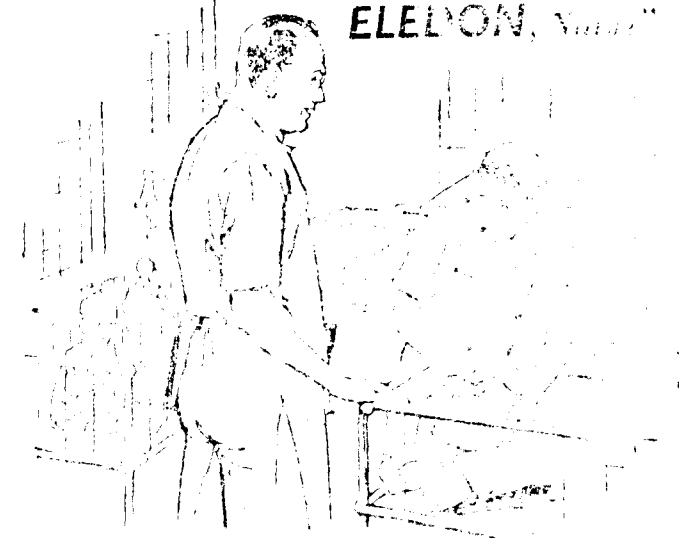
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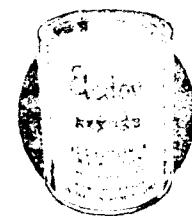
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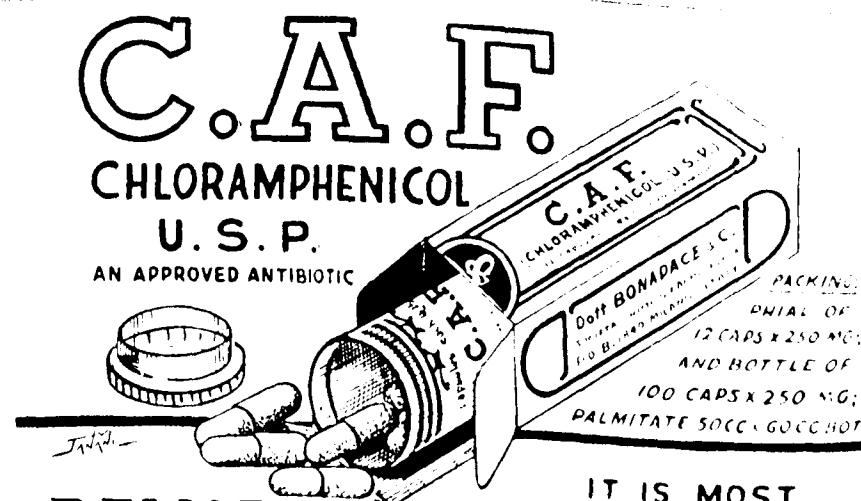
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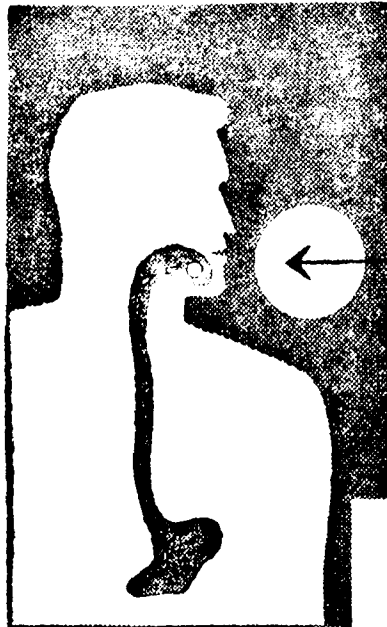
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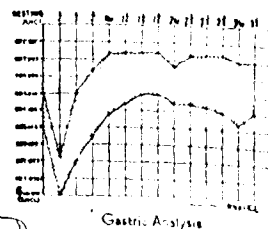
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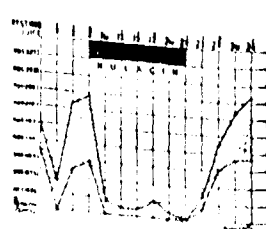
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Medical Treatment of Peptic Ulcer, Med. Press, 27th Feb., 1952, 227: 195

The Control of Gastric Acidity, Brit. Med. J., 26th July, 1952, 2: 180

Notes on Remedial Agents, Med. Review, Sept., 1952, 46: 162

Discussion on Peptic Ulceration, Proc. Roy. Soc. Med., May, 1953, 46: 354

The Effect on Gastric Acidity of "Nulacin" Tabs., Med. J. Aust., 28th Nov., 1953, 2: 823

Control of Gastric Acidity by a new way of Antacid Administration, J. Lab. Clin. Med., Dec., 1953, 42: 955

Further Studies on the Reduction of Gastric Acidity, Brit. Med. J., 23rd Jan., 1954, 1: 183

Clinical Investigation into the Action of Antacids, Practitioner, July, 1954, 173: 46

Management of Peptic Ulceration in General Practice, Med. World, Dec., 1954, 2: 591

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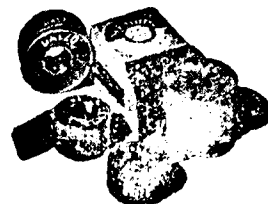
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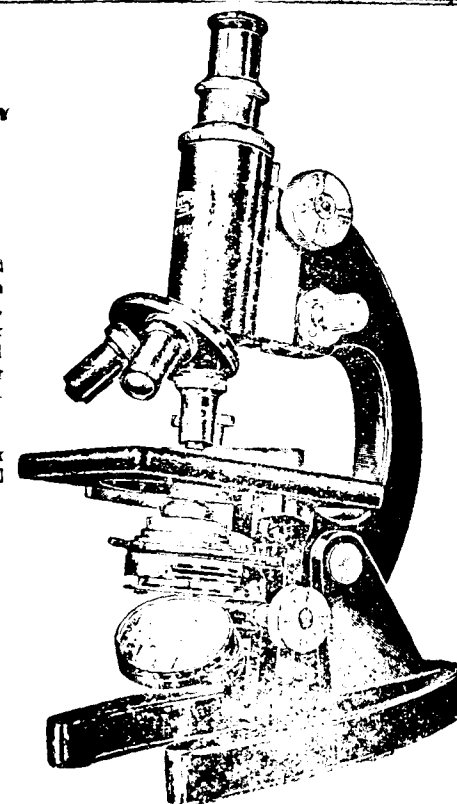
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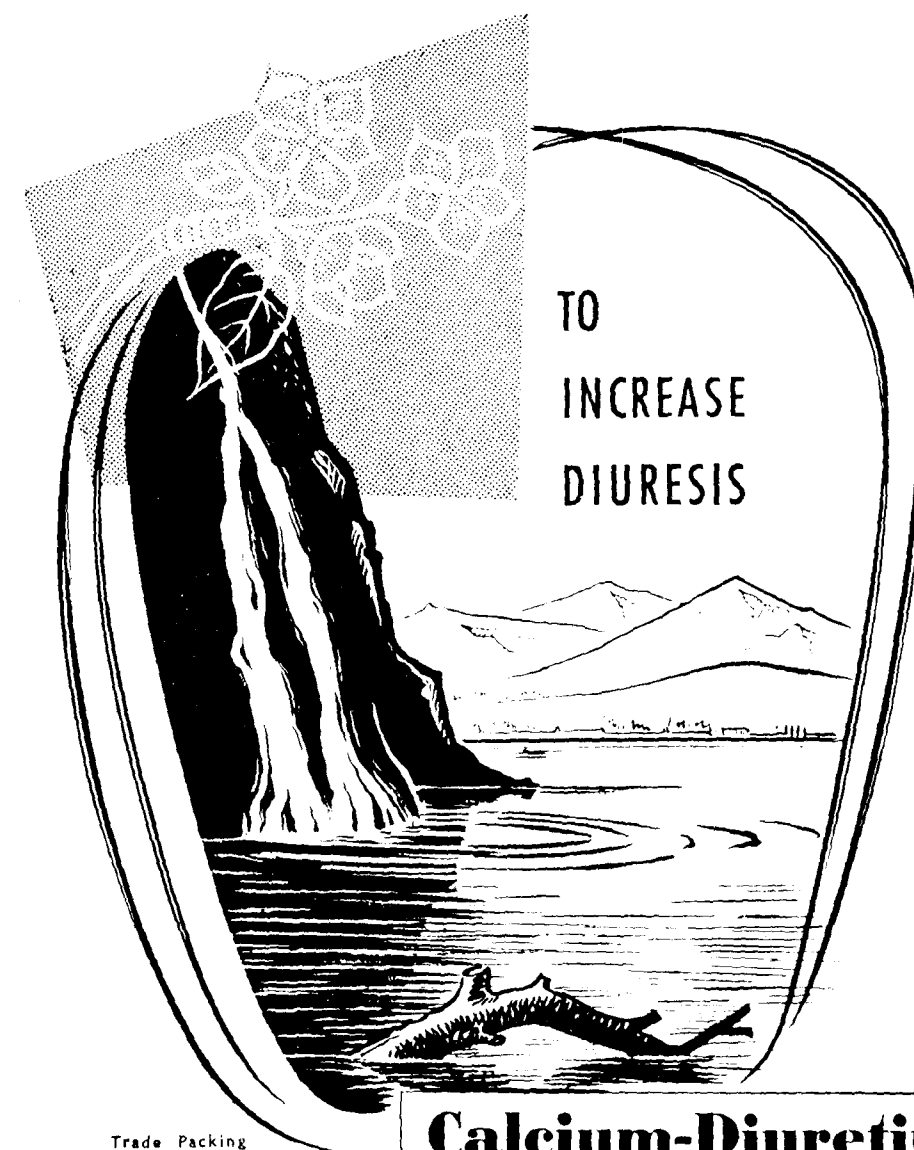
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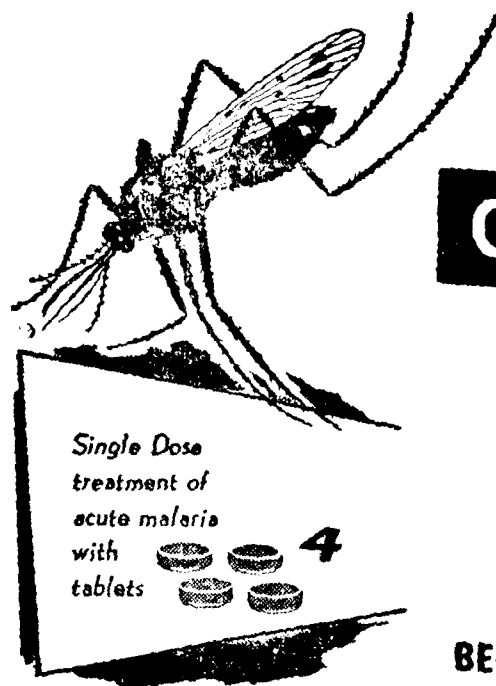
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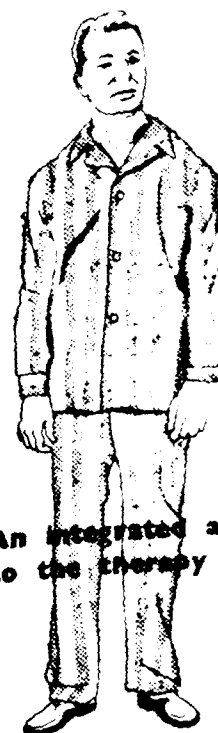
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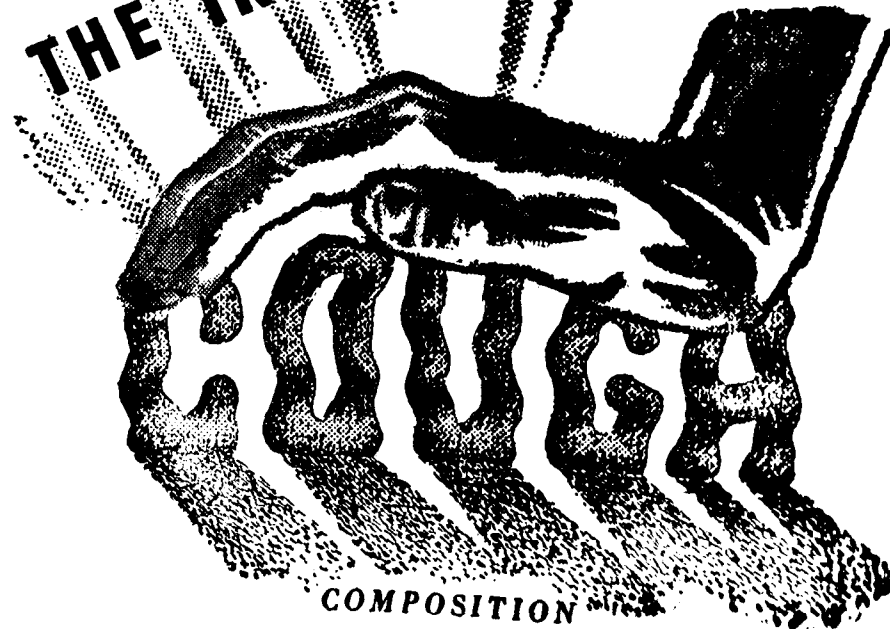
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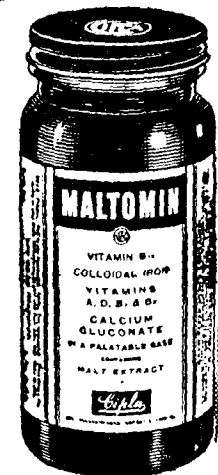
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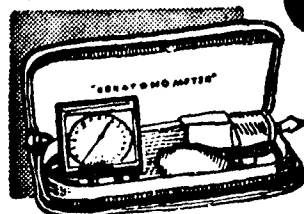
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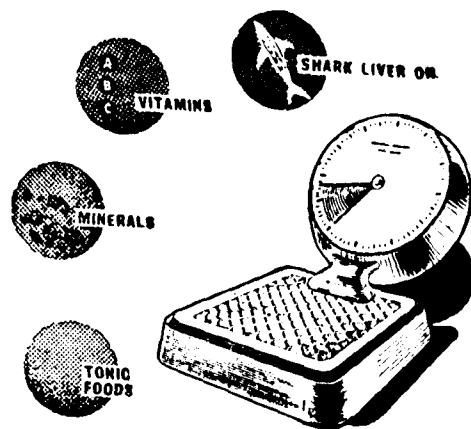
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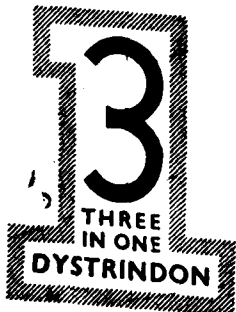
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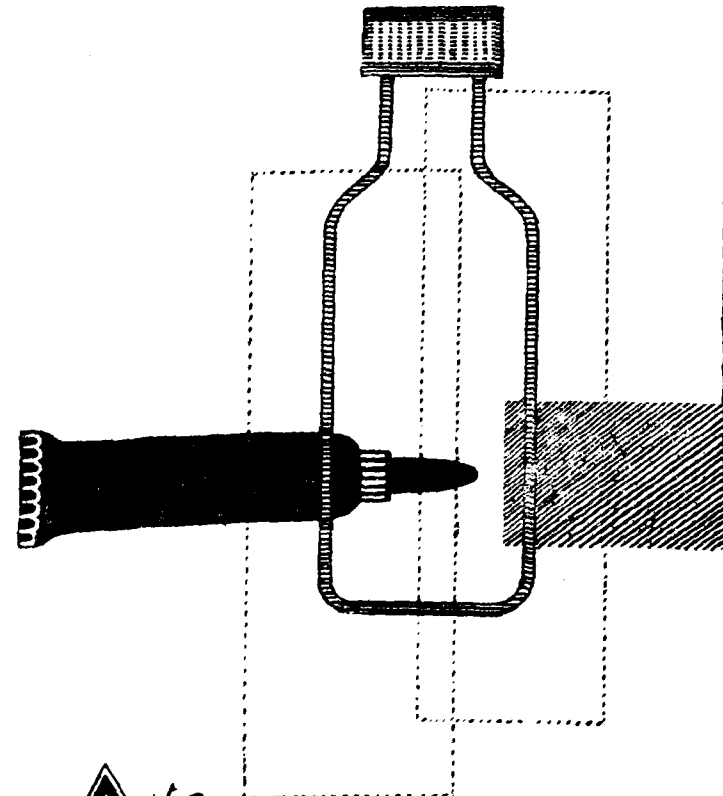
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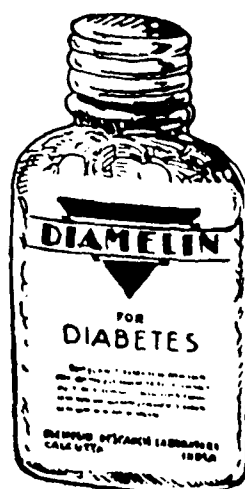
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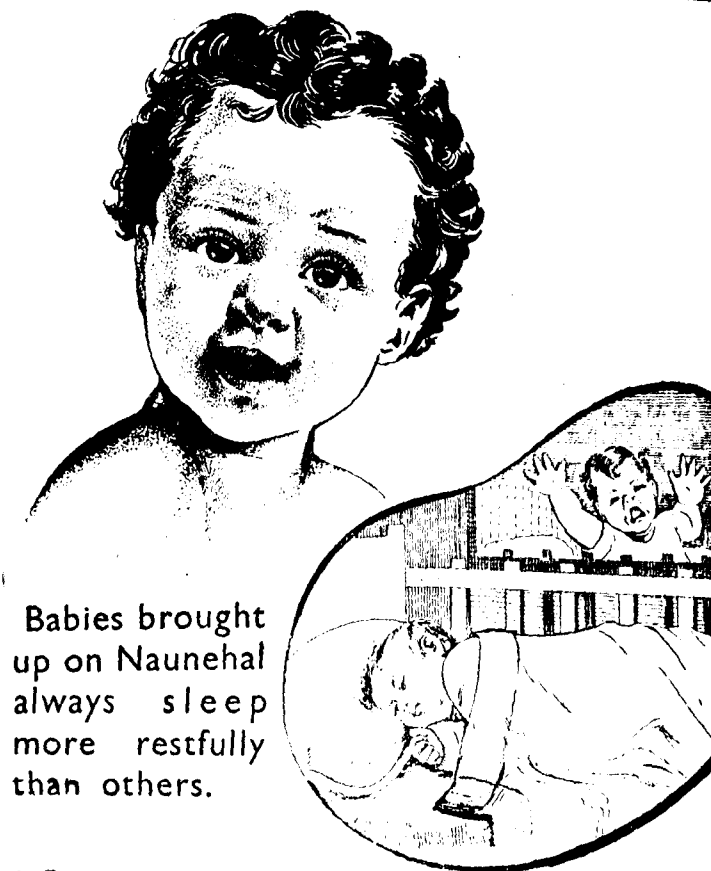
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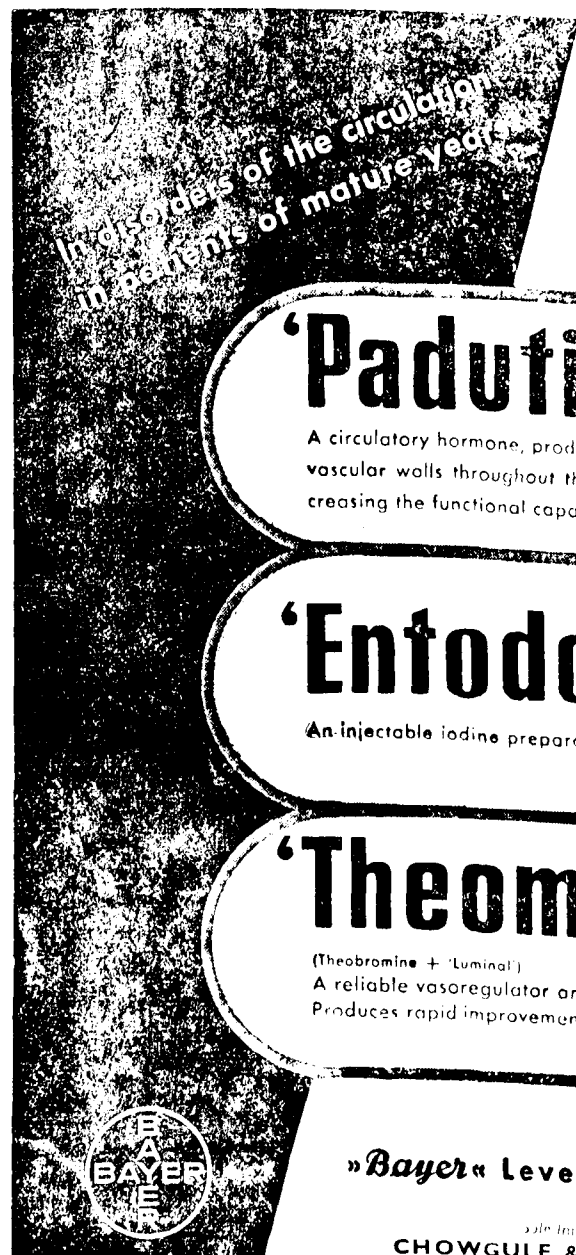
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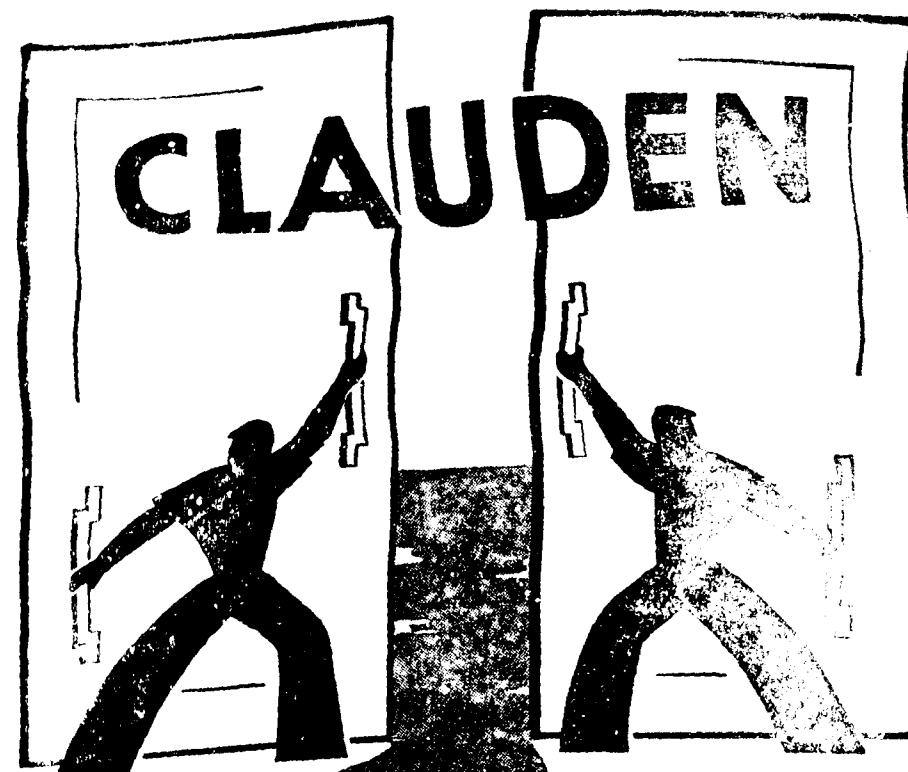
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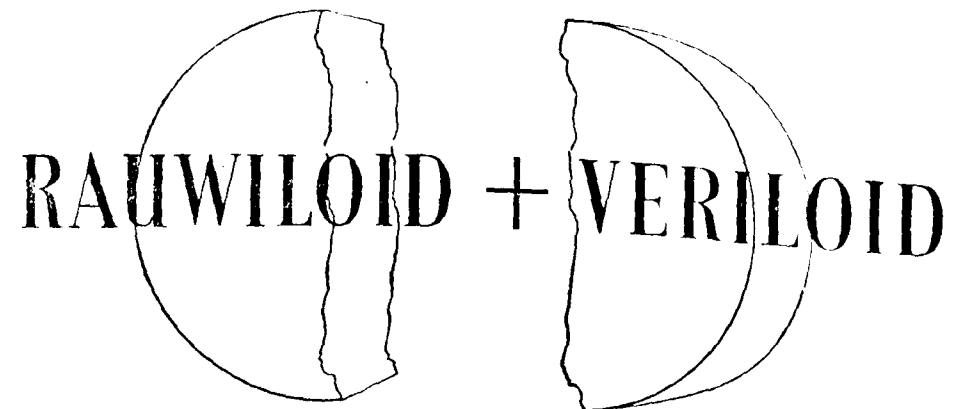
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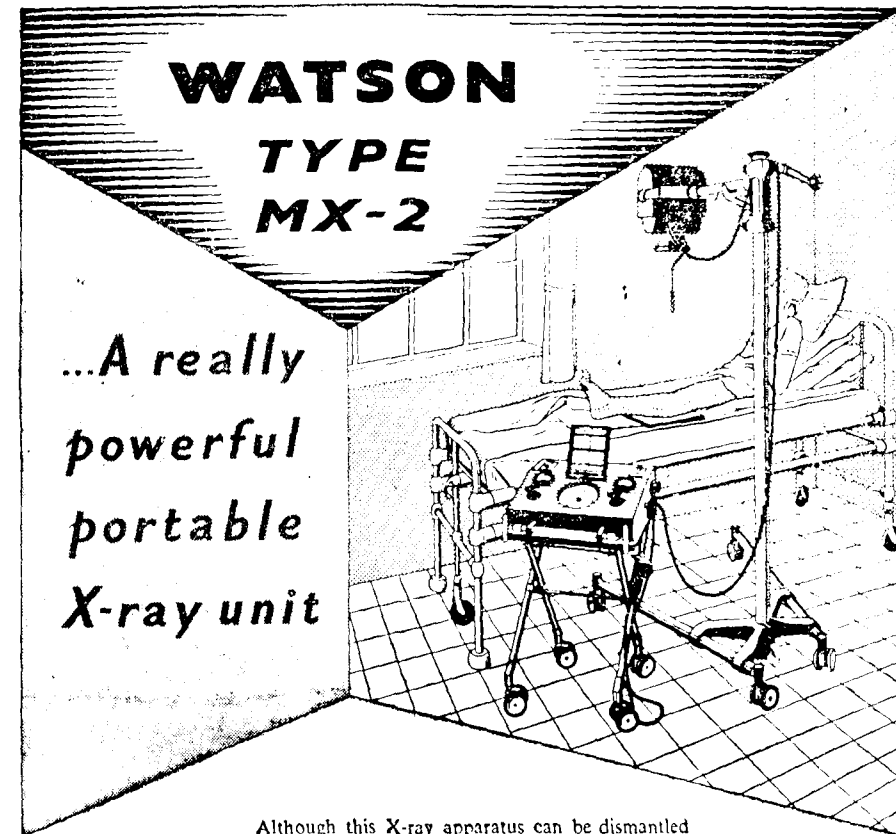
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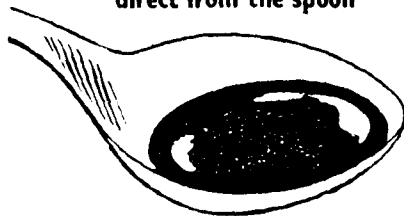
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Original Articles

FILARIASIS *

Present Day Management Based on a Ten Year Study of 528 Patients

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K.M. Hospital, Bombay

FILARIASIS is a generic term used to define pathological changes produced in the body following infestation by nematode worms of the family *Filaroidae* as per classification made by Cobbold in 1864.

In 1865 Clams made a further study and at present four different sub-families are known to occur in human beings. Faust has classified them as follows:—

Sub-family: *Filaridae Stiles*, which is the most important and includes *Wuchereria bancrofti* and *Filaria Malaya*.

However, when used as a general term in medicine, filariasis indicates the *bancrofti* species.

Three other sub-families are less important and comprise *Onchocerca volvulus*: *Filaria Loa loa*, *Filaria perstans* and *Filaria ozzardi*.

Wuchereria bancrofti—The adult male and female worms live in the lymphatic vessels and lymph nodes, the commonest site being the inguinal region. The larvae are discharged into the blood stream and require the *culex* variety of mosquitoes to serve as intermediate host, in which it will undergo further development before it can mature into the adult form in man. The adult worms are white in colour and have an average breadth of 0.1 mm. The length of the male is about 40 mm. while the female is twice or more in length.

* Specially contributed to the ANTISEPTIC

It is uncommon to find the adult worms in clinical practice and only on one occasion, I was able to find one in a mass of inguinal lymphatic varix and nodes that were surgically removed. The larvæ of this worm are characteristically sheathed. They escape from the adult female and enter the blood *via* the lymphatic circulation. They are microscopic and measure 130 to 320 μ in diameter which is on an average 30 times the size of a normal R.B.C. In cases of chyluria they may be found in the urine.

Blood examination.—This is a very important investigation requiring a certain amount of training specially to find the embryos. In an unstained wet film examined carefully, the microfilaria moves gracefully, with a serpentine movement in which the free ends coil and uncoil in a rhythmic manner. In a stained film the dead microfilariæ can be seen and the morphology showing the nuclear and other structures like the excretory system, nerve ring etc., can be demonstrated.

Periodicity in blood:—Manson in 1877, described a nocturnal periodicity, meaning that the larvæ were found in larger number at night than during the day time. This was considered to be the common variety occurring in India, China and West Indies. Midnight is considered the peak period for the concentration of microfilariæ in the blood. Each set of microfilariæ released in the blood has an average life-span of two weeks.

Variations in periodicity:—Ashburn and Craig working in the Philippines have shown the absence of periodicity and it has been considered a biological species. I have found this variation to be more common in India than hitherto recognised.

Mechanism of periodicity:—It is considered that periodicity and its variations do not depend upon the habits of the host. Manson-Bahr has suggested that the periodicity is a natural adaptation to the habits of the suitable intermediary host and depends upon the feeding habits of the mosquito. The non-periodic variety occurs in the Philippines and other Pacific islands as both the *Aedes variegatus* species of mosquitoes which is day-feeding, and the *Culex fatigans* which is nocturnal, are found there, while in India, China and West Indies only the latter variety of mosquitoes is responsible for the transmission.

Elephantiasis.—This is a pathological condition arising mainly as a result of obstruction of the lymphatic vessels, leading to progressive hypertrophy and hyperplasia of the skin and subcutaneous tissues, which may ultimately result in an appearance resembling an elephant's foot. Elephantiasis is essentially a disease of tropical countries and occurs much more commonly in India than in the colder countries although it has been known to occur all over the world.

Lymphoedema.—This is a variety of œdema which does not pit on pressure and is due to lymphatic obstruction of any ætiology. If progressive it would lead to the development of elephantiasis. Completely solid œdema, in my experience, is uncommon and even in an apparently hard swelling careful clinical examination would demonstrate definite pitting on pressure.

Physio-pathology of lymphatic obstruction.—Our concepts of lymphatic circulation have considerably altered following the very interesting experimental work done by several research workers in this field. At one time it was believed that lymphœdema cannot occur without simultaneous blockage of at least one large vein of that limb but Drinker and Field showed by injecting quinine hydrochloride and silica into the lymphatics of experimental dogs that complete obstruction can be produced without any venous obstruction. Physiological studies have further demonstrated that the tissue proteins cannot be reabsorbed by the venous route and therefore, would accumulate locally to a varying extent depending upon the degree of lymphatic obstruction. This high protein-content of the tissue fluid is responsible for the hypertrophy of the subcutaneous tissue in the limb.

Clinical features.—Filarial elephantiasis is so common that diagnosis presents very few problems. It occurs in both sexes and the common sites are the lower extremities. In males, associated hydrocele is very common and should always be looked for. Elephantiasis of the genitalia in males or females may occur with or without involvement of the legs. The upper extremities are often involved and about 5 per cent of cases show this clinical picture either alone or together with involvement of one or both legs.

TREATMENT:—General measures include treatment of the acute attack with rest, antibiotics and local applications. Patients showing a positive blood report can be treated satisfactorily with different brands of Carbamezine (Hetrazan) etc.; when administered it should be given in therapeutic dosage and under very careful medical supervision so as to obtain the maximum benefit without danger of side-effects and/or complications. The tendency of the patients to use it by themselves after it is once prescribed by a doctor is deplorable and must be sternly discouraged at every step. These are the patients who develop complications due to prolonged therapy or over-dosage and thus bring discredit to a useful chemotherapeutic agent. Hetrazan cannot, however, be expected to bring about much reduction of the swelling in a chronic stage when the worms are already dead and the swelling is entirely due to lymphatic obstruction. Attention to general health is essential; non-specific protein therapy, vaccine therapy using T.A.B. vaccine and arseno-typhoid injections are gradually going out of use as being of very little value.

LOCAL MEASURES:—Strict cleanliness of the affected skin is essential and keeping the limb elevated at night with a pressure bandage is very useful in arresting further progress.

Glycerine therapy.—Since 1945 I have regularly used glycerine injections as an important part of the treatment of lymphoedema and elephantiasis. The pharmacological basis of the action of glycerine appears to be more in the nature of a lymphagogue-action rather than a purely physical hygroscopic one. Somehow it acts on the balance between the osmotic pressure of the plasma-proteins and the capillary blood-pressure, thus regulating the movement of water across the capillary wall. I have used glycerine B.P. 10% in triple-distilled, pyrogen free water. These ampoules are prepared under the most rigid aseptic conditions in order to safeguard against any untoward complications which may necessitate discontinuance of therapy or at least would interfere with the ultimate success of treatment. I have found it necessary to stress this point often as strict and careful supervision and check-up of the preparation may be required, if any one lot causes pyrexial or other reactions. Intra-arterial injections should be made in the artery of the part that is involved.

Technique.—FEMORAL INJECTION:—The legs being the commonest site, intra-arterial injection must be made into the femoral artery of the affected leg. The inguinal region is shaved and prepared carefully as for a minor surgical procedure. A pneumatic tourniquet or the cuff of a blood-pressure instrument is tied to the thigh in the middle and the pressure raised to 80 mm. Hg., so as to block the veins but keep the artery patent. A cotton carrier dipped in gentian violet is taken and points A and B are marked indicating the anterior superior iliac spine and the pubic spine. A line is drawn joining these two points. A little below its mid-point the femoral artery is recognised by its pulsatile character. The line of the artery is now marked out. A small area is infiltrated at this point with 1 cc. of procaine hydrochloride solution. A record syringe is filled with 50% glycerine and a long No. 1 needle is attached to it. The middle three fingers of the left hand are kept over the line of the artery and the middle finger is raised up. The needle is now pushed in and the injection given. The pressure in the manometer is immediately raised to above 150 mm. and kept so for 10 to 30 minutes depending on the pain experienced by the patient.

Maintenance therapy.—The arterial injections are given once a week or more while intravenous injections using 20 cc. of the 50% solution are given daily during the intervals. The total course would comprise from 40 to 100 injections in all depending upon the clinical condition.

Early and mild cases require only 10 to 20 injections. The effect depends directly upon the degree and nature of lymphatic

obstruction. When the obstruction is partial, variable and of short duration, it would be a reversible form. In practice therefore, I have adopted a simple therapeutic classification of all cases of elephantiasis into:—(1) Acute attacks without oedema; (2) acute attacks with oedema and (3) oedema:—(a) reversible; (b) intermediate; and (c) irreversible.

(a) *Reversible oedema:*—The swelling around the ankles is less than 2.5 cm. in girth in comparison with the normal site. There is pitting on pressure and the skin of the leg is healthy. This group is usually of less than one or two years' duration and would respond well to glycerine therapy and other conservative measures.

(b) *Intermediate group:*—In this group the swelling is between 3 to 5 cm. at the ankle, the oedema hardly pits on pressure but the skin of the leg is yet healthy except for slight overgrowth of hairs with thickening of the skin when seen with a magnifying lens. This is best treated by lymphangioplasty followed by glycerine injections.

LYMPHANGIOPLASTY:—The results with silk and other older forms of lymphangioplasty were not satisfactory as the artificial material failed to serve the mechanical purpose for which it was used because of foreign body resection and fibrosis that occurred around them.

POLYETHYLENE (P.E.) TUBE LYPHANGIOPLASTY:—I made a preliminary report in 1954, on the use of P.E. tube lymphangioplasty based on the fact that surgical P.E. is animal-tested and would not produce any reaction while it would remain potent for an indefinite period. Since then I have completed this operation in a much larger series of cases and it appears that after the lymphangioplasty, there is an immediate reduction in the swelling followed by a recurrence in some cases with slight infection round the tube. Removal of the tube after this produces a marked reduction of the swelling and a very satisfactory result. The infection is due to the nature of the disease whereby the affected limb has a higher susceptibility to streptococcal infection and as this organism is lurking in the regional lymphatics.

PLASTIC OPERATIONS:—Kondoleon's operation does not serve to open out the collateral circulation between superficial and deep lymphatics but it acts only by the mechanical removal of thickened tissue; and the cosmetic result is not very satisfactory.

(c) *Irreversible oedema:*—I have been using a technique reported by me in 1949 whereby the elephantoid tissue is excised followed by same skin-grafting. The cosmetic result is not good but great relief is experienced because of the reduction in weight. It may require 3 or more stages, and a subsequent follow-up treatment with conservative measures to prevent recurrence.

Sodium fluoride therapy.—Certain reports on the successful use of 1% sodium fluoride solution prompted me to use it for clinical trial. There is not much of a rationale in the therapy, as it raises several controversial points. The endemic areas of fluorosis, the cause for the condition, the amount of fluoride in the blood or excreta of such persons and oedema, all these require to be carefully worked out. Further, if fluoride does show promise, it has been pointed out that some form of oral therapy might be more successful, as fluorosis results from the ingestion of fluorides present in all drinking water sources in certain endemic areas. I still used it in over 30 cases without much benefit; perhaps the dose, frequency of administration and other details may require a more critical evaluation. I have recently used hyalase, cortisone and hydro cortisone in some of these patients; and cortisone appears to hold out promise as a therapeutic possibility. A preliminary report on this will shortly be published.

References:

1. Gray, Henry (1924)—Anatomy of the Human Body, Ed. 21, pp. 687-696 and 702-708.
2. Mc Master, P. D., and Parsons, R. J. (1938)—J. Expt. Med. 68: 353 and 377.
3. Allen, E. V. (1934)—Arch. Int. Med., 54: 506.
4. Low, G. C., and Dixon, D. S. (1930)—Lancet, I: 72.
5. McGilrick, L. (1930)—B. M. J., 2: 957.
6. Bowesman, C. (1938)—B. J. S., 26: 86.
7. Sistrunk, W. E. (1918)—Surg. Gynec. and Obst., 26: 388.
8. Macey, H. B. (1940)—Proc. Staff. Meet. Mayo. Clin., 15: 49.
9. Mehta, V. P. (1946)—Ind. Physiolan., 60: 295.
10. Handley, W. S. (1908)—Lancet, I: 783.
11. M. Hunter Brown, et al (1948)—J. S.G.&O., June, 56: 63-668.
12. W. D. Seybold, et al (1949)—J. Thor. Surg., Feb. 18: 129-131.
13. Alexander, E., (Jr), et al (1948)—Annals Surg., June.
14. Mehta, V. P. (1954)—J. Ind. Med. Prof., April '54.
15. Mehta, V. P. (1950)—Ind. Jour. Surg., 12: 89-97.

SURAMIN AND HETRAZAN IN ONCHOCERCIASIS (FILARIASIS)

The discovery of the action of Suramin (antrypol) by S. American workers on Onchocerciasis aroused considerable interest in this severe and crippling filariasis. The hopes raised by the introduction of Hetrazan were damped by the severity of the allergic reactions so readily excited: but it would appear that a synergic action is brought about by the simultaneous exhibition of both drugs 29 patients were given both drugs simultaneously—one to 7 weekly injections of Suramin each of 1 g. and hetrazan 1 mg. per kilo thrice a day by mouth for 4 to 8 weeks, the total dosage being 11 to 78 mg. per kilo. When given by mouth Suramin had but little effect on *Onchocerca microfilariæ*; but hetrazan had a much more rapid action; 50 out of 54 were free from microfilariæ at the end of the treatment. The effect proved temporary and after one year only 14 out of 46 were apparently cured whilst after 2 years only 1 out of 11 was clear. A combination of both drugs, however, produced a rapid and permanent effect so that after 2 years 25 out of 27 were microfilariæ-free. The patients who received combined treatment had rather light infections. Burkh and Ashburn consider that combined treatment is not really so sufficiently better than Suramin alone as to justify the extra trouble and expense involved.—(Sir Philip Manson-Bahr in *Med. Ann.*, 1953).

RESULTS OF CLINICAL TRIAL WITH A NEW SULPHA-DRUG—ELKOSIN*

D. K. SEN, M.B., B.S.,

Surgeon to the V.A.M. Hospital, Calcutta.

(Formerly H.S., R.G. Kar Medical College and Hospital)

Introduction.—The relative merits of the sulpha group of drugs have been reviewed elaborately by several observers in the past. After the advent of penicillin sulpha drugs gave place to it or to other antibiotics such as chloramphenicol, aureomycin with a high therapeutic value. The great disadvantage with these antibiotics however, are that they are difficult to administer and are costly; and particularly in India not many people can afford to buy them.

An ideal sulpha-drug when administered systemically should have the following properties:—(1) It must be suitable for oral administration without causing irritation of the gastric or intestinal mucosa, (2) it should have bactericidal and bacteriostatic properties, (3) it must be absorbed quickly reaching a desirable concentration in the blood and (4) at the same time it should be eliminated from the system quickly without producing any cumulative, or toxic effects.

No sulpha drug however, can be said to reach this standard of perfection though a few approach it, e.g., Elkodin 'Ciba' (6-p aminobenzenesulphonamide-2, 4-dimethylpyrimidine).

During June 1950, penicillin was not available at Calcutta and much inconvenience was caused thereby; penicillin therapy had to be suspended temporarily. Therefore, I searched for a chemotherapeutic agent which would replace penicillin wholly or partially in its action. 6-p aminobenzene sulphonamide-2, 4 dimethylpyrimidine (Elkodin) was then given to a series of 80 patients in the surgical wards of the R.G. Kar Medical College and Hospitals; 30 of these cases are reported in this paper. The other 50 cases, not reported here also did uniformly well, with Elkodin. Another series of 20 cases were treated recently with Elkodin at the V.A.M. Hospital, Calcutta, six of which are included in this paper. The other 14 cases also responded satisfactorily.

Case reports.—Series I—CASE 1:—Hindu, male, aged 25, was admitted on 4-8-50 with cellulitis of right foot and extensive sloughing of the skin of the dorsum of the foot and a temperature of 101°F. Duration of the disease was one month.

Blood examination showed:—Hb. 50%; R.B.C. 3.6 mil/cmm.; W.B.C. 9,200. Poly-75%; Lympho-23%; Mono-nil; Eosino-2%. The coagulation time was 2 minutes.

*Specially contributed to the ANTISEPTIC.

Urine was normal. The part was dressed locally with sulphanilamide powder and put on a plaster cast. Elkosin was given in 2 tablet doses—thrice daily for 5 days. The temperature came down to 98°F. on the second day of treatment. The patient passed about 52 ozs. of urine daily during the treatment. The patient passed of 900 per cmm. was recorded on the third day. A W.B.C. count of the wound also improved on the third day. The local condition advised operation (skin-grafting) but he left the hospital on 10-8-50.

CASE 2:—Hindu, female child, aged 2½ years, was admitted on 28-7-50 with cellulitis of scalp leading to extensive sloughing of the scalp over the right temporal, parietal and sphenoid bones. Temperature was 102.4°F. on admission. Duration of the disease was one month.

Blood examination showed:—Hb. 40%; R.B.C. 28 mil/cmm. W.B.C. 8000; Poly-80%; Lympho-20%; Mono and Eosinophil-nil. The coagulation time was 2½ minutes.

Examination of urine was not done as it could not be collected. The patient was emaciated and toxic. Elkosin was given in ½ tablet doses t.d.s. Penicillin was given simultaneously (20000 units to start with and 25,000 units every three hours). The wound was dressed locally with sulpha and vaselined gauze. Temperature came down to 97.4°F. at 11 a.m. on the second day; but at 3 p.m. the patient developed rigidity of the neck and again became comatose. Temperature again went up to 103°F. and the patient died of meningitis at 9.35 p.m. on 30-7-50. During these two days the patient passed roughly about 15 to 18 ozs. of urine daily. A W.B.C. count of 8,500 was recorded on the second day.

CASE 3:—Hindu, male, aged, 56 years, was admitted on 28-7-50 with the following complaints:—(1) History of 18 hours' duration. (2) Profuse haemorrhage from a small tumour in the gum. (3) Pulse 122 p.m., V.T. feeble, respiration 26 p.m. The patient was in a condition of shock.

The haemorrhage was stopped immediately by applying gelfoam over the bleeding surface of the gum. Neo-haemoplastin, Congulen Ciba and Synkavit were given followed by the infusion of one pint of saline intravenously. The patient overcame the shock nicely. Twentyfour hours later, the patient had a temperature of 101°F. Elkosin was given 2 tablets thrice daily for 3 days and the temperature came down to 100°F. and then to 98°F. at the end of the second day. The average daily excretion of urine was 50 oz. during the treatment. It was a case of secondary haemorrhage from an infected epulis.

The blood examination showed:—Hb. 45%; R.B.C. 3.4 mil/cmm.; W.B.C. 7,400 cmm. Poly 65%; Lympho-32%; Mono 3%; Eosino nil; the coagulation time was 3 min. 45 sec and the bleeding time

was 3 minutes. Urine was normal. A W.B.C. count of 8,200 was recorded on the third day.

CASE 4:—Hindu, female, aged 18 years was admitted on 21-7-50 with an intra-mammary abscess of the right breast of 7 days' duration and the temperature at the time of admission was 102.6°F.

The blood examination showed:—Hb. 55%, R.B.C. 3.2 mil/cmm., W.B.C. 9,200, Poly-75%, Lympho-25%, Mono-nil. Eosino-nil, and the coagulation time was 2 minutes. The urine was normal. 2 tablets of Elkosin were given thrice daily for four days. The temperature came down to 100.6°F. after 24 hours. The abscess was drained on 22-7-1950 and dressed locally with sulphanilamide powder. Next morning the temperature was 97°F. The quantity of urine excreted daily was about 50 oz. A W.B.C. count of 8,500 was recorded on the third day. The patient was discharged on 29-7-1950.

CASE 5:—Hindu, male, aged 40 was admitted on 19-7-1950 with cellulitis of the face and a temperature of 102.4°F.

The blood examination showed:—Hb. 52%, R.B.C. 3.2 mil/cmm., W.B.C. 13,800 cmm., Poly-82%, Lympho-18%, Mono-nil, and the coagulation time was 2½ min. Urine was normal. 4 tablets of Elkosin were given followed by 2 tablets thrice daily for six days. A W.B.C. count of 12,000 was recorded on the third day. The temperature came down to normal in two days' time. Local application of moist heat was given and Cibazol ointment was painted over the face. The swelling of the face disappeared and the patient was completely cured in the course of a week. The patient passed the normal quantity of urine daily during the course of the treatment.

CASE 6:—Hidu, male, aged 25 was admitted on 14-7-1950 with three septic ulcers over the medial side of the ankle joint and dorsum of the left foot, and a temperature of 99°F.

The blood examination showed:—Hb. 50%, R.B.C. 3.4 mil/cmm., W.B.C. 8,900 cmm., Poly-76%, Lympho-20%, Eosin-nil, Mono-4%, and the coagulation time was 2½ min. Urine was normal. The patient was given 2 tablets of Elko-in thrice daily for 3 days. A W.B.C. count of 9,100 was recorded on the third day. The ulcers were dressed with 1% Lot. mercurochrome and sulphanilamide powder. The temperature came down to 98°F. after 24 hours. The patient was passing normal quantity of urine daily. The ulcers healed up rapidly and the patient was discharged on 21-7-50.

CASE 7:—Hindu, male child, aged 5 years was admitted on 7-7-50 with multiple ulcers all over the body. The patient had an attack of smallpox about two months prior to admission. The general condition of the patient was bad and he had generalised anasarca. He was extremely anæmic and the blood examination showed:—Hb. 32%, R.B.C. 2 mil./cmm., W.B.C. 8,900 cmm., Poly-72%, Lympho-

28%, Mono-nil, Eosin-nil. The urine was yellow, had an acid reaction with no phosphates, sugar or acetone. Albumin was present ++. The patient had no rise of temperature. The quantity of urine passed by the patient in 24 hours was 18 to 20 ozs., on an average.

Half a tablet of Elkosin was given thrice daily, though albumin was present in the urine. After a day's treatment with Elkosin the total quantity of urine (passed in 24 hours) diminished to 4 ozs. Elkosin was immediately stopped and an alkaline diuretic mixture was given. Penicillin was started. The patient's condition gradually improved and after 3 days the patient again passed 22 ozs of urine in 24 hours. The ulcers were dressed with sulphanilamide powder.

The patient was completely cured and discharged on 25-7-'50.

CASE 8:—Hindu, female, aged 22 years, was admitted on 30-6-'50 with a big abscess over the medial side of the right thigh, and a temperature of 102°F.

The blood examination showed:—Hb. 60%, R.B.C. 3.4 mil/cmm., W.B.C. 14,600 mil/cmm., Poly-80%, Lympho-10%, Mono-10%. The patient was passing about 50 ozs. of urine daily, and the urine was normal.

4 tablets of Elkosin were given followed by 2 tablets thrice daily for three days. Temperature came down to 97°F. at the end of the second day. Fluctuation was evident and a W.B.C. count of 13,000 was recorded on the third day. The abscess was incised on 3-7-'50 and about 12 ozs. of pus were let out. The patient passed normal quantity of urine daily. Recovery was uneventful and the patient was discharged on 8-7-'50 in good condition.

CASE 9:—Hindu, male, aged 32, was admitted on 23-6-'50 with acute appendicitis.

The blood examination showed:—Hb. 70%, R.B.C. 4 mil/cmm., W.B.C. 6,000 mil/cmm., Poly-70%, Lympho-20%, Mono-10%, Eosin-nil. The urine was normal. The patient was operated on the same evening and a pathological appendix was removed.

Penicillin was started immediately and Elkosin was given after 24 hours. The patient died of shock on 30-6-'50.

CASE 10:—Hindu, female infant, aged 6 months, was admitted on 23-6-'50 with an infected cephalo-hæmatoma over the vertex and a temperature of 102°F.

The blood examination showed:—Hb. 50%, R.B.C. 3.2 mil/cmm., W.B.C. 12,500 mil/cmm., Poly-78%, Lympho-15%, Mono-7%. Urine was normal. The patient was passing about 15 ozs daily.

One fourth tablet of Elkosin was given thrice daily for 6 days. The cephalo-hæmatoma was aspirated and 30 cc. of pus taken out.

A firm pressure bandage was then applied to the head. A W.B.C. count of 10,000 was recorded on the third day.

The temperature came down to 98°F. on the second day and she was passing normal quantity of urine daily. Two days after the first aspiration, the hæmatoma was again aspirated and 10 cc. of pus withdrawn. A pressure bandage was then applied. The condition of the baby improved remarkably and she was discharged on 22-7-'50 completely cured.

CASE 11:—Hindu, male, aged 37, was admitted on 9-8-'50 with strangulated inguinal hernia of the right side.

The blood picture showed:—Hb. 65%, R.B.C. 3.8 mil/cmm., W.B.C. 6,000 mil/cmm., Poly-70%, Lympho-20%, Mono-9%, Eosin-1%, and the coagulation time was 3½ min. The urine was normal. The patient was operated on 9-8-'50 and the strangulation relieved. On the second day of operation there was a rise of temperature (101°F). 2 tablets of Elkosin were given thrice daily for two days. The temperature came down to normal within 24 hours. The total quantity of urine excreted during this period was normal i.e. about 55 ozs. daily. A W.B.C. count of 6,000 was recorded on the third day. The patient was discharged on 19-8-'50 completely cured.

CASE 12:—Hindu, male, aged 28, was admitted on 21-6-'50 with a history of a car accident. He was semi-conscious and had a lacerated bone-deep injury on the left parietal region. Both pupils were equally dilated and were reacting to light. The patient vomited four times after the accident. Pulse rate was 78 p.m.: V.T. moderate and regular and respiration was 22 p.m.

The patient was treated for head injury. He was given 50% glucose solution 100 cc. b.d., S.S. Magsulph. 3 oz. per rectum and rectal saline etc. Three days after admission the pulse rate came down to 60 p.m. and the patient had a sharp rise of temperature. A lumbar puncture was done on 2-6-'50. Frank blood came out and the rate of flow was 160 drops per minute. 1.5 cc. of blood was drained. The blood examination showed:—Hb. 70%, R.B.C. 4 mil/cmm., W.B.C. 6,300 mil/cmm., Poly-90%, Lympho-20%, Mono-10%, Eosin-nil. Urine was normal. Elkosin was given, 2 tablets thrice daily, for two days. The temperature came down to normal after 24 hours and remained so for the rest of the time. A W.B.C. count of 7,000 was recorded on the third day.

Subsequent lumbar punctures were done on the 20th and 29th of June, '50 to relieve the intraventricular pressure. On both occasions blood-stained fluid came out. On 1-7-'50 the last lumbar puncture was done when 10 cc. of clear C.S.F. was drained out. The patient was discharged cured on 11-7-'50.

CASE 13:—Hindu, male child, aged 7 years was admitted on 21-6-'50. He was operated on 8-7-'50 for congenital inguinal hernia

of the right side. The blood examination showed:—Hb. 58%, R.B.C. 3.4 mil/c.mm., W.B.C. 7,400 mil/c.mm., Poly-62%, Lympho-36%, Mono-2%, Eosin-nil and the coagulation time was 2½ min. Urine was normal.

On the 3rd day of operation the patient had an attack of broncho-pneumonia with a temperature of 102°F; the pulse rate was 140 p.m.; V.T. moderate and regular; and the respiration rate was 40 p.m. Rales and ronchi were heard over both lungs. One tablet of Elkosin was given twice daily for 4 days. The temperature came down to normal on the third day. A W.B.C. count of 8,000 was recorded on the third day. Five days later rales and ronchi disappeared from both lungs; the output of urine was quite satisfactory all along. The patient was discharged on 20-7-'50.

CASE 14:—Hindu, female infant, aged 5 months was admitted with head injury on 16-6-'50 with a temperature 103°F. The pulse rate was 130 p.m. V.T. moderate and regular; respiration rate was 40 p.m. The blood examination revealed:—Hb. 55%, R.B.C. 3.2 mil/c.mm., W.B.C. 7,000, Poly-65%, Lympho-35%, Mono-nil; Eosin-nil and coagulation time was 2 min. Urine could not be collected for examination. There was no congestion in the lungs. Treatment was given for head injury i.e., S.S. Mag. sulph per rectum etc. Ice packs were applied to the head. Penicillin was given in 25,000 unit doses at three hourly intervals. ½ tablet of Elkosin was also administered thrice daily simultaneously by mouth. Temperature came down to normal on the 4th day when Elkosin was discontinued. The patient was passing urine six or seven times daily. Penicillin was continued for three days more and then discontinued. The patient was discharged on 2-7-'50 in good condition.

CASE 15:—Hindu, male, aged 25 years was admitted with acute appendicitis (history of 72 hours) on 28-7-'50. The patient had a lump, tender and painful over the right iliac fossa. Pulse rate was 105 p.m. V.T. low and regular and respiration 30 p.m. Temperature 100°F. The blood examination showed:—Hb. 58%, R.B.C. 3.6 mil/c.mm., W.B.C. 11,400, Poly-74%, Lympho-24%, Mono-nil; Eosin-2% and the coagulation time was 2½ min. Urine was normal. Conservative treatment was given i.e. the patient was nursed in Fowler's position, nothing was given by mouth, rectal saline was started and 100 cc. of 25% glucose solution was given twice daily. 25,000 units of penicillin were given every three hours. Next morning a saline enema was administered. Very little faecal matter came out but the patient felt comfortable. The pain over the right iliac fossa disappeared but tenderness remained. The temperature remained at 101°F even after 36 hours. Elkosin was given, two tablets thrice daily for four days along with penicillin. 48 hours later the temperature came down to normal. A W.B.C. count of 10,000 was recorded on the third day.

The lump gradually subsided and the condition of the patient became better. The patient was discharged on 22-8-'50 and was advised to come after two months for operation.

CASE 16:—Hindu, male, aged 28, was admitted on 16-6-'50 with infected bronchial cyst of the right side. His blood examination revealed:—Hb. 58 per cent, RBC. 3.4 mil/c.mm., WBC. 7,600, Poly-65%, Lympho-23%, Mono-10%, Eosin-2%, and the coagulation time was 2½ min. Urine was normal. The patient was operated on 29-6-'50. On the next day he had a temperature of 100°F. Elkosin was given, 2 tablets thrice daily for 3 days, and 24 hours later, the temperature came down to 98°F. The output of urine was quite satisfactory during this period. A WBC count of 7,000 was recorded on the third day. The patient was discharged on 8-7-'50.

CASE 17:—Hindu, male child, aged 6 years was admitted on 14-6-'50 with head injury and simple fracture of both bones of the left forearm. The general condition of the patient was good and he was conscious with P/R—90/20, V.T. moderate and regular. The patient had a rise of temperature (101°F.) accompanied with restlessness, on the next day.

The blood examination showed:—Hb. 55 per cent, RBC. 3.2 mil/c.mm., WBC. 7,800 mil/c.mm., Poly-64 per cent, Lympho-26%, Mono-10 per cent, Eosin-nil and the coagulation time was 2½ min. Urine was normal.

The patient was given one tablet of Elkosin thrice daily; the temperature came down to normal after 48 hours, when it was discontinued. The fractured limb was plastered after reduction of the fracture and the patient was discharged in good condition on 23-6-'50.

CASE 18:—Hindu, male, aged 22 was admitted on 4-8-'50 with perinephric abscess of the right side, in an extremely toxic condition with a temperature of 102.4°F.

The blood examination showed:—Hb. 55%, RBC. 3.5 mil/c.mm., WBC. 18,900 mil/c.mm., Poly-82%, Lympho-18%, Mono-nil, Eosin-nil and the coagulation time was 2½ min. Urine was normal.

The abscess was aspirated on the day of admission and a culture of the pus showed *staphylococcus aureus*. Elkosin was started immediately after admission and a total dose of 10 g. was given in the course of three days. The temperature came down to normal on the 3rd day when a WBC. count of 15,000 was recorded. The patient passed about 50 ozs. of urine daily during the course of the treatment. The abscess was incised on 8-8-'50 and about 20 ozs of pus and blood were let out. The cavity was packed with roller gauze and sulpha powder.

Recovery was uneventful and the patient was discharged on 25-8-'50.

CASE 19:—Hindu, male child, aged 8 months was admitted on 14-6-'50 with acute osteomyelitis of the shaft of the right femur, of one weeks' duration and a high rise of temperature (103°F) and an urticarial rash all over the body.

The urine was normal and the examination of blood revealed:—Hb. 45%, RBC. 2.5 mil/c.mm., WBC. 12,600 mil/c.mm., Poly-70%, Lympho-20 per cent, Mono-2 per cent, Eosin-8 per cent, and the coagulation time 2½ min.

Half a tablet of Antistine was given twice daily for a day. The urticarial rashes disappeared completely. Elkosin was then administered in ½ tablet doses thrice daily for four days, i.e. a total dose of 3 g. was given. On the third day the temperature came down to 98°F and the child was feeling quite comfortable. A WBC. count of 10,000 was recorded on the 3rd day. The osteomyelitic abscess was drained by Hilton's method for one week. The right inferior extremity was then completely plastered up. The patient was advised to come after 8 weeks for removal of the plaster.

CASE 20:—Hindu, male, aged 17, was admitted on 14-6-'50 with bilateral hydrocele and was operated on 15-6-'50.

The blood examination revealed:—Hb. 70%, RBC. 4 mil/c.mm., WBC. 6,500 mil/c.mm., Poly-70%, Lympho-20%, Mono-10%, Eosin-nil and the coagulation time was 3 min. Urine was normal.

On the third day after operation the patient developed cough, rales and ronchi over both lungs accompanied by a rise of temperature to 102°F.

Two tablets of Elkosin were given thrice daily for five days. On the 4th day the temperature touched normal. Elkosin was discontinued at the end of the fifth day. A WBC. count of 7,000 was recorded on the 3rd day. The patient was passing about 50 ozs. of urine daily during this treatment and he was discharged cured on 20-6-'50.

CASE 21:—Hindu, male, aged 23, was admitted on 7-6-'50 with strangulated inguinal hernia. He was operated on the same date, strangulation was relieved and herniorrhaphy was done.

Blood examination showed:—Hb. 70%, RBC. 4.5 mil/c.mm., WBC. 6,000 mil/c.mm., Poly-70%, Lympho-22%, Mono-8%, Eosin-nil and the coagulation time was 3 min. Urine was normal.

Eight hours after operation the temperature rose to 101°F. and remained steady for the next 24 hours. The patient had no other trouble except the fever.

Two tablets of Elkosin was administered thrice daily. After one day the temperature of the patient came down to 97.4°F. Immediately after the operation the patient had retention of urine which was relieved spontaneously after 24 hours. Since then the

patient was passing normal quantity of urine daily. A WBC. count of 6,500 was recorded on the third day. He was discharged completely cured on 17-6-'50.

CASE 22:—Hindu, female, aged 40, was admitted on 7-6-'50 with three pyamic abscesses; over the neck, the back and the left gluteal region respectively. The patient was extremely toxic and had a temperature of 102.6°F. All the three abscesses were hard without any sign of fluctuation.

The blood examination revealed:—Hb. 40%, RBC. 2.9 mil/c.mm., WBC. 13,500 mil/c.mm., Poly-80%, Lympho-10%, Mono-10%, Eosin-nil, and the coagulation time was 2½ min. Urine was normal, and the total quantity was about 50 ozs daily.

Both Elkosin and penicillin were administered. Two tablets of Elkosin was given thrice daily for 6 days and 50,000 units of penicillin were simultaneously administered at four hourly intervals for 10 days.

On the 4th day of treatment the temperature came down to 97.4°F. and the toxæmia disappeared. A WBC. of 12,000 was recorded on the third day. The patient was passing normal quantity of urine daily.

All the abscesses resolved spontaneously under this treatment and the patient was discharged completely cured on 24-6-'50.

CASE 23:—Hindu, male child, aged 2 years, was admitted on 2-6-'50 with an iliac abscess of the left side, and a temperature of 102°F.

The blood picture showed:—Hb. 45%, RBC. 2.9 mil/c.mm., WBC. 9,500 mil/c.mm., Poly-65%, Lympho-32%, Mono-1%, Eosin-2% and the coagulation time was 2½ min. The urine was normal.

Half a tablet of Elkosin was given thrice daily for 5 days and the temperature came down to normal at the end of the third day. Elkosin was discontinued on the sixth day. A WBC. count of 9,000 was recorded on the third day. The patient was passing normal quantity of urine (about 25 ozs. daily). The abscess was incised on 9-6-'50 and about 8 ozs. of pus drained. Post-operative recovery was uneventful. The patient was discharged on 18-6-'50.

CASE 24:—Hindu, male, aged 18, was admitted on 31-5-'50 with a fracture of the mandible 2 days previously. The patient had difficulty in articulation and mastication and the whole face was swollen and tender. He had a temperature of 100°F. The blood examination revealed:—Hb. 55%, RBC. 3 mil/c.mm., WBC. 12,900, Poly-80%, Lympho-15%, Mono-1%, Eosin-1% and the coagulation time was 2½ min. Urine was normal and the patient was passing about 50 ozs. daily.

Elkosin was given in 2 tablet doses thrice daily for three days. The temperature came down to 95°F after 24 hours. A WBC. count of 13,000 was recorded on the third day. The swelling of

the face disappeared gradually, in the course of four or five days and pain over the fractured region was also much diminished. The patient was passing normal quantity of urine daily during the treatment.

CASE 25:—Hindu, male, aged 25 was admitted on 2-8-'50, with a lacerated injury over the scrotum as a result of a car accident. The right testis herniated out through the wound and the sac of the testis was also torn and everted. The wound and the was sodden with mud and dirt was cleaned and under local anaesthesia both the sacs were everted. The interior of the scrotum was insufflated with sulpha powder and the wound closed. After 24 hours the patient had a sharp rise of temperature (102°F) and complained of pain in the scrotum.

The blood examination revealed:—Hb. 50%, RBC. 3.7 mil/cmm., WBC. 7,200 mil/cmm., Poly-72%, Lympho-20%, Mono-8% and Eosinophil-nil. The urine was normal.

Two tablets of Elkosin were given thrice daily, and the temperature came down to normal within 24 hours. At the end of the third day Elkosin was discontinued, and a WBC. count of 8,000 was recorded. Subsequent recovery was uneventful.

CASE 26:—Hindu, female, aged 25 was admitted on 4-8-'50 with gangrene (moist) of both legs. Her general condition was very low; she had extreme toxæmia with a temperature of 101°F. and a puffy face and œdematous extremities.

Blood examination showed:—Hb. 45 per cent, RBC. 3 mil/cmm., WBC. 13,000 cmm., Poly-76 per cent, Lympho-20 per cent, Mono-2 per cent, Eosin-2 per cent. The urine was pale yellow, had an acid reaction and traces of albumin and phosphates, but had no sugar, acetone or bile and blood. The total quantity passed in 24 hours was about 20 ozs.

The wound was dressed locally with vaseline and sulpha powder. Two tablets of Elkosin were administered thrice daily to counteract the secondary infection. After one day the patient developed nausea and the total quantity of urinary output in the next 24 hours was reduced to 10 ozs. Elkosin was immediately stopped; penicillin and an alkaline diuretic mixture were started. After three days the patient again passed 35 ozs. of urine in 24 hours. A WBC. count of 14,000 was recorded on the third day. The patient died of anæmia on 14-3-'50.

CASE 27:—Hindu, female, aged 36 was admitted on 25-7-'50 with a gluteal abscess of the right side of one months' duration. She had a temperature of 101°F and could not move her right thigh properly.

Her blood examination revealed:—Hb. 50 per cent, RBC. 3.5 mil/cmm., WBC. 13,400 cmm., Poly-85 per cent, Lympho-15 per cent, Mono-nil, Eosin-nil. Urine was normal.

Elkosin was given in two tablet doses thrice daily for four days. After 48 hours the temperature came down to 98°F. A WBC. count of 12,000 was recorded on the third day. The abscess was incised on 31-7-'50 and a lot of pus was let out. The abscess cavity was packed with roller gauze and sulpha powder. Recovery was uneventful and the patient was discharged on 15-8-'50.

CASE 28:—Male, aged 45, was admitted on 9-8-'50 with bilateral hydrocele and irreducible inguinal hernia of the right side.

The blood examination showed:—Hb. 60%, RBC. 3.5 mil/cmm., WBC. 8,200 mil/cmm., Poly-70%, Lympho-25%, Mono-2%, Eosin-3%. The urine was normal in every way.

He was operated on 15-8-'50 for both hernia and hydrocele. On the second day of operation he had a sudden rise of temperature to 102.6°F. Two tablets of Elkosin were given thrice daily for four days. The temperature gradually came down to 98°F in the course of three days. A WBC. count of 7,800 was recorded on the third day. Since then the patient was perfectly all right and was discharged on 27-8-'50.

CASE 29:—Male, aged 45, was admitted on 9-8-'50 with inguinal hernia of the right side.

Blood examination revealed:—Hb. 65%, RBC. 3.6 mil/cmm., WBC. 7,800 mil/cmm., Poly-64%, Lympho-30%, Mono-2%, Eosin-4%. His urine was normal. The patient was operated on 18-8-'50 and herniorrhaphy performed.

On the fourth day of operation the patient developed congestion, rales and ronchi over both lungs with slight expectoration and a temperature of 99°F. Two tablets of Elkosin *t.d.s.* were given for three days. At the end of the second day the patient's temperature came down to normal and both the lungs were clear. The patient was passing normal quantity of urine daily. A WBC. count of 5,500 was recorded on the third day. He was discharged from the hospital on 27-8-'50.

CASE 30:—Male, aged 27, was admitted on 21-7-'50 with acute appendicitis and a temperature of 100°F. Conservative treatment was given *i.e.* the patient was put in Fowler's position, everything was stopped by mouth, 100 cc. of 25% glucose solution was injected intravenously twice daily; rectal saline was started. After 12 hours the patient had a good motion and the abdominal pain disappeared but tenderness remained. The temperature remained steady over this period. After 24 hours, sips of boiled, cooled water were given by mouth, also 2 tablets of Elkosin thrice daily for five days. On the second day the patient's temperature came down to 98.4°F.

The blood examination revealed:—Hb. 56%, RBC. 3.5 mil/cmm., WBC. 9,800, Poly-78%, Lympho-15%, Mono-6%, Eosin-1%.

A WBC. count of 10,000 was recorded on the third day. Urine was normal. On the 4th day, a lump about the size of an egg was detected in the right iliac fossa. The patient was given Tinct. Belladonna by mouth and a course of milk injections. After about two weeks, the lumps disappeared and the patient was feeling perfectly all right. He was discharged on 28.8.50 and told to come for operation after two months.

Series II.—CASE 1:—A Hindu, male, aged 28, was admitted on 4.3.55 with bilateral hydrocele. His blood examination showed a WBC. count of 8,500/cmm. His urine was normal. He was operated on 9.3.55. The wound became infected and on the 3rd day after operation the temperature rose to 102°F. Elkosin was then given at 1 g. three times a day and the temperature came down to normal on the fourth day. The patient was passing about 50 ozs. of urine daily and a WBC. count of 9,000/cmm. was recorded on the third day. The local condition of the wound gradually improved and the patient was discharged on 27.3.55.

CASE 2:—Hindu, male, aged 35 years was admitted on 11.5.1955 with hydrocele of the left side. His blood examination revealed a W.B.C. count of 6,200 per cmm. and a differential count of Poly-60%, Mono-8%, Lympho-24% and Eosinophil-4%. The patient was operated 2 days later. On the second day of operation the patient developed a temperature of 103°F which was accompanied by pulmonary complications. Elkosin (1 g. three times a day) was started immediately and on the third day the temperature came down to 98°F. Excretion of urine during the treatment was normal. A W.B.C. count of 6,500 per cmm. was recorded on the third day. The patient was discharged on 27.7.55.

CASE 3:—A Hindu, male, aged 41 was admitted on 11.6.55 with filariasis of the scrotum and bilateral hydrocele. His blood examination showed:—Hb. 80%, RBC. 4.8 mil/cmm, WBC. 6,200 cmm., Poly-58%, Lympho-34%, Mono-4%, Eosin-4%. The bleeding time was 2 minutes and the coagulation time was 3 minutes. At the operation on 12.6.55 the filarial skin was excised and the sacs (tunica vaginalis) were everted. The temperature of the patient rose to 102°F on the fifth day of operation accompanied by pulmonary complications. Elkosin was given by mouth 1 g. three times a day and the temperature came down to normal two days later. A W.B.C. count of 7,000 was recorded on the third day. The patient was discharged on 29.6.55.

CASE 4:—Hindu, male, aged 29 years, was admitted on 7.7.55 with bilateral hydrocele. He was operated on 9.7.55. On the third day of operation the patient developed a temperature of 101°F and pus was found in the wound. Elkosin 1 g. three times a day was given for 3 days, and on the second day the temperature came down

to 98°F. The examination of blood before the operation revealed:—Hb. 85%, RBC. 55 mil./cmm, WBC. 7,500/cmm, Poly-68, Lympho-18%, Mono-10%, Eosinophils-4%, Basophils-0%. The coagulation time was 3½ minutes and the bleeding time was 2 minutes. A WBC. count of 8,500 was recorded three days after treatment. The excretion of urine was satisfactory all through. The local condition of the wound improved and the patient was discharged on 20.7.55.

CASE 5:—A Hindu, male, aged 23 was admitted on 17.7.55 with anal fistula, anal fissure, sentinel piles and internal hæmorrhoids (2nd degree). His blood examination showed a total WBC. count of 8,000/cmm. with a differential count of Poly-80%, Lympho-15%, Monocytes-4% and Eosinophil-1%.

On 22.7.55 the fistula was laid open, the fissure was removed by Gabriel's method and the internal piles were removed after transfixing and ligaturing the stumps. On the fourth day the patient had a sharp rise of temperature (103°F), was also dyspnoic and cyanosed. Both the lung fields were full of rales and ronchi. Elkosin was started immediately 1 g. three times a day. The temperature came down to normal on the third day and a WBC. count of 10,000 was recorded. The expectoration continued for another 4 or 5 days. Though the patient had retention of urine for 3 days following the operation, the total quantity of urine passed daily was between 50 and 60 ozs.

CASE 6:—A Hindu, male, aged 40 was admitted on 6.8.55 with pain in the left loin of six weeks' duration, the pain was accompanied by a moderate rise of temperature. On examination it was found to be a case of perinephric abscess. The blood examination revealed a WBC. count of 18,000 cmm. and a differential count of Poly-95%, and Lympho-5%. The abscess was drained on 7.8.55 but the temperature did not come down for 2 days. Elkosin was started (1 g. *t.d.s.*) on 9.8.55 and the temperature came down 24 hours later. It was then stopped on the third day.

Discussion.—None of the patients received systemic administration of alkalies along with Elkosin but all were encouraged to drink large quantities of water during the period of treatment. The daily output of urine was recorded in all cases; in only two of them was there a diminution in the quantity of urine. A routine WBC. count was made in every case on the third day after administration of Elkosin. On an average each patient was given a total dose of 10 g. of the drug *i.e.*, 20 tablets by mouth. Some of the patients had penicillin therapy as well, at the same time.

Of these cases, only three died (Case No. 2, a very toxic case of meningitis; Case No. 9 of shock and Case No. 26 of gangrene). The rise in temperature was effectively controlled by this drug.

Most of the 36 cases had normal blood pictures. Only a few showed a leucopænia or leucocytosis. But none who had leucopænia developed toxæmia or agranulocytosis during the course of the treatment, manifestly due to the relatively smaller dose of the drug used, indicating that Elkosin may be safely administered in small doses even in leukopænia.

Two of the patients showed signs of partial suppression of urine while having Elkosin which was immediately stopped and replaced by penicillin. An alkaline diuretic mixture was given. One of the patients recovered but the other died. Both the patients had damaged kidneys before starting treatment as evidenced by the presence of albumin in the urine. Elkosin like other sulpha-drugs is contraindicated in cases with damaged kidneys or even in patients who excrete albumin in the urine. All the other cases reacted well, so far as the excretion of urine was concerned. Of course acetylation does take place with Elkosin but possibly on a much smaller scale as compared with other sulpha preparations. In this series eight patients were below eight and all but one tolerated Elkosin well.

In the above investigations an ideal method would have been to estimate the concentration of the drug in the blood plasma by bio-chemical means at the time of administration of the drug, and also the concentration of both the free and the conjugated forms in the urine. But unfortunately such bio-chemical investigations could not be carried out for want of adequate laboratory facilities.

Summary.—From the results of the clinical trial it would appear justifiable to state that Elkosin is tolerated very well, and is effective in comparatively low doses and can therefore, be safely given even to small children. It is excreted rapidly in the urine under normal conditions and it has been found by clinical trial that the simultaneous administration of alkalies is not essential. Elkosin, like any other sulpha-drug is contraindicated in patients with damaged kidneys.

My grateful thanks are due to :—Dr. A.N. Mukherji, F.R.C.S. who has kindly permitted me to publish the case reports (the first half of the investigations were carried out by me while working as his House Surgeon at the R. G. Kar Medical College and Hospital, and also to Messrs. Ciba Pharma Ltd., who supplied Elkosin free to the poor patients in the Hospitals.

DIAGNOSIS OF INTESTINAL POLYPOSIS

Melanin spots should suggest a diagnosis of intestinal polyposis, especially if unexplained abdominal pain, with or without melena, is associated. The syndrome is transmitted as a mendelian dominant characteristic. The flat, discrete, bluish-brown or black deposits, 2 to 4 mm. in diameter, are found in the perioral region, on the vermilion border of the lips, and, most frequently, on the buccal mucosa and the palates. In some instances, the spots may occur on the palms of the hands and the soles of the feet. R. M. Pool, M.D., Capt. Charles E. Guice, M.C., U.S.A.F., and J. L. Farringer, Jr. M.D., of the University of Tennessee and the John Gaston Hospital, Memphis, believe that patients with the pigmentation should have radiologic examination of the stomach, small intestine, and colon.—(*Modern Medicine*, August 15 1955).

NUTRITIONAL DISORDERS OF THE SKIN IN THE TROPICS*

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THIS paper covers a large number of tropical skin diseases caused by or associated with disorders of nutrition. The chief organs of nutrition are the alimentary canal, the liver and the pancreas. Any derangement of these organs leading to defective digestion may cause repercussions on the skin in the form of urticaria, chloasma, rosacea, eczema etc. Auto-intoxication plays a large role. The liver has a detoxicating function associated largely with its glycogen concentration. Urbach's elaborate work indicates that disorders of nutrition can cause infantile eczema. The intestinal mucosa also has a detoxicating function. Our body metabolism is largely concerned with nutrition and therefore, skin diseases arising from faulty metabolism should come under this group. Gout arises from a disorder of the uric acid metabolism and is often associated with skin diseases—such as tophi and eczema, furunculosis, carbuncles, cellulitis, xanthoma diabeti-corum associated with diabetes mellitus. Hypercholesterolaemia is present in xanthomas and this is associated with hepatic disorders. There are in addition some nutritional idiosyncracies, to be considered, e.g., food allergy. After ingestion of certain food stuffs the appearance of urticaria or acute eczema is a common occurrence in many persons. Diet plays an important role in the nutrition of our integument, its water balance and the state of acidosis or alkalosis. Urbach in his cutaneous dietotherapy in the Vienna clinic has shown that cutaneous acidosis occurs in animals fed with oatmeal, that such a condition increases cutaneous reactivity and thereby promotes healing of wounds. There is more potassium and less calcium in the skin. On the other hand alkalosis is caused by feeding with green vegetables and this gives rise to lessened cutaneous irritability due to the fact that there is more calcium and less potassium in the skin. Concentration of salt, non-protein nitrogen and sugar in the skin, has been shown to be related to our diet. Gerson's salt-free diet is an example, for inducing alteration in metabolism.

Nutritional disorder or malnutrition may either take the form of over-nourishment or under-nourishment. In over-nourishment, the following skin conditions have been known to occur—xanthoma diabeti-corum, obesity and exudative or weeping eczema in infancy.

* Specially contributed to the ANTISEPTIC

Obesity is a skin disease and obese persons are liable to intertriginous dermatitis under the breasts, groins and pubis. In under-nourishment on the other hand, the skin is pale, dry and cracked and is liable to infections. Nutritional oedema with hypoproteinaemia was commonly seen during the great Bengal famine. Chloasma cachecticorum, scaliness, petechiae, dystrophy of nails, alopecia and war oedema have been known to occur. There are specific instances of malnutrition due to the use of flour. Babies with diarrhoea fed on barley water and porridge with little or no milk for weeks on end develop pallor and furunculosis. On the other hand, too much milk with little or no sugar gives rise to skin pallor and soapy stools. Food rich in unsaturated fatty acids, such as fresh lard, one to two ounces given daily to infants has been reported to cause definite clinical improvement in infantile eczema. Lichen urticatus, prurigo, pruritus are supposed to be caused by nutritional disturbances.

In this paper, I propose to deal only with skin lesions caused or strongly suspected to be caused by avitaminosis. Vitamins according to Muller's definition are "elements essential to the maintenance of bodily structure, function, growth and regeneration and are totally incapable of being synthesised from basic substances contained within the body." A vitaminosis occurs either due to deficiency of vitamins in our food or its deficient absorption into our system. The former may be called dietary avitaminosis or hypovitaminosis and the latter dysvitaminosis. It may be stated here that in skin conditions more than one vitamin is usually involved and most deficiencies involve multiple factors.

Fat-soluble vitamins are A, D (D₂=calciferol, D₃), E, H and K.

Vitamin A—Halibut fish liver oil is the important source of this vitamin. The vitamin is also present in butter and egg yolk.

Its provitamin is called *carotene* which is an orange-red pigment present in carrots, tomatoes, etc. Our daily normal requirement is about 60 i.u. per kg. of body weight (4000 to 6000 i.u. for an adult). The liver normally stores 78 to 80% of vitamin A. This vitamin is necessary for the well-being of epithelial structures of the skin and mucous membranes. It modifies the process of keratinisation. Visual purple and violet are developed from it. Deficiency leads to: (1) dryness and roughness of the skin and absence of perceptible sweating, (2) follicular keratosis called phrynoderma, (3) xerophthalmia, "Bitot spots" i.e., circumscripted areas of xerosis of conjunctiva, (4) sometimes pigmentation and (5) diarrhoea, neuritis and weakness.

Deficiency can be diagnosed in the laboratory by dark adaptation test of the eyes. Carotene in blood serum can also be estimated spectrophotometrically. The chemical test called Carr-

Phrynoderma: avitaminosis A.—The condition though not uncommon in India, was not recognised till a few years ago as being due to A deficiency. The name is derived from a Greek word *phryne* which means a toad and hence the condition is also called toad-skin. The skin is dry and rough. The distinctive feature is a follicular keratosis i.e., an accumulation of keratinised epithelium in the orifices of pilo-sebaceous follicles leading to the formation of closely-set rounded dome-shaped hard papules, which mainly affect the extensor surfaces of the body (the outer surfaces of arms, anterior and external aspects of thighs). There is no pus in the lesions as in pustular folliculitis. It is difficult to say whether a deficiency of vitamin A is the specific cause. The following results recorded in a series of cases do not suggest vitamin A deficiency which may, if at all, be one of the factors.

	Carotene	Vitamin A
Plasma 100 cc.	139	113
Control	130	116
Phrynoderma		

At least 100,000 i.u. should be given by mouth daily for at least four months. No toxic symptoms occur with a heavy dosage.

Darier's disease, pityriasis rubra pilaris, which we occasionally come across, also benefit by vitamin A therapy. *Darier's disease*, also called "keratosis follicularis" or psorospermiosis follicularis, is a specialised form of follicular keratosis. There are reddish papules on the neck and sides of the trunk, which gradually turn dark brown. On section, characteristic epithelial cells called "corps ronds" are found in the granular layer of the epidermis. On examination of the plasma, 77 i.u. of vitamin A are found as compared with 113 in control cases. Leitner and Moore (1948) administered a daily dosage of 240000 i.u. of vitamin A and recorded a rapid rise of blood level of A but very poor therapeutic result as a rule. Vitamin A alone does not cure the condition and for these reasons, the disease cannot be considered to be due directly to A-deficiency. Liver test shows that there is diminished hippuric acid excretion and it is therefore, probable that impaired liver function interferes with the utilisation of vitamin A. A daily dose of at least 100,000 i.u. should be tried in the disease.

Pityriasis rubra pilaris or *Devergie's disease*:—Is a chronic affection characterised by lesions of small, red conical or round, hard, papules about the hair follicles on the limbs and trunk and by redness and extensive scaling. The presence of papules on the hairy regions on the back of the fingers is characteristic. Psoriasiform scaliness is also characteristic; the face and the scalp are often the seats of such a condition. Deficiency of vitamin A is suspected to be the cause although the dark-adaptation test does not reveal any deficiency in most cases. The disease is reported to be common in

prisoners of war after 6 months' captivity. It is so chronic that it may persist for several decades inspite of the best phases of health. Vitamin A should be given in adequate daily dosage (100,000 to 400,000 i.u.) for 4 to 6 months to improve the condition. Vitamin C also should be given along with A. Locally lichen paint and strong salicylic ointment are useful.

Ichthyosis or fish-skin disease:—Introduced by me in the pharmacopia of the Calcutta School of Tropical Medicine is a congenital hyperkeratosis of the horny layer of the epidermis. Diamond-shaped or polygonal dirty scales resembling fish scales are present in the severer forms. Scales are remarkably absent in the flexures and the disease improves or it may disappear altogether during the hot weather. The term "Xeroderma" is applied to a mild form of the disease. In prisoners of war, ichthyosis especially on the shins has been noted. Large doses of vitamin A give some relief. The underlying cause may be a congenital inability to utilise vitamin A. Hypertonic warm saline baths followed by massage with glycerinated olive oil or pure white vaseline should also be advised. Thyroid extract and iodine injections are of no value.

The following skin conditions are also reported to benefit by vitamin A. Acne vulgaris (150,000 to 200,000 i.u. daily for 4-6 months); alopecia, brittle nails, kraurosis vulvæ, (oestrogenic hormone also to be given), reduced resistance of the skin and the mucous membrane, senile and seborrhœic keratosis.

Vitamin D (D_2 =synthetic calciferol and D_3):—A deficiency of these does not give rise to any skin disease, although this vitamin is manufactured in the skin. Provitamin ergosterol is present in the epidermis which is converted into D by the photo-chemical action of ultra-violet rays. The normal adult requirement is 500 i.u. per day. Lupus vulgaris and other tuberculous skin affections benefit by D_3 but a deficiency of D_2 does not render the skin liable to a tuberculous infection. D_2 probably acts by enhancing the action of phosphates in the tissues and influencing calcium metabolism. 600,000 units should be given intramuscularly every week for a prolonged period along with calcium gluconate by mouth; plenty of milk, should be used, and salt restricted. It is reported to be useful in scleroderma, impetigo herpetiformis and in some allergic dermatoses and in massive doses in psoriasis.

Vitamin E or tocopherol.—This was discovered by Prof. Evans in 1922. It is an anti-oestrogen or antisterility vitamin. It is stored very well in a rat's body. Green leaves and embryos of seed are best known sources of this vitamin. Its deficiency does not give rise to any skin disease, though it has been reported to be of undoubted value in sclerosis of the legs associated with ulceration.

Vitamin H (Biotin).—This is a B_7 -complex vitamin reported to be useful in seborrhœic dermatitis and eczema.

Vitamin K.—This is an anti-hæmorrhagic vitamin present in large quantities in spinach. Its deficiency does not give rise to any skin disease but it leads to hypoprothrombinæmia and delay in coagulation as its function is to form prothrombin; also to impairment in the nutrition of the capillary vessel walls and consequent increased permeability. Vitamin K in the form of Kapon (Glaxo) or Synkavit (Roche) is given in urticaria, chilblains, purpura and congenital vascular nævi. Bile salts help in the quick absorption of vitamin K.

Water-soluble vitamins.—They comprise vitamin B-complex which includes B_1 (aneurin or thiamin) and B_2 complex which includes riboflavin or lactoflavin, niacin or nicotinic acid, pyridoxin, pantothenic acid, cholin, inositol, para-amino benzoic acid, biotin, folic acid, cobalamine, B_{12} group etc.

Vitamin B_1 .— B_1 deficiency does not usually lead to any skin disease. This vitamin is concerned with the nutrition of nerve tissue and the oxidation of carbohydrates. The normal requirement is 1 to 2 mg. daily. It is extensively used in this country is acute leprous neuritis but with doubtful benefit. In fact, miraculous relief is obtained by parenteral glucose or streptomycin in such a condition. The vitamin is reported to be useful in neuritis and neurodermatoses, pruritus, hyperæsthesia, post-herpetic neuralgia, lichen planus and seborrhœic dermatitis. It is the vitamin to use in beri-beri; and is also useful in diabetes and intestinal atony.

B_2 complex.—Riboflavin, nicotinic acid and folic acid are the three important ones, which are present in yeast, liver, eggs, cheese and also in meat, fish and groundnut. Yeast contains all the constituents of B_2 . An adult needs 2 to 3 mg. a day.

B_3 -Riboflavin.—This vitamin is concerned with cell-respiration. In the *in vitro* experiments conducted by me, a marked inhibition occurred in the growth of Morax-Axenfeld's bacillus only and not of any other common laboratory micro-organisms.

A deficiency of the vitamin leads to a condition called *ariboflavinosis* which is confined to the areas of the head and mouth. Clinical examples are angular conjunctivitis, angular cheilitis characterised by maceration and fissures at the angles of the mouth, 'cheilosis' or perleche—characterised by thickening, dry scaling and cracking of lips, occasional scrotal dermatitis, seborrhœic dermatitis of naso-labial grooves and ears, dry and red glazed tongue, interstitial keratitis and alopecia. Its deficiency can be easily diagnosed by noting the red fluorescence on the tongue under ultra-violet light. Scrotal dermatitis, seborrhœic eczema of the nasal area and perleche were found in prisoners of war.

Perleche due to ariboflavinosis must be distinguished from streptococcal perleche and contact dermatitis arising from tooth paste or lipstick. Frankland (1948) cured mild forms of scrotal

dermatitis by administering marmite in 28 g. daily dosage for 8 days. Relapses occurred with a low vitamin B-complex diet. The disease is now treated successfully with riboflavin or lactoflavin 2 tablets (1 mg. each) three times a day or by injection. In angular conjunctivitis, when zinc sulph. 0.5% alone and riboflavin alone were given, the latter was found to be much superior to the former.

Nicotinic acid (Niacin).—Nicotinamide or nicotinic acid amide is an improvement and is less toxic, and resists ordinary cooking.

This vitamin exerts an enzymic action in reversible oxidation and reduction in the tissues and in the formation of the precursors of melanin. Its deficiency leads to pellagra, glossitis and stomatitis. The vitamin is used in pellagra, sprue, intolerance to sulphonamides and vitiligo (Allison *et al.*, 1945; Hathaway, 1945), rosacea (50 mg. daily along with 10 mg. of riboflavin) and in Pink disease. The normal adult daily requirement is from 11 to 20 mg. A man weighing 115 lbs. would require 10.5 mg. daily.

Pellagra (Lombardian leprosy).—The name is derived from an Italian word *pelle* meaning skin and *agra* meaning rough. The disease is endemic in Italy and in the Southern States of U.S.A., where the death records show a high incidence.

So far as I am aware, the first case in India was reported by me in 1935 (*Archives of Derm. and Syph.*, Vol. 31). Vitamin deficiency was not known to be the cause at that time. Miss Chick in London working on the disease thought a toxalbumin in maize was the probable cause. In fact, in my case, no nicotinic acid was used and the disease was cured by improved diet and auto-hæmotherapy. The history of the disease is associated with the eating of maize which is a cereal of American origin. Maize-eaters were prone to pellagra. The pellagra problem was at last solved by Goldberger. The first complete description of the disease is given by a Spanish physician, named Casal. The disease is not known to be due to a faulty diet, deficient in vitamins, particularly nicotinic acid.

Pellagra is a multiple deficiency disease, as deficiencies in riboflavin and B₁ co-exist. The disease is prevalent notably in summer and almost disappears in winter to recur in spring and summer. This is probably due to the fact that the skin in a pellagra is hypersensitive to the sun. Hypersensitivity is caused by porphyrin that accumulates in the skin. Females are more often affected. The disease affects the skin, the alimentary canal and the nervous system: the three *Ds.* viz., dermatitis, diarrhoea and dementia.

Skin.—Exposed parts of the body, e.g. the face, neck, wrist, back of hands, dorsum of the feet, lips and tongue are liable to be affected. The term 'Pellagra glove and shoe' are commonly used to name the skin conditions. The term 'pellagrin nose' is used when the nose is characteristically affected with a butterfly distribution

across it. Here in India, the face and nose are not usually involved. The following stages have been noted:—Erythema which is sharply demarcated and symmetrical, hyperkeratosis or thickening, desquamation or scaling, brownish black pigmentation and finally atrophy or scarring. Burning and itching are often present. Besides, there may be painful fissures and ulcerations on the lips and cheeks. A section of the skin shows the rete Malpighii and the dermis are found infiltrated with cells.

Alimentary system.—Salivation, sore mouth, sore tongue, attacks of diarrhoea and consequent loss of weight are present. Fatty degeneration of the liver and ulceration in the intestine occur.

Nervous system.—Dementia is a frequent symptom. It is due to degenerative changes in the C.N.S. There is degeneration of the cells of the spinal ganglia. The cells of the brain cortex are found swollen and disintegrated and neuralgia is increased. Vertigo is very common. Mania and ataxia may follow. Death occurs in the majority of cases, if untreated.

Infantile pellagra is characterised by copper-coloured skin, alopecia, hyperkeratotic dark coloured patches on the trunk and limbs, angular stomatitis, œdema of the feet and diarrhoea.

TREATMENT.—Nicotinic acid 100 mg. daily parenterally or 100 mg. three times a day orally. Pelonin 50 mg. thrice daily should be tried first. If there is no improvement in a few days, 2 tablets three times a day should be given. Nicotinamide causes very little unpleasant reactions and should be tried in sensitive cases. B-complex as a whole should also be given in the form of Brewer's yeast, added to the diet or of liver extract. A supplementary medication by riboflavin and thiamin should also be prescribed. Acid hydrochloric dil. should also be advised with advantage. A balanced diet without sugar is indicated. In urgent cases, intravenous glucose and blood transfusion are necessary. In infantile pellagra, liver preparations, marmite and yeast are very useful.

Pink disease (Infantile acrodynia, infectional erythredema polyneuritis).—The disease was first described by Selter in 1903. It is relatively common in Australia. Usually young children of 6 months to 4 years of age are victims. It is caused by deficiency of B-complex or multivitamins, the latter being more probable or to bacterial infection but no micro-organisms have been isolated. Clinically, there is painful, pink swelling of hands and feet and often of the tip of the nose, dotted over with hæmorrhagic puncta. The skin later peels off. Sore throat, fever, irritability, marked photophobia are present. The disease is frequently fatal.

TREATMENT.—Nicotinic acid, yeast, liver extract, fruit juices, and multivitamins should be given. Injections of B-complex with liver are indicated in urgent cases.

Pyridoxin (B₆).—This B-complex facilitates the utilization of available riboflavin and is therefore, used with benefit in cheilosis. Deficiency leads to scaly skin disease in rats. The vitamin is also used in Parkinsonism.

Pantothenic acid.—This vitamin contains an anti-gray hair factor, because it is essential for the integrity of the suprarenal gland. But its use in large doses over prolonged periods does not restore hair colour. It is reported to be useful in the burning syndrome of hands and feet. I have used the drug in cases of leprosy complaining of the above symptoms with some measure of success.

Para-amino benzoic acid (PAB).—An anti-gray hair factor is present in this vitamin. Its usefulness in gray hair has been demonstrated in animals but it has been of no use in man, though canities (gray hair) and alopecia in children are associated with avitaminosis.

Vitamin C (ascorbic acid).—This vitamin assists in proper functioning of the capillary endothelium and maintenance of the vascular tone. It also plays some role in pigment metabolism. Besides, it serves as a reducing agent and plays its part in tissue respiration and oxidation. It is also concerned in the formation of specific antibodies. An intimate relationship to adrenal cortical function also exists. Natural sources of this vitamin are fruits, green vegetables, liver and potatoes. Highest proportion is present in black currants. A large quantity is present in guava. Normal requirements are 50 to 100 mg. daily (1000 to 2000 i.u.) for adults. It is destroyed by cooking.

Its deficiency leads to (i) petechial follicular capillary hæmorrhages demonstrable by tourniquette test on thighs and legs; (ii) scurvy (scurbutus). This is really due to multiple deficiencies and is characterised by purpura on legs, pain in the calves, ulceration and sponginess of gums and mucosa (stomato-gingivitis), halitosis and gastro intestinal disturbances; (iii) colloid degeneration of the skin; (iv) follicular keratotic papular lesions (similar to those found in A-deficiency); (v) pigmentation, on account of the fact that adrenals need a certain amount of Vitamin C for their proper functioning.

Vitamin C is used in the following conditions:—(1) Purpura, scurvy and infantile scurvy—50 mg. three times a day. 10 to 20 tabs. i.e., 500 to 1000 mg. may be given without any toxic effects. Orange and tomato juices also should be given. (2) Hyperpigmentation, such as chloasma and melanoderma. (3) Arsenic and gold dermatitis. 500 mg. daily for 1 week intravenously. Sometimes daily doses of 1000 mg. are not excessive. No toxic effect. It is better to give vitamin C when treating a case with NAB, so as to avoid the onset of arsenical dermatitis.

It is reported to be useful in the following conditions:—Allergic or atopic dermatitis, chronic urticaria, indolent ulcers, varicose eczema, pruritus, psoriasis, herpes zoster, Sjogren's syndrome (anæmia with skin and mucous membrane lesions).

Vitamin P (Rutin, Hesperidin) found in citrus fruits is an anti-hæmorrhagic through its action on capillaries. It is used in scurvy and purpura and is useful in psoriasis and in cases of increased capillary fragility.

Carotenæmia.—Excessive eating of oranges, tomatoes, carrots and eggs may lead to the appearance of carotene in the blood and give rise to an orange-coloured dyschromia of the skin.

Ulcers tropicum.—(Vincents' ulcer, tropical phagedenic ulcer). The disease is regarded by some to be caused by nutritional deficiencies. But I have reproduced typical ulcers on healthy persons without evidences of any vitamin-deficiency, by intradermal inoculation of fusiform bacilli isolated from natural ulcers and cured all the cases with penicillin alone.

Conclusion.—Vitamins play a large part in many cutaneous disturbances. Some conditions are definitely caused by a lack of one or more of them while others are associated with their deficiencies and are relieved by their administration and an improvement in the dietary. Endocrines exercise a marked influence in many skin diseases either directly or through their effect on the absorptive gland both directly and indirectly exerts a profound effect on the utilization and metabolism of carbohydrates, proteins and fats. A deficiency of the thyroid hormone has been reported to impair the conversion of carotene into vitamin A. The thyroid hormone increases the yield of milk in cows. Ascorbic acid is intimately related to adrenal cortical function. Other nutritional disturbances such as faulty digestion, defective metabolism and auto-intoxication also play an important role in the well-being of our integument.

TREATMENT FOR PELVIC INFLAMMATION

The ætiology of pelvic inflammatory disease is varied, and evidence of specific origin is generally lacking. Staphylococci and the coli-aerogenes group are frequent causative agents, though the organisms are also common inhabitants of the vaginal tract of healthy women. Gonococcus or streptococcus is often isolated.

Pelvic inflammation frequently recurs or exacerbates and often causes chronic sequelæ. The predominant symptoms are chills and fever, low abdominal pain, and nausea and vomiting. Vaginal or urethral discharge is not a common occurrence.

The abdomen and pelvic areas are tender. Specific inflammatory masses are usually demonstrated only after the disease has subsided and has been localized by therapy. In the early phase, strict bed rest with the head of the bed elevated is

advocated. Constant heat is applied to the lower abdomen, and warm douches are administered after the acute phase of the disease has subsided.

A liquid diet is gradually altered to a low-residue diet as the patient improves. Many patients require parenteral fluids in the early phases of the disease. Patients with peritonitis or who vomit are not fed by mouth until the symptoms disappear.

Penicillin is the primary agent used, and Terramycin, Aureomycin, and Chloromycetin are generally reserved for patients who do not respond to penicillin.

Initial dose of aqueous penicillin is 300,000 units given intramuscularly. Subsequently, 100,000 units of the agent is administered every three hours.

If procaine penicillin is used, 600,000 units is the total daily dose given in two divided injections. Dose of a broad-spectrum antibiotic is 500 mg. every six hours.

Surgery is recommended only if a neoplasm is suspected, medical management is not successful, or the disease progresses and the possibility of appendicitis has not been eliminated.

Surgery should be delayed until the disease recurs frequently and interferes with work or regular activity. Vigorous conservative management should always be attempted first.

When operation is performed, total removal of the uterus and adnexa is advisable.—(*Modern Medicine*, 1-9-1955).

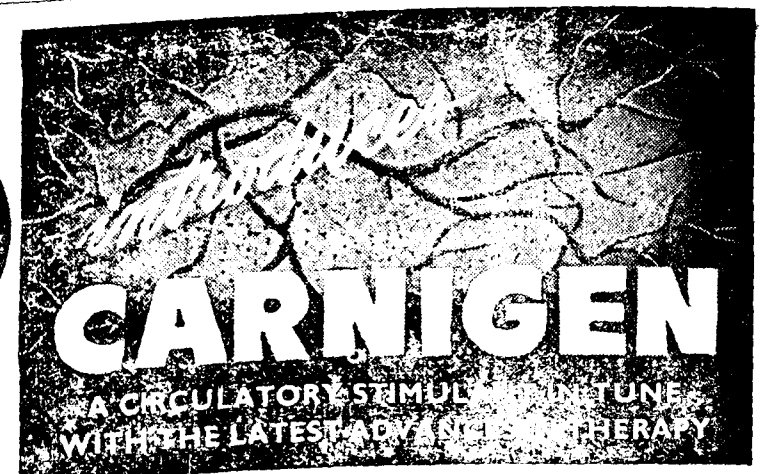
AN EVALUATION OF MODERN TREATMENTS OF ECLAMPSIA

A review of 1,718 cases of eclampsia from various reports has been completed to determine the forms of treatment which are most efficacious.

While the aetiology of eclampsia remains unknown, various theories have been advanced as to the cause of the convulsions. These include cerebral oedema, sodium-ion retention, hypertension, and cerebral dysrhythmia. Modes of therapy have been based upon these various possible causes. Reports of various investigators indicate that sedation in eclampsia results in a maternal loss of 75 per thousand and a perinatal loss of 29.17%. The maternal loss with the use of avertin has been reported as low (40.3 per thousand) but foetal and neonatal deaths average 32.58 per cent.

At the West Middlesex Hospital, London, England, a programme of veratrine therapy has been investigated in 80 eclamptic patients. The preparation is a 2.5 mg. per cc. aqueous solution of the ether-soluble alkaloids of veratrum viride. This medication exhibits a wide range of safety with a good therapeutic response. On admission, 0.6 cc. of veratrine is given intramuscularly. After 30 minutes this is repeated until the systolic blood pressure reaches 120 mm. Hg., or the pulse drops to 60 per minute. Thereafter it is given only if the blood pressure exceeds 150 mm. Hg., or if the patient exhibits pre-eclamptic symptoms, provided the limits of safety noted are not exceeded. While veratrine is given, 50 per cent magnesium sulphate is also administered in doses of 5 to 10 cc every 6 to 12 hours up to 8 days. Close observation is essential. No sedation is required except in very restless patients.

Under such a programme there were 2 maternal deaths; both patients had been admitted in coma from cerebral vascular accidents. Among the 80 patients, the perinatal mortality was 27.5 per cent. These results with veratrine therapy, combined with other reports of its use, indicate an average maternal death rate of 18 per thousand and a perinatal loss of 29.17 per cent.—(*J. Obst. Gyn. Brit. Empire*, 1954, 61: 590, (via *Int. Abstract of Surgery*).



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LABORATORY DIAGNOSIS IN CLINICAL MEDICINE*

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Two articles on this subject appeared in the September and October 1949 issues of the *ANTISEPTIC* respectively. The laboratory data given in a concise form in these articles were of great use to the undergraduates. Additional data are now presented in this article, which would be helpful not only to laboratory workers but to medical students also.

Haemagglutination (influenza).—Dilute suspensions of influenza virus cause agglutination of red cells of fowls and other birds, of man, of guinea-pigs and of some other animals. Other red cells, among which are those of the rabbit, mouse, ox and sheep are relatively insusceptible. This haemagglutination is due to the virus particles themselves and is specifically inhibited by anti-influenza serum. The virus particles attach themselves to specific receptor groups on the surface of two or more red cells so that a 'lattice' of agglutinated cells is built up.

Elution.—If the agglutinated red cells are incubated at 37°C. the virus destroys the red cell receptor groups and again becomes free in solution. The virus itself is unchanged and can agglutinate a second lot of red cells, just as an enzyme is unaffected however much substrate it changes.

Cold agglutination.—In some cases of virus pneumonia 'cold' agglutinins, *i.e.*, agglutinins acting on human "O" group red corpuscles at 0°C, but *not* at 37°C, can be demonstrated in fairly high titre and may be of value in diagnosis, though it must be remembered that they may occur in other diseases like paroxysmal haemoglobinuria, tropical eosinophilia and trypanosomiasis; also found in titres of 40 or higher in 68.8 per cent of 200 cases of primary atypical pneumonia.

Prolonged bleeding time and normal coagulation time.—Platelets may be considered as being concerned in arresting haemorrhage in two ways. One is by plugging the opening of a bleeding small vessel. When they are greatly reduced in number, the agglutinate formed by the accumulation of platelets is insufficient in size or strength to plug the defect. Bleeding time is therefore, prolonged. In addition to this function, platelets play a role in initiating coagulation, which they do by breaking down and liberating thromboplastinogenase. For this purpose, not many are needed and therefore, the coagulation time in purpura haemorrhagica is normal. To bring about a retraction of the clot, additional platelets are

*Specially contributed to the *ANTISEPTIC*.

[931]

required and, as these are scarce the clot fails to retract. The excessive capillary fragility manifested by the positive tourniquet test suggests a vascular defect or a lack of the platelets needed to maintain capillary integrity under conditions of increased pressure.

Fragility of the erythrocytes.—*Sanford method*:—Prepare a stock solution containing exactly 0.5 g. chemically pure and freshly dried sodium chloride in 100 cc. of distilled water. Weigh accurately on a delicate balance and measure in a volumetric flask.

2. Arrange a series of 16 small test tubes in a rack and number them 25, 24, 23, down to 10.

3. With a capillary pipette, place in each tube the number of drops of the stock 0.5 per cent saline solution indicated by the number on the tube. To ensure uniformity in the size of the drops, the pipette must always be held at the same angle, so as to obtain accurate results.

4. With the same pipette add to each tube, the number of drops of distilled water required to bring the volume in each tube to 25 in each. Mix well. The percentage strength of the sodium chloride in any tube may then be found by multiplying its number by 0.02.

5. Obtain 1.0 or 1.5 cc. of the patient's blood from a vein with a small dry sterile syringe and No. 21 needle, and immediately inject 1 drop into each of the 16 tubes. Mix each tube by inverting once or twice.

6. If the blood is not added at the bed-side, collect 2 cc. with a syringe and place in a centrifuge tube carrying 0.2 cc. of a 3.8 per cent solution of sodium citrate to prevent coagulation. Mix well, centrifuge thoroughly. Discard the supernatant fluid. Mix 0.7 per cent saline solution equal to the volume of erythrocytes to obtain a 50 per cent suspension. With a syringe and No. 21 needle add 1 drop to each tube of the test.

7. At the same time prepare a similar set of tubes with the blood of a normal individual as a control. The results observed with the control blood should always be reported at the same time.

8. Allow the tubes to stand for 2 hours at room temperature, at the end of which time the corpuscles will have settled to the bottom and hæmolysis may be recognised by the colour of the supernatant fluid. Faintly pink if hæmolysis is partial, and red with little or no sediment, if it is complete. Normal—0.44 or 0.42 (minimal)—0.34 (maximal).

Prothrombin time.—**SOLUTIONS REQUIRED**:—(i) *Sodium oxalate solution*—dissolve 1.34 g. of chemically pure anhydrous sodium oxalate in 100 cc. of distilled water—M/10 sodium oxalate.

(ii) *Calcium chloride solution*:—Dissolve 0.275 g. of chemically pure anhydrous calcium chloride in 100 cc. of distilled water, check

the strength of the solution by titration against silver nitrate solution—M/40 (approx. M/40: 0.28 g).

Thromboplastin solution.—(a) From rabbit's brain; (b) Russell's viper venom—1 in 20,000 solution of Russell's viper venom gives a patent thromboplastin solution; kept in a refrigerator with Toluene it retains full potency for more than a month.

Technique of the test:—Take 0.5 cc. of sodium oxalate solution in a centrifuge tube, collect blood in a dry syringe and put 4.5 cc. into the centrifuge tube containing the oxalate solution and mix well.

Centrifuge until the plasma separates completely. Place exactly 0.2 cc. of the plasma in three tubes and place them in a water bath at 37°C. Add to each tube 0.2 cc. of thromboplastin solution and 0.2 cc. of calcium chloride solution.

Note the time when the calcium chloride solution is added, shake gently keeping the tubes in the water bath and again note the time when the clot first appears. Repeat the experiment with the other two tubes. Take the mean of the three readings. The normal is 15 to 25 seconds.

NOTE:—The addition of ovolecithin to Russell-viper venom shortens the coagulation time and the results are markedly uniform—10 to 15 seconds.

Infectious mononucleosis.—The total leucocyte count rarely exceeds 20,000, but the percentage of mononuclears may be from 50 to 95 percent of the total count so that at first a distinction from lymphatic leukæmia may be impossible. In infectious mononucleosis marked agglutinins for sheep red corpuscles (heterophile antibody) appear in the blood and this may be of value in diagnosis (Paul Bunnell test) Agglutination with the patient's serum in a dilution of 1:256 or more may be regarded as positive. A positive reaction may not develop until late in the disease, i.e., eleven weeks after onset (Himsworth). The antibody differs from that appearing in serum disease. In infectious mononucleosis the agglutinins for sheep blood corpuscles are absorbed by those of the ox, but not by a suspension of guinea-pig's kidney, whereas the agglutinins developed in serum disease are not absorbed by the ox red-cells, but are reduced by contact with guinea pig's kidney. Normal serum may agglutinate sheep cells in a dilution up to 1:128.

Qualitative tests for proteins (C.S.F.).—NONNE APELT'S TEST:—**Phase 1 for globulin**:—In a small test tube place 2 cc. of spinal fluid and 2 cc. of the ammonium sulphate reagent (85 g. and 100 cc. of distilled water—dissolve by boiling, cool slowly and filter). Allow to stand for 3 minutes. Compare with spinal fluid. A normal fluid gives no reaction or only a faint opalescence.

Phase 2 for albumin:—Filter contents of the tube just prepared, acidulate with acetic acid and boil. A normal fluid remains clear or just faintly opalescent.

Quantitative tests for proteins.—(1) Place 1 cc. spinal fluid in a test tube of the same size as the standard.
(2) Add 3 cc. of a 3 percent solution of sulphosalicylic acid reagent and mix thoroughly.

(3) Allow to stand for 5 minutes and compare the degree of turbidity with that of the permanent standard tubes (representing 0, 5, 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 mg. proteins per 100 cc. of the fluid).

Urobilinogen.—Bile pigments, if present, should be removed previously by adding 1 part of a 10 per cent aqueous solution of calcium chloride to 4 parts of urine and filtering.

PROCEDURE:—(1) Prepare the reagent by dissolving 2 g. of paradimethyl-aminobenzaldehyde in 100 cc. of 20 per cent (by volume) hydrochloric acid.

(2) To 10 cc. of bile-free undiluted urine at room temperature or warmed to 21°C–22°C. add 1.0 cc. of the reagent. Allow to stand for 3 minutes.

(3) If a deep cherry-red colour appears, proceed with the test, using 10 cc. amounts of dilutions of urine prepared with tap water at room temperature as follows:—1:10, 1:20, 1:50, 1:100 and 1:200. Add 10 cc. of the reagent to 10 cc. portions of each dilution, allow to stand for 3 to 5 minutes, *not longer*, and take the reading.

(4) Express the results in terms of the highest dilution giving a faint but definite pink or cherry colour. Normally this is at 1:20 dilution. Any higher dilution yielding a definite pink colour indicates a pathological amount of urobilinogen.

Blood chlorides.—Whole blood—450 to 530 mg. 100 cc.; Plasma or serum—560 to 620 mg. per 100 cc.

Hypochloræmia occurs in intestinal obstruction; mercury poisoning; severe protracted vomiting; severe burns; pneumonia; some cases of untreated diabetes; some cases of nephritis; some cases of fevers; some cases of gross restriction of chloride intake; and Addison's disease.

Hyperchloræmia is found in a few cases of nephritis; some cases of eclampsia; some cases of prostatic obstruction; some cases of cardiac disease; and some cases of severe anæmia.

PRINCIPLE:—Proteins are precipitated by sodium tungstate and sulphuric acid. Chlorides in the protein-free filtrate are precipitated by an excess of silver nitrate, the excess being determined by back titration with potassium thiocyanate, using iron-alum as the indicator.

Blood urea.—Blood urea is low in pregnancy and in some cases of nephrosis.

Blood urea is high in chronic nephritis (later stages); renal infantilism; bilateral congenital cystic kidneys; mercury (bichloride) poisoning and in some cases of lead poisoning; acute nephritis (some cases); gross obstruction in urinary tract; enlarged prostate; surgical kidney due to stone etc.; gross destruction of kidneys (tuberculosis, stone, new growth etc.); severe bilateral pyelitis; pyelonephritis; hydronephrosis; pyonephrosis etc.; failing circulation (severe cardiac disease; terminal stages of many diseases) due to gross loss of chlorides (severe vomiting and/or diarrhoea; intestinal obstruction; pyloric obstruction; diabetic coma (some cases); severe burns; infantile diarrhoea, cholera etc., and severe hæmatemesis and melæna.

Blood sodium.—Whole blood 170 to 225 mg. per 100 cc.

Plasma or serum—325 to 350 mg. per 100 cc.

Serum sodium is low down to 250 mg. per 100 cc. and occasionally less in the acute crises of Addison's disease, in the chronic phase often only slightly depressed and may be within normal limits. The low sodium is accompanied by a raised potassium content of the serum and generally also by a rise in blood urea.

Low serum sodium is also seen in intestinal obstruction, acute gastro-enteritis, diabetic coma, severe sweating if water in-take is restricted (miners' cramp) etc.

PRINCIPLE:—Proteins are precipitated by trichloroacetic acid. The sodium in an aliquot part of supernatant fluid is precipitated as sodium zinc uranyl acetate (triple acetate). The precipitate is washed and treated with potassium ferrocyanide solution. The resulting plum-red-colour (due to uranyl ferrocyanide) is compared in a colorimeter with a standard sodium chloride solution which has been treated similarly and simultaneously.

Blood potassium.—Potassium (as K) in whole blood—150 to 250 mg. per 100 cc. and in plasma or serum 18 to 21 mg. per 100 cc. Raised values are found in Addison's disease, but are not so characteristic as the fall in serum sodium. Low values, down to 10 mg. per 100 cc. and sometimes less, occur during attacks of periodic paralysis of both the familial and sporadic types.

PRINCIPLE:—Potassium is precipitated directly from the serum by adding a solution of sodium-cobalt-nitrite. The precipitate is separated by centrifuging, washed with water and alcohol, and dissolved in hot water. An excess of choline chloride and sodium ferrocyanide is added. A cobaltous salt is formed by the reducing action of ferrocyanide, and in the presence of choline an emerald green colour results, the intensity of which is proportional to the amount of cobalt and therefore, of potassium in the precipitate. The colour is compared with that of a standard solution of potassium sulphate treated in the same way in parallel; alternatively comparison is made with a standard cobalt solution treated with

choline and ferrocyanide, the cobalt solution having previously been standardized against potassium sulphate.

Phosphatase.—These are enzymes hydrolysing phosphate esters to liberate inorganic phosphate; the greatest concentration is in bone, kidney, intestinal mucosa and liver, traces in plasma or serum completely freed of cells. Alkaline phosphatase functions best at pH 8.4 to 10.0 and is increased in active bone diseases and obstructive jaundice (overlapping of results in different groups). Acid phosphatase is associated with prostate and functions best at a pH between 4.5 and 5.0.

Alkaline phosphatase determination.—**PRINCIPLE:** Serum or plasma is incubated at 37°C for thirty minutes at pH. 9.0 with phenyl phosphate solution. Diluted phenol reagent, containing phosphotungstic and phosphomolybdic acids, is added, and precipitated proteins are removed by centrifuging. An aliquot part of the supernatant fluid is made alkaline with sodium carbonate, when preformed and extra-liberated phenols reduce the phosphotungstic with that of a standard solution of phenol similarly treated. A blank is run on serum and reagents and the result deducted from that in the test proper. There is no incubation in the blank and therefore no phosphatase action. Treatment is otherwise the same for both; the appreciable amount of blue colour is due to preformed phenols, uric acid etc.

Absolute blood values

Colour index:— $\frac{\text{Hæmoglobin (percentage of normal)}}{\text{Red cells (percentage of normal)}} = 100/100 = 1$
 per cent hæmoglobin : 14.8 g. per cent
 per cent red cell—5,000,000 —normal—1

Mean corpuscular hæmoglobin— $\frac{\text{Hæmoglobin in g. per 1000 cc. of blood}}{\text{Red cells in millions per cmm.}}$

Normal range—27 to 32 μ (micrograms)—one million millionth 10–12 of a gram; the average is 29.5 and P.A. 33 to 38, even up to 56 μ .

Corpuscular volume—47 cc. for men and 42 cc. for women. Average 45 cc. per cent.

Mean corpuscular— $\frac{\text{Volume of packed cells in cc. per 1000 cc. of blood}}{\text{Red cell in millions per cmm.}}$

Normal range—78 to 94 cu.—average 86 cu.

Mean corpuscular hæmoglobin concentration (M.C.H.C.).

Hæmoglobin in g. per 100 cc. of blood

Volume of packed red cells in cc. per 100 cc. of blood $\times 100$

14.5 g. of hæmoglobin $\times 100$ —normal range 32–38 per cent.
 42 cc. of corpuscles Average 34 per cent.

Diffraction method.—To determine the size of red cells:—A thin blood film in which the cells are evenly spread as a single layer without overlapping of cells will act as a diffraction grating. If a source of light be viewed through such a film a "halo" or circular spectrum will be seen. The size of the "halo" is dependent upon the size of the cells forming the diffraction grating. The size of the halo varies inversely with the size of the corpuscles; if cells are markedly uneven in size, no clear-cut spectrum will be produced.

Blood analysis—normal results in mg. per 100 cc.

Estimation	Whole blood	Plasma or serum	Remarks
Amylase, diastase		3–10 Wohlgemuth units	
Bilirubin		0.1 to 0.5	
Icteric index		1 to 6	
Calcium	450 to 530	9 to 11	
Chlorides (as NaCl)	100 to 200	560 to 620	
Cholesterol (total)		100 to 220	
Corpuscular volume (hæmatocrit)	36 to 51%		
Fats total	200 to 2000	450 to 1260	Total ether soluble matter
Fragility of corpuscles	0.48 to 0.32% NaCl		
Hæmoglobin	Men 13 to 16 g. per cent. Women 12 to 14 g. per cent.		
Phosphorus (inorganic or free adults)	2–5	2–5	
Potassium (as K)	150–250	18–21	
Proteins plasma (F+A+G)	0.11–0.21	5.8 to 8.6%	
Fibrinogen		0.20–0.40%	
Albumin (A)		3.4–6.7%	
Globulin (G)		1.2 to 2.9%	
Ratio A : G		4:1 to 1:2.1	(Usually about 2:1)
Sodium (as NA)	170–225	325–350	
Solids (total)	1.041 to 1.067	8.5 to 10%	
Specific gravity	60–120	1.024 to 1.030 (Water 1,000)	
Sugar-fasting		60–120	
Sugar maximum (after meals)	180		
Urea	15–40	15–40	(Up to 50, under 10 and over 60 years)
Uric acid	0.3–4.0	0.3–4.0	Usually 2–4
Urobilin		0.0 to 0.4	
Viscosity at 20°C	3.6–5.4	1.7–2.0	Water 1.0

Chemical Composition of CSF in Disease
(Quantitative in mg. per 100 cc.)

Disease	Total proteins	Chlorides	Sugar	Cells per cmm.	Type of cell	Remarks
Normal	10-35	700-760	45-100	0-5	Lymphocytes etc.	Clear, Colourless
Meningitis tuberculous	30-400	700-500	early stages normal later 15-45	20-1000 usually 100-300	lymphocytes and polymorphs	clear or opalescent, cobweb on standing
Meningo-coccal pneumo-coccal strepto-coccal	100-400	750-600	0-45	1000 or more	polymorphs	opalescent or turbid
Mumps	30-130	750-670	70-115	300-3000	lymphocytes	clear or opalescent
Brain abscess	10-120	700-760	45-100 or more	6-850	polys or lymphos	clear to turbid
Brain tumour	majority normal 20-350	700-760 usually	45-120 slightly increased	majority normal 0-80	lymphocytes	occasionally yellow
Cerebral hge or thrombosis	commonly in excess	700-760	45-100 or slightly increased	normal or sometimes increased	lymphocytes	often blood, xanthochromia
G.P.I.	40-100	700-760	25-62 increased in some	50-500	mostly lymphos	clear
Tabes	20-60	700-760	45-100	10-80	do.	clear
Spinal tumours	30-2000 often Froin's syndrome	700-760	45-100	0-14	lymphocytes	often xanthochromia
Poliomyelitis first week	30-60	700-760	45-100	10-1500	mostly lymphos	clear or opalescent, web sometimes
Encephalitis lethargica	10-40 few to 100	700-760	50-150 fair number slightly increased	0-150	lymphos	clear
Syphilitic Meningitis	high			500	lymphocytes	web sometimes

THE PLACEBO IN PRACTICE

We must beware of prescribing the placebo to please the doctor rather than the patient; for a feeling that something has been done may blind us to any change in symptoms and may prevent that constant alertness so necessary to good doctoring. Nevertheless there is a not inconsiderable place for the placebo in medicine and, if intelligently used, I will defend it to the last drop in the bottle.—(A. Barham Carter, M.D., in *Lancet*, p. 823, Oct. 17, 1953).

MODERN TRENDS IN ACHROMYCIN THERAPY*

BHANUMURTHY, L.M.F. (Cal.),
M.O., L.F., D.Sy., Chinnaganjam, (Andhra)

I PROPOSE to deal in this article with Achromycin, one of the outstanding broadspectrum antibiotics, with particular reference to the results of intensive trials made by me on some interesting, complicated and refractory cases.

Achromycin[†] is chemically 4 Dimethylamine-1, 4, 4a, 5, 5a, 6, 11, 12a, Octahydro-3, 6, 10, 12, 12a, -Pentahydroxy-6 methyl-1-11-Dioxo-2-Naphthacene-Carboxamide. It is also obtained by a fermentation process from a species of streptomycetes. It can also be produced by reducing chlortetracycline (aureomycin) with a catalytic agent.

The chemical structure of tetracycline simulates both chlor- and oxy-tetracyclines with a difference in the 7 and 5 carbon atom positions respectively. The chlorine and hydroxyl group of atoms are absent in the rings of Tetracycline.

Pharmacology.—Tetracycline is more stable at various temperatures and in all forms than the chlorine or hydroxyl derivatives and dissolves and diffuses into body fluids very rapidly. A single I. V. dose of the drug manifests its activity rapidly and maintains effective potency for full twenty four hours.

Unlike many other allied antibiotics and chemotherapeutic drugs, bacterial resistance is not developed with achromycin nor do organisms tend to become achromycin-fast when given in minimal doses, as often happens with the sulphonamide group of drugs.

Tolerance to achromycin is greater than to its other derivatives or to allied antibiotics. Untoward side-effects are far less common than with chlorine or hydroxyl derivatives and when some do occur they are not severe and are limited to the gastrointestinal tract—this is the major clinical difference between tetracycline and its other derivatives.

Achromycin is readily absorbed by rapid diffusion into body tissue fluids and remains in high concentrations for a fairly long time in the body fluids and blood serum.

It is distributed mostly in the urine, C.S.F., pleural fluid, saliva and in cord serum. It is excreted largely through faeces, moderately in urine and to a limited extent through bile.

Therapeutics.—Achromycin acts both on the gram-positive and gram-negative organisms, and is therefore, a real broad

*Specially contributed to the ANTISEPTIC.

† (Tetracycline of Lederle Labs. of America, issued by them in the year 1953).

spectrum antibiotic. Mixed infections refractory to other single antibiotics respond to achromycin when combined with others in effective doses, thus showing that it has a synergistic and additive value.

Cross resistance or increased sensitivity to other drugs is not developed by achromycin and so it can be used along with anti-spasmodics, anticonvulsants, antibiotics or sedatives in tackling complicated cases.

It has been used successfully in rickettsial, viral, bacterial, protozoal, and parasitic infections and infestations—particularly when they became susceptible to antibiotic therapy. The following organisms readily yield to achromycin therapy:—*Diplococci*; *pneumococci*; *staphylococci*; *meningococci*; *E. coli*; *streptococcus hemolyticus* and *micrococcus pyogenes var. aureus*.

Chronic urinary tract infections, cases of bacteraemia and suppurative lung lesions, all conditions of septicæmia, chronic bronchopulmonary lesions with acute exacerbation, otitis, certain cases of dysentery and ocular conditions refractory to other drugs respond well to achromycin therapy. To prevent the onset of bacteraemia, in cases of major surgery on rectal, urethral, oral or abdominal cases, this antibiotic is administered a day or two before the operation.

Even toxic doses of this drug usually do not harm but occasionally cases of convulsive seizures and respiratory embarrassment have been noticed when higher doses of achromycin were used.

In treating cases with this drug, effective and regular supervision by a competent physician is necessary during the whole period of treatment. If a case does not promptly respond to achromycin, other intercurrent or mixed infections must be suspected and the condition tackled by the addition or independent administration of the appropriate remedy.

Achromycin is available for clinical use in various forms e.g., capsules, tablets, troches etc. for oral and parenteral use.

HINTS FOR ADMINISTRATION:—The daily oral dose for an average adult is 1 g. in 10 or 4 divided doses (100 mg. 2 hourly ten times or 250 mg. 4 hourly four times) and for infants and children the maximum daily dose is 100 mg. in divided doses.

The main disadvantage with oral medication by achromycin is that most of it is not absorbed in the gut and can be recovered from the stools.

Treatment with achromycin should be continued for at least 48 hours after the subsidence of symptoms so as to ensure maximum effect. Should the condition necessitate a further course of treatment with achromycin, a rest period of several months should follow the previous course.

Case Report.—CASE 1:—R.T., Hindu, male, aged 68 years, complained of scanty urine and painful micturition for a fortnight from 11-5-'55 with varying degrees of low pyrexia and asthenia. His past history was suggestive of a chronic gonococcal infection in his early life for which he had temporary palliative treatment. A couple of years back he had retention of urine which was relieved and treated by dilatation of the urethra and antibiotic therapy.

His last attack was on 20-2-'55, for which he received nearly 80 lacs of penicillin parenterally with no benefit. He then came to me and had some combiotic injections for synergistic action along with diaphoretic mixture with Tr. hyoscyamus added for temporary relief. The present attack was somewhat severe which needed streptomycin and achromycin parenterally and pyridium orally along with an antiseptic urinary mixture.

The combination of pyridium with achromycin had an additive effect in alleviating the severe pain, and in relieving the retention of urine. The condition improved dramatically. The patient was advised to take another course of achromycin four or five months later.

CASE 2:—A.S., Hindu female, aged 55 was admitted with the following complaints:—

High pyrexia, severe productive cough with foetid, offensive, yellow, tenacious, mucoid sputum. She had rapid breathing and on auscultation dry rales were heard in the right lung. The sputum on examination contained leucocytes and gram-positive cocci in chains. Radiography revealed dense shadow of infiltration over the upper lobe of the right lung medially.

The patient was immediately put on intravenous achromycin (100 mg. 6 hourly), parenteral crystalline, penicillin (two lacs every three hours) and sulphadiazine (two tablets four hourly) along with a sedative expectorant mixture. The condition gradually improved within a week with no necessity for surgical intervention. The treatment was continued at regular, prolonged intervals till a complete cure was effected.

CASE 3:—N.L., my infant nephew, 29 days' old, kept continuously crying in the cradle for a whole day. He was having loose motions. I was summoned on 30-12-'54 to see the infant and was told by the mother that the baby was passing loose motions, sticky in consistency, since the previous day and was running a high temperature. On physical examination the abdomen was tense with dullness all over. The breathing was hard and on auscultation there was congestion in both lungs. The temperature was 102.2°F.

On a careful examination some discharge was discovered in the right ear of the infant. The continual weeping might have been

due to griping pain in the abdomen and also to the discharge from a painful ear.

A capsule of achromycin was cut open and the contents added to one sulphatriad tablet (powdered) and divided into 10 powders and one powder was given in breast milk every three hours. By the end of the next day the condition of the infant improved and in three days he was completely cured.

CASE 4:—M.P., Harijan female, aged 21, complained of a longstanding backache and a vague pain on the right side of the lower abdomen, associated with vaginal discharge.

Previous history:—Her menstrual periods were irregular. She was having dysmenorrhœa and dyspareunia, with an associated state of lassitude and debility.

She was put on non-specific protein therapy and penicillin for a month with no benefit and then treated with achromycin. The patient received parenteral Ambystrin (1 g. daily) and 1 g. of achromycin in four divided doses orally for 15 days continuously. Hot water douches with added salt were given at night followed by the introduction of Terramycin (oxytetracycline) vaginal tablets.

There was defervescence in the abdominal discomfort within 7 to 10 days after the institution of treatment, and she was cured completely within three weeks. The treatment was followed by a course of tonics as the patient became much debilitated by the chronicity of the disease. The case was followed up for six months and no relapse occurred.

CASE 5:—M.L., Hindu, female, aged 5 years was brought with chronic discharge in the right ear of two years' duration; weeping eczema since three months; conjunctivitis, cough and fever since three days. The girl on examination was cyanosed and dyspnoic, and was panting for breath.

Orally achromycin and sulphatriad were given for 8 days continuously with parenteral penicillin in effective doses along with local and symptomatic therapy. Excellent results followed. The case was followed up for 8 months and no relapse of dermatoses or otorrhœa was observed.

Conclusion.—It will be seen that Achromycin heads the list of the broad spectrum antibiotics, now available for reasons already specified in this article. With increased experience and knowledge of its activity and usefulness in various conditions. Achromycin will find an important place in clinical practice,—much more so in pædiatrics and geriatrics.



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Cases and Comments

A CASE OF TUBERCULOUS PERICARDITIS WITH AN UNUSUAL TERMINATION

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A PATIENT, Christian, male, aged 47 years, reported on 3-4-'50 for treatment, with the complaints of breathlessness on exertion, swelling of the lower extremities, especially in the dependent parts and dry cough of 4 months' duration.

Occupation and habits:—He was a non-vegetarian, medical practitioner given to alcohol and heavy smoking.

Personal history:—Married; has six children, and wife all healthy.

Family history:—Revealed nothing particular.

Past illness:—In May 1947, he had fever which was diagnosed as typhoid but relapsed within four weeks. At that time a skiagram of the chest was taken which revealed lesion of the parenchyma of the right lung (upper zone). The case was diagnosed as one of tuberculous disease of the lungs. From July 1947, he was in a Tuberculosis Sanatorium. About 120 g. of Streptomycin were given besides ten gold injections, calcium and vitamins. In December, 1947, the first stage of thoracoplasty (removal of the first three ribs) on the right side was done and the second stage (removal of the fourth and fifth ribs) in February 1948. The disease was completely arrested and he was enabled to join duty in May, 1948. For nearly seven months, he was attending to his work regularly. In February, 1949, he had low fever in the evenings, tiresomeness and a slight dry cough. He was thoroughly examined for any relapse of pulmonary tuberculosis and was found to have no definite evidence of active disease of the parenchyma of the lungs. There was slight enlargement of the heart. He was advised complete rest and streptomycin and PAS for the control of temperature. The tiresomeness and breathlessness on exertion, continued to persist, though the pyrexia was controlled. He was attending office till 25th January, 1950, when he began to develop signs of congestive heart-failure associated with irregular fever. Still he carried on up to 3rd April 1950 attending only to essential work.

General condition:—On 3-4-'50. He was fairly built and fairly nourished, not anæmic, marked cyanosis was present, no clubbing of the fingers and no enlargement of the lymph glands anywhere in the body; there was fullness of the suprasternal notch; pulsating neck veins present with a puffy face; pitting œdema of the lower

extremities, breathlessness even at rest compelling the patient to breathe in a laboured manner.



FIG. 1

clavicular line and it was feeble. There were no palpable thrills or friction rub felt anywhere over the præcordium. There was no tracheal shift. Percussion revealed that the area of cardiac dullness was much increased on both sides. The right border of the heart was about two fingers beyond the right border of the sternum. The left border went up to the left anterior axillary line in the fifth intercostal space. The heart sounds were audible in all areas but only feebly. There was no gallop rhythm or murmurs or rubs heard over the precordial area.

Respiratory system:—Fine crepitations were heard over the bases of both lungs more on the left side. The breath sounds over the left base, in the axillary region and in front were very feeble and distant.

Alimentary system:—Liver enlarged, the lower border was felt five fingers below the costal margin, having a sharp edge, and smooth surface. It was slightly tender. Spleen was just palpable. There was a small amount of free fluid present in the abdomen.

Nervous system:—Nil abnormal.

Investigations.—(1) Blood—No parasites were seen in the peripheral smear. There was no evidence of anæmia on examination of peripheral smears.

(2) Blood count—Total RBC 4.5 millions per cmm. Hæmoglobin—75 percent. Total WBC 10,500 per cmm.; Differential

Throat was congested; had dry cough with no blood in sputum. Fullness of the abdomen was present. There was loss of appetite and bowels were not regular. Temperature was 101°F.

Cardiovascular system:—Tachycardia was present—rate 110 per minute, volume and force diminished but regular; vessel walls soft and supple

Blood pressure: 106 mm. Hg. systolic; 60 mm. Hg. diastolic. The præcordium showed some diffuse bulging. The apex beat was not visible. On palpation the apex beat was felt in the fifth intercostal space about half-inch internal to the mid-

count—Polymorphs—56 per cent; Lymphocytes—36 per cent; Monocytes—5%. Eosinophilia—3 per cent. (3) Blood for Kahn negative. (4) ESR 50 mm. in half-an-hour and 80 mm. in one hour. (5) Urine: alkaline; slight trace of albumin present but no sugar; no bile salts or bile pigments; no deposits. (6) *Motion*—no ova or cysts were seen. (7) *E.C.G.* examination was not done. (8) *X-ray chest, for lungs and heart:*—3.4.50. Second stage of thoracoplasty done on the right side of chest. Trachea, was not central in position but slightly deviated to the right. There was no definite evidence of active lesion of the parenchyma of the lungs.

There was a globular enlargement of the heart to the right and to the left, but more to the left so that the transverse, diameter appeared to be greater than the long diameter. All the normal cardiac contours and normal notches seen on the postero-anterior view were obliterated. The heart appeared to be enlarged in all its diameters. The vascular shadow was pushed upwards. The aortic knuckle was slightly high in position; but was normal otherwise. The shadow of the superior vena cava was usually enlarged. The shape of the heart could be compared to a flask, the aortic knuckle forming the neck of the flask.

The cardiophrenic and costophrenic angles were clear and well-defined, the former remained acute. The domes of the diaphragm were normal in shape.

Fluoroscopy:—Diminished pulsation of the cardiac shadow was seen. The retrocardiac space was obliterated and the barium swallow showed the œsophagus displaced backwards and to the right. The second oblique view showed bulging and maximum density in the posterior inferior recess which was the most dependent part of the sac. The heart shadow itself appeared to be buried in the shadow of pericardial effusion.

In view of the past affection of Koch's lesion of lungs, the present physical findings with irregular fever, ranging from 99°F to 101.2°F, supported by roentgenological observations, suggested the most probable diagnosis of pericardial effusion due to tuberculosis. He was advised paracentesis both from diagnostic and therapeutic aspects. He was not willing and continued to suffer in silence awaiting Nature's Help aided by rigid and enforced rest. The patient had to pay heavily for his folly and from May 1950 to October 1950 the course of the disease was a very stormy one. Being a doctor himself, he gave a graphic description of his sufferings during this period. "I was sitting in my bed all the twenty-four hours of the day with a heart-rest." About the end of October, 1950 one night he suddenly had more dyspnoea than usual. On the next morning, he was feeling better and he found to his utter surprise and pleasure, the œdema was slightly better in his lower extremities and within the next seven days all the œdema

had disappeared; the dyspnoea was however, increasing but was not of the cardiac type.

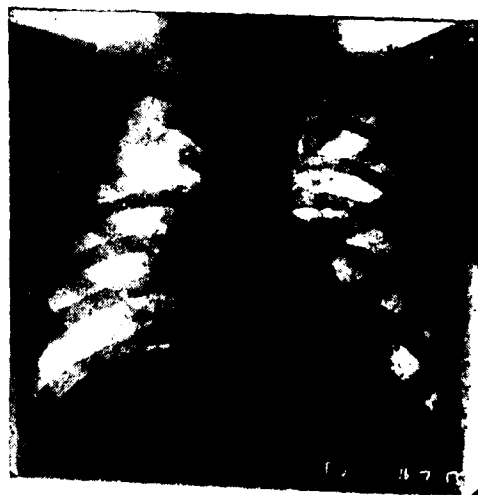


FIG. 2

Fluoroscopy confirmed massive effusion of left pleural cavity with slight displacement of the mediastinum to the right. Rest for a month and half did not show any tendency for the effusion to decrease. By about the third week of December, 1950 he was aspirated and about forty ounces of blood stained fluid were removed with partial relief of the dyspnoea. A second aspiration was done four days later and practically an equal amount of fluid was removed with complete relief of the dyspnoea. The aspirated fluid this time was more serous in nature. He was screened after the second aspiration and it was found that the left pleural cavity was almost empty. There was no thickening of the pleura. The cardiac silhouette was almost restored to its normal size and shape.

The patient showed very good progress in that he was able to lie flat on the bed and sleep peacefully. He was reporting to us often since then. He reported last on 16.7.'55, for a check-up and was found to be in very good general health and active in his habits. There was no oedema in his lower extremities and no engorgement of neck veins. Exercise tolerance was within normal limits. The heart boundaries were within normal limits and the heart sounds were normal.

A skiagram of the chest was also taken on 16.7.'55. (*Vide fig. 2*). The second stage of thoracoplasty done on the right side was still evident. There was no change in the position of the trachea as compared with the previous picture taken on 3.4.'50. The heart borders were within normal limits. No other lesion was made out in the parenchymæ of the lungs.

He reported on the 10th November, 1950 for examination. The oedema of the legs and feet had all cleared up. He was only dyspnoic. The liver had receded remarkably, compared to findings in the previous examination. The liver was one-finger-breadth below the costal margin and not tender. Spleen was not palpable. There was no free fluid in the abdomen.

Physical examination revealed slight displacement of the heart to the right and signs of massive effusion on the left side of the chest.

Discussion.—A very interesting case is presented, the patient himself being a member of the medical profession. The unfortunate thing was his earlier skiagrams are not available to add greater interest to this case. Tuberculosis of the pericardium is not so rare as is generally supposed. It is usually secondary to tuberculous affection of the mediastinal glands, the pleura or part of a generalised affection of the same. As a primary condition of the pericardium, it is rare. In recent years many reports of tuberculous pericarditis have been published and even doubt has been cast upon other cases of pericarditis, reported earlier, as rheumatic in origin. Thus the report by Massie and Levine (1939) on 135 cases of rheumatic pericardial disease is an illustration to the point. Eighty-two of these cases were followed up for an average of seven years; 36 per cent of this group had no evidence of organic heart disease which is considered unusual in cases of rheumatic heart disease.

A survey of 8,912 necropsies made at the Mayo Clinic by Smith and Willis in 1932 showed pericarditis in 373 cases (4.2 per cent); 215 (58 per cent) of these 373 cases had acute pericardial disease, 113 with effusion and 102 fibrinous without effusion. Out of the 113 cases with pericardial effusion, 68% were purulent and only 2.7 per cent (three cases) were tuberculous. In Harvey and Whitehill's (1937) collection of 95 cases there were 37 proved cases. Keefer (1937) reported twenty cases of tuberculous pericarditis. A survey of 13,353 consecutive autopsies done in the Los Angeles County Hospital during a period of seven years (1940-1946) revealed 729 cases (5.4 per cent) of pericarditis; "non-specific idiopathic pericarditis" was the most frequent type found, rheumatic pericarditis coming next; tuberculous and penumonic pericarditis were decreasing in frequency (Griffith and Wallace, 1949). Andrews, Pickering and Sellar (1948) reported 20 cases of tuberculous pericarditis. Fenger and Hansen reported 22 cases of tuberculous pericarditis in 1946. Kopelman (1947) described four cases, one being in a child of eighteen months. Falk and Ebert (1951) reported 25 cases. In the Erskine Hospital at Madurai there were two proved cases in 1953. Six cases have been reported by Dr. P. K. Ghosh (1955).

The frequency with which tuberculous pericarditis occurs was studied by Norris (1913). Among 1780 autopsies upon tuberculous subjects, 82 showed tuberculous pericarditis—an incidence of 4.6 per cent only. Other statistics show that it occurs in from 0.7 to 2.3 per cent of all autopsies (1946).

Sex:—The available statistics, show a great preponderance of males over females. Thus there were 19 males, and three females, in Blalock and Levy's series (1937), 17 males and 3 females in Keefer's (1937), 23 males and 8 females in Heimann and Binder's (1940), 13 males and three females in the series of Andrews, Pickering and Sellar (1948), one male and one female (Erskine

Hospital, 1953) and four females (effusion) and two males (pericardial adhesion) in Dr. Ghosh's 1955).

Age:—Usually young persons are affected, the youngest being a child of 18 months.

In our own part of the country where there is a high incidence everywhere of tuberculosis in all forms tuberculous pericarditis must be kept in view as being likely to occur as a common condition. The reason why it is not so frequently diagnosed, but often missed is due to difficulty in diagnosing the condition clinically. Pericardial effusions of tuberculous origin are generally painless. There are two important conditions which give rise to symptoms. (1) When the pleural or outer border of the diaphragmatic pericardium is involved, frequently with complicating pleurisy, pain results which is usually sharp, intermittent or continuous, and is much aggravated by or indeed sometimes felt only during inspiration and referred to the pericardium, left shoulder and less often to the abdomen. It must be remembered that a large part of the pericardium especially the visceral surface can be inflamed without causing pain. (2) The other important condition giving rise to symptoms in pericarditis is distention of the pericardium by a moderate or large effusion, by air or by both air and fluid. With small effusions there are no symptoms. With large effusions especially those developing rapidly and with extensive h mopericardium, pressure symptoms may be extreme and a condition called cardiac tamponade or acute constrictive pericarditis results. Distressing dyspnoea and thoracic compression are common symptoms of a large pericardial effusion and the patient often assumes a characteristic attitude of distress, sitting upright and leaning forward and easily passed forward as due to cardiac conditions.

The signs of acute pericardial disease are due first to the fibrinous exudate and secondly to the effusion. The characteristic sign is the "Friction Rub" often found at some stage of the disease. In over 75 per cent, it is absent or is usually missed. According to Cabot (1926), a friction rub was heard in only 40 out of 186 cases, (21 per cent) of acute pericarditis. It may be heard anywhere over the precordium and sometimes when marked, in the back or neck but it is commonest along the left border of the sternum. Its intensity varies. It is usually rough and grating-sounding near to the ear and increased by pressure of the stethoscope. At times, it is so soft and gentle that it is distinguished only with difficulty from heart-murmurs. The duration also varies. It may be heard continuously as a rule both in systole and in diastole and more often in the earlier parts of both. It may be brief and limited to systole alone, being heard perhaps during only one phase of respiration. It may be audible even in the presence of an effusion, but it may be dulled or may disappear completely as effusion develops. The pericardial friction-rub if marked, can be

felt as well as heard. Thus the "friction-rub" is not constant and is fugitive. It differs from the friction-rub of myocardial infarction in that the latter becomes audible only twelve to twenty-four hours after the onset of pain. It is usually localised over a smaller area, is consistent, and is not accompanied by pleuropericardial friction sounds.

The other characteristic signs of acute pericardial disease are those produced by an effusion. An amount less than 150 cc. is probably not discoverable by any method of examination since it produces no definite signs. In fact effusions of less than 300 cc. are usually missed clinically.

The advent of roentgenology in the diagnosis of diseases especially, a routine examination of the chest with X-rays wherever disease of thoracic viscera is suspected, had led to the recognition of pericardial disease much more frequently than in the past. Holmes in 1920 was the first to draw our attention to the importance of roentgenography in the diagnosis of pericardial effusions. While dry pericarditis does not give any roentgen signs, effusion produces definite changes. Opinions vary as to the amount of fluid necessary to produce changes in the cardiopericardial shadow. Amelung considers 400 cc. as the minimum amount, while Roesler thinks that in an adult 250 cc. will produce recognisable roentgen signs. He states that in infants as little as 10 cc. has been diagnosed. The minimum amount of fluid which can be detected radiologically is somewhere between 300 and 500 cc.

The presence of a pericardial friction-rub should cause a careful search to be made for early signs of effusion. In cases where the rub is absent, the earliest sign is roentgenological and consists of a bulging of the lowest corners of the heart shadow because of the collection of fluid at these points. Fluoroscopically it is well seen in oblique views. Sauerbruch (1937) found that fluid first collects in the region of least resistance in the lower pericardial recesses. Fleischner was able to confirm roentgenologically Sauerbruch's clinical observations. The heart shadow is not enlarged but its posterior lower border possesses a convex bulge instead of the normally straight oblique or slightly convex contour. This sign is considered the most important one in early effusions. This may be recognised roentgenoscopically or on the lateral roentgenograms.

As the fluid increases in amount, marked changes in the configuration occur. The transverse diameter increases, the normal arches become obliterated and the heart shadow becomes globular or bag-shaped. If the exudation is large, it pushes the upper anterior pericardial recesses upward and a shortening of the vascular shadow occurs. The heart then resembles a round bottle with a short neck, due to the fact that the margin of the distended

pericardium projects outward immediately below the shadow of the great vessels and assumes an arcuate shape. The bulging is more marked on the left side than on the right. Thus, the transverse diameter of the heart becomes greater than the longitudinal. None of these cardiac configurations described by various authors as bag or pear-shaped or resembling a round bottle with a short neck are typical of pericardial effusion. They may be produced by decompensated hearts also.

The best differential diagnostic sign between a decompensated heart and pericardial effusion is the one described by Holmes in 1920, which is based on the changes of cardiac configuration during changes in the position of the patient. In the erect position the basal part of the pericardium yields to pressure and the greatest width of the shadow moves toward the diaphragm. In the prone recumbent position with the head low and abdomen elevated, the shadow of the great vessels becomes wider and the lower part of the heart narrower. The heart thus becomes more rectangular. The change in the configuration of the heart is very slight in cardiac dilatation. This sign is of great value provided the patient is not too orthopnoëic rendering the prone position impossible.

The pulsations of the heart are at first diminished but may later become undulatory or wholly imperceptible.

There is considerable difference of opinion among roentgenologists regarding the visibility of the heart within the pericardial fluid.

The most reliable differential diagnostic method is the examination of the heart at frequent intervals and the finding of considerable change in the size of the heart to an enlarged one and *vice versa* within a short period of time. This is more likely to happen in pericardial effusions than in dilated hearts.

The kymographic examination may be helpful in differentiating pericardial effusions from decompensated hearts. This sign described by Berner (1937) is based on the fact that the pulsatory amplitude of the left cardiac contour (aorta and left ventricle) is equal. He found a discrepancy of the pulsatory excursion of the left side in pericardial effusions. The pulsations were vigorous in the region of the aortic knob and were decreased in amplitude in the left ventricular region due to the fact that nothing prevents the kymographic recordings of the pulsations. This sign is of no value in cases in which the aortic knob is calcified.

Diagnosis of pericardial effusion is difficult clinically and also it is not a simple thing even with the help of radiology. This statesides when everything points to a dilating heart and the pericardial cavity contains 500 cc. of fluid and *vice versa*; even when the roentgen report points to fluid, it is all dilatation.

Let us consider the next aid in the diagnosis of pericardial effusion. When the diagnosis is still in doubt, paracentesis of the pericardium has to be considered. If a large amount of the fluid is present in the sac, diagnosis can be easily clinched by removal of the fluid which gives considerable relief to the patient, and aids in the diagnosis, prognosis and treatment. If the enlargement of the cardiac silhouette is due to cardiac dilatation, there is danger of puncturing the coronary vessel and consequent fatality occurring as a result of tamponade. The moral of this, is, that, a pericardial tap may be a dangerous procedure, if a fair amount of fluid is not present in the pericardial sac and in heart due to myocarditis or in large hearts due to decompensated chronic valvular disease. As a therapeutic procedure, its place will be discussed later with special reference to the treatment of tuberculous pericardial effusion.

Tuberculous pericarditis can thus be classified into two main types:—dry and wet. The "dry type" may be subdivided into 4 types: *viz.*, (i) simple, (ii) constrictive, (iii) adhesive and (iv) hypertrophic. We are here concerned with only the "wet type." The wet type with effusion may be subdivided again into two types:—(a) pericardial effusion alone and (b) pericardial effusion *plus* effusion in one or other great serous sacs. From the review of the published reports, the second type of effusion appears to be the more common one.

In our case when the patient reported in April, 1950, a diagnosis of pericardial effusion due to tuberculosis appeared to be the most probable diagnosis in spite of the fact that tuberculous disease of lungs was diagnosed at a very early stage and effective treatment given for a complete arrest of the disease. Even though he reported with signs of congestive heart failure with fugitive pericardial rub heard nowhere over the precordial area or back or neck, it did not at all suggest to us that we were dealing with a case of decompensated heart but with only a case of pericardial effusion for the following reasons:—On a careful review of the case, it appeared most probable that the real effusion must have been present since February, 1949 when he reported with mild clinical symptoms as fever, weakness and tiredness due to its very slow and insidious onset, and the cardiac enlargement could not be sufficiently explained at that time. The diagnosis did not appear as the most likely one in the face of much efficient treatment that had been given for tuberculosis of the lungs. Tuberculous disease does not usually affect the myocardium as is the case with rheumatic infection. Hence it does not cause heart disease itself except in the rare cases in which there is direct tuberculous invasion of the myocardium or endocardium. The myocardium remained healthy and hence he had been able to carry on without much difficulty for a sufficiently

long time till the effusion developed to an enormous size due to its very gradual growth and till he was finally incapacitated by pressure-effect which prevented adequate filling of the heart. Usually no signs of congestive heart-failure are seen among tuberculous subjects except in those followed by constrictive pericarditis. Generally pericardial effusion of tuberculous origin is much better endured by the patient than the more acute rheumatic pericardial effusion with the same amount of fluid.

The diagnosis of tuberculous pericarditis is by the demonstration of the tubercle bacilli in the aspirated pericardial fluid, by smear, culture or animal inoculation or by the finding of tuberculous granulation tissue by pericardiectomy at operation or at autopsy. In the living subject with pericardial effusion the tubercle bacilli cannot be demonstrated very often. A relative increase of lymphocytes in the aspirated fluid is suggestive of a tuberculous origin. In this case aspiration was refused. The presence of other tuberculous stigmata may have been present in this case, which is quite evident.

When he reported in November, 1950, he had also massive effusion of the left pleural cavity associated with shift of the mediastinum to the right. The question that naturally arose was whether the effusion in the left pleural cavity was a part of a polyserositis or arose from a spontaneous rupture of pericardial effusion. Of course, the former is very common. If it is an associated pleural effusion, however much the case is efficiently treated with all the antibiotics at our disposal, there will always be a certain amount of thickening of the pleura or slight haziness in the left costophrenic angle. In this case, they were not present. It is not improbable that the effusion might have got completely absorbed leaving a normal pleura.

The aspirated fluid was hæmorrhagic in character which confirmed the diagnosis of pericardial effusion of tuberculous origin, made earlier, since malignancy had been excluded and also the fluid in all probability may have had its origin in the pericardial cavity. For determining the predominance of lymphocytes in the aspirated fluid, facilities were not available. After the second aspiration the cardiac outline was almost normal in size and shape. If the effusion was an associated one, the cardiac silhouette must conform to pericardial disease with effusion but in this case, it was not.

Tuberculous effusion may be spontaneously absorbed. It is rare for a tuberculous pericardial effusion to rupture into the pleural cavity. The graphic description given by the doctor-patient about the dramatic change noted on 29-10-'50 and 30-10-'50, the subsequent history, clinical findings on examination at that time, the restoration of the cardiac outline to its normal size and contour after aspiration and the appearance of the left pleural sac as a

reservoir as it suggested itself after aspiration, suggested the strong possibility of the rare occurrence of spontaneous rupture of pericardial effusion of tuberculous origin into the left pleural cavity. The careful follow-up of the case during the last five years has confirmed the diagnosis.

TREATMENT:—As a therapeutic procedure for the relief of dyspnoea, it is rarely necessary to tap a pericardial effusion of tuberculous origin since there is a strong tendency for it to get absorbed spontaneously, especially after the introduction of streptomycin and other anti-tuberculous drugs which have given great promise of help. In a few instances of pericarditis of this origin, streptomycin in a dosage of two to four g. daily has been apparently helpful but its toxic effects have been a distinct drawback. There are rare occasions when a pericardial tap is life-saving and it is a difficult decision for the clinician to take whether the danger is greater in tapping or not tapping. The danger probably would be nil if fluid is present but we will still have difficulty in differentiating a dilated, atonic heart that can have the same globular appearance and the small pulsation as a pericardial effusion. The rapid change in size is helpful both when determined clinically and when determined by the roentgenogram.

With the development of serious symptoms and signs, (symptoms:—breathlessness, cough and oppression coming from the pressure effects; signs:—dyspnoea; the arterial pressure is low especially the pulse pressure, there is often a well-marked paradoxical pulse and the systemic venous pressure is elevated with resulting prominence of the jugular veins and enlargement of liver); signs of acute or subacute constrictive pericarditis the so called cardiac tamponade may develop. To avoid these complications, paracentesis will be absolutely necessary and will necessarily have to be restored to.

It appeared to be quite proper that the latest literature on this subject of treatment of pericardial effusion in cases of repeated congestive heart failure and cardiac tamponade should be reviewed. Pleuropericardial fenestration operation has been suggested as treatment for such conditions and successful case reports have been recorded. The rationale of such treatment is that the surface area of the pleura is relatively large and possesses drainage channels differing from those of the pericardium and the pleural sac is easier to approach for aspiration than the pericardium. It is suggested therefore, that a foramen constructed on the pericardium will empty the pericardial fluid into the left pleural cavity from which it will be easily absorbed or aspirated.

The technique of the operation is that under general oxygen and ether, the chest is entered by resection of the costal cartilages of the third and fourth ribs on the left side. The distended

pericardial sac easily presents itself. An opening, about five cm. in diameter is made between the pericardial and pleural cavities at a point low on the pericardium and at the same level in the lower portion of the pleura. A catheter is inserted through the window into the pericardial sac and can be brought out through an incision at the costophrenic sulcus, if required. The patient has usually an uneventful post-operative course. This new approach merits further study.

Summary.—An interesting case of tuberculous pericardial effusion with spontaneous rupture into the left pleural sac and healing, is reported.

The effusion developed inspite of the original focus of tuberculosis in the lungs having been arrested at the earliest opportunity by early efficient treatment. Tuberculosis of the pericardium is not so rare as is generally supposed.

The available data relating to tuberculous pericarditis have been discussed.

The difficulty in arriving at a clinical diagnosis of tuberculous pericarditis with effusion is emphasized and the value of roentgenology in the early diagnosis of this condition is stressed.

In discussing treatment of this condition, in cases of repeated congestive heart failure and cardiac tamponade, the *Pleuro pericardial fenestration operation* recently introduced is mentioned in detail and it merits further study.

References :

1. Annals of Internal Medicine, April 1955. 42, 38.
2. British Authors (1951)—A Text-Book of X-ray Diagnosis Second Edition.
3. Ghosh, P. K. (1955)—The Indian Practitioner, VIII, 637.
4. Freedman Eugene, (1939)—A. J. R. R.
5. Peter Kerley, (1936)—Recent Advances in Radiology.
6. Price, F. W. (1941)—A Text-Book of the Practice of Medicine, 6th Edition.
7. White, P. D., (1951)—Heart Disease, 4th Edition.

PROGNOSIS OF ULCERATIVE COLITIS

F. C. Wheelock and R. Warren (*New England J. Med.*, March 17, 1955) present a follow-up study of 483 patients with ulcerative colitis seen at the Massachusetts General Hospital before 1943. Of 343 patients followed for ten or more years or to death, 232 (48%) were eventually operated on for ulcerative colitis. Over half the patients who were operated on or died without operation did so within the first three years. With most patients living after ten years the condition was under control whether treated with operation or without. Carcinoma of the colon developed in 31 patients, of whom 24 are dead and seven alive, two for more than five years, after operation. Intestinal obstruction is an appreciable hazard after surgery for ulcerative colitis, but usually occurs within a year of the operation. Improved non-operative therapy has prolonged the time between onset of the disease and surgery and has made operation safer when it is necessary. With the increased survival of patients with colons involved in ulcerative colitis, more cases of carcinoma are being discovered. In any patient with a definite diagnosis of established chronic ulcerative colitis at the end of three years of treatment, colectomy and ileostomy should be recommended. Patients who prefer the risk of cancer to the handicap of ileostomy should receive barium enema and sigmoidoscopic study twice a year as long as the colon remains and regardless of symptoms.—(*M.J. of Australia*).

CASE NOTES AND COMMENTS ON AN ATYPICAL CASE OF SYPHILITIC ANEURYSM OF THE DESCENDING THORACIC AORTA

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R.N.D., 35, a Hindu male, labourer was admitted in this hospital on 11-5-'55 with the following complaints :—

(1) Persistent boring pain in the back and deep in the chest for 1 year; (2) Slight dry cough for 2 months; (3) low irregular fever for 2 months; (4) Insomnia for 1½ months and (5) a slight degree of dysphagia for 1 month.

History of present illness:—The onset was insidious. The patient said that he was getting a dull, deep boring pain in the back and deep in the chest for the last 1 year which was gradually increasing in intensity. The pain was persistent and showed paroxysmal exacerbations during which the pain became almost unbearable. It did not show any radiation. The rest of the symptoms mentioned above developed subsequently and gradually. At the time of admission, the pain was of moderate severity.

History of past illness:—Showed nothing suggestive.

History of syphilis:—He confessed to having had an exposure about 8 or 10 years ago; but denied any primary or secondary manifestations of the disease in the past.

Family history:—Revealed nothing suggestive. No history of his wife having aborted or given birth to a still-born baby.

Personal history:—He was a labourer, married for 10 years, and father of 2 children, the last child having been born 5 years back. He is addicted to tobacco chewing.

General survey:—He was an adult male, looking uncomfortable and distressed, moderately built and nourished; with slight anaemia, no cyanosis and no obvious syphilitic stigmata. The pulse rate was 84/min., regular with normal volume and tension and the respiration was 22/min. Temperature 98.2°F. B.P. 115/65 mm. Hg.

Respiratory system:—Normal. Trachea in central position; diminished V.F. over base of right lung; impaired resonance in right subscapular, right mammary and infra-mammary regions; diminished B.S. and V.R. in the above mentioned areas. The character of B.S. was vesicular. No adventitious sounds were heard.

Cardio-vascular system was normal except for a slight accentuation of the 2nd aortic sound.

Other systems showed nothing abnormal.

ing mediastinal growth occur in a relatively young person or when a patient complains of persistent severe pain in the back for which no obvious reason can be found clinically.

Acknowledgements.—My grateful thanks are due to Dr. P. D. Khanolkar, Civil Surgeon, Sholapur, for according permission to publish this case report.

DELAYED POSTPARTUM BLEEDING

The problem of delayed postpartum bleeding following full or near term-pregnancy, while relatively rare, is a constant source of concern to the obstetrician. Rockman and Brenner review their experience with 28 cases of postpartum haemorrhage requiring D and C seen in the Robert Packer Hospital Obstetrical Department in the past nine and a half years and compared it with that of the observations of others. Delayed postpartum bleeding while rare, presents a challenge to the obstetrician and surgeon to seek out possible aetiological factors and to develop obstetrical techniques and methods of diagnosis whereby this complication can be prevented. Their experience with 23 cases requiring D and C's to terminate postpartum bleeding during the past nine and a half years in which 7,568 women were delivered at or near term, very nearly approximates the incidence and experience of others in the field.

From their study and the observation of other writers, age *per se*, the Rh factor, antenatal complications, medication during labour, length of labour, the manner of presentation of the infant, the use of forceps, viability or prematurity of the infant, multiple pregnancy foetal abnormalities, mechanism of placental expulsion, and the use and timing of oxytocics in the third stage, play little or no part as regards occurrence of late postpartum bleeding.

It has been noted that the problem is not necessarily a problem of multiparity as might be expected. A high percentage of cases occur in the primigravida and secundigravida. An abnormal obstetrical history in so far as previous miscarriage, D and C or manual removal of the placenta, is concerned may well be important as an aetiological factor.

The role of the use of forceps to effect delivery is open to debate. A rather high percentage (50%) of their cases required forceps for delivery.

It is the opinion of Dieckmann that the injudicious use of ergotrate postpartum to maintain a firm fundus may predispose to sub-involution of the uterus and later bleeding on this basis.

It is possible that prolonged use of oestrogen-like substances to suppress lactation may also be a factor in subinvolution of the uterus.

Conflict of opinions exists as to whether the major cause of postpartum bleeding is due to retained secundines or subinvolution of the uterus. Our study gives weight to retention of secundines as the major cause.

As a mean of securing complete separation of the placenta, Dieckmann offers a plan for slow controlled delivery of the infant in three to four minutes during the second stage of labour. By his method of delivering the head, waiting 30 seconds, then delivering the anterior shoulder, waiting 30 seconds, delivering the posterior shoulder and waiting 30 seconds before delivering the rest of the baby he finds that in his experience the placenta separates completely, intact, in three to four minutes after the infant is born.

All writers advise that the placenta should and must be carefully inspected as soon as it is delivered. If any doubt exists as to completeness, reinvolution of the uterus should be made to search for missing fragments.

Erving contends that any postpartum patient who has lochia rubra beyond the sixth postpartum day, a subinvolved uterus or a persistent low grade fever is to be suspected as a case of retained secundines and should be treated as such.—(*Guthrie Clinic Bulletin*, July '55).

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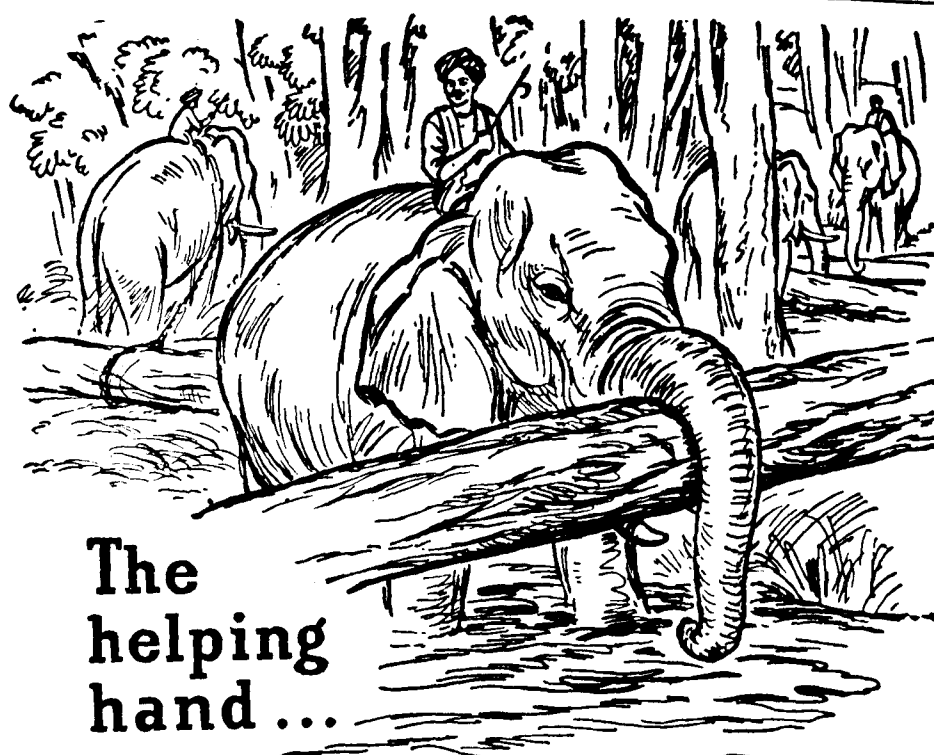
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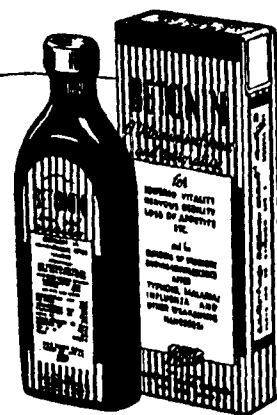
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Editorials

THE MEDICAL COUNCIL OF INDIA (44th SESSION)

ADDRESSING the 44th Session of the Medical Council of India held at New Delhi on 29th October 1955, Dr. C. S. PATEL, the President entered a strong plea for better pay, prospects and service conditions for teachers in Medical institutions and said that if they were to function efficiently and usefully they should be kept above want and free from financial embarrassments. The Central Health Council has fortunately taken up this question at the instance of the Medical Council of India; the Planning Commission is also reported to be moving in the matter, and it is hoped that the Council's recommendations will be accepted and implemented by the Union Government in a couple of years. If the above recommendations were to be given effect to by all State Governments, the Union Government should explore the possibility of granting them a subsidy in this connexion. The Centre appears to have taken a favourable view of this scheme and desires to take all powers of control over medical teaching by forming a central cadre of medical teachers. We had just referred to this scheme in our Editorial in the September 1954 issue of the ANTISEPTIC, when an indication was given by the Union Health Minister at a Press Conference, while she was at Madras in August 1954.

It would appear however, that some of the States are opposed to this scheme, because they feel their powers of control over medical teachers in their colleges will practically disappear by the creation of an All-India Cadre. We do not think that there is any need for such an apprehension on the part of the State Governments and as Dr. C. S. PATEL has rightly gauged the situation in this regard, it should be possible to divide suitably the powers of control between the Centre and State Governments in the same way as has been done in the case of the ICS and IAS, and some

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agreed formula arrived at by mutual discussion and understanding. In view of the great paucity of competent qualified teachers, Dr. PATEL suggested that the age of superannuation of medical teachers (whole or part-time), should be raised from 55 to 60 years, and in addition provision should be made for gratuity, pension and provident fund for the whole-time teaching staff. We believe the Union Government in the Ministry of Health is already contemplating the raising of the age of retirement from 55 to 60 years in the case of the Medical personnel in the Central Service.

Five more medical colleges, we are told, would be started during the Second Five Year Plan. Although there is great need for an increase in the number of medical colleges, the State Governments and sponsors of new colleges should see that the new institutions are properly staffed and equipped. "It is worse to have inefficient and ill-equipped colleges than to have no additional colleges at all," said Dr. PATEL.

With regard to the Conference on Medical Education proposed to be held shortly by the Central Government, the Council said that they (the Council) were the only statutory body which had been given powers to establish "a uniform minimum standard of higher qualifications for medicine in all the States." Whatever might be the decision of the proposed Conference it was the Medical Council of India who had to consider, examine and recommend to the authorities concerned the implementation of such decisions. We have already stated emphatically in the November '54 issue of the ANTISEPTIC that the Medical Council of India was the only statutory body competent to legislate for an uniform minimum standard of educational qualifications for medicine in all the States and we again strongly reiterate the same opinion. The Council resolved to form a planning committee to make recommendations to the Planning Commission about the planning of medical education in the teaching colleges and hospitals in the country.

The Council, by a resolution suggested that the medical graduates whose qualifications were not recognized, should either undergo a period of training for six months in the clinical subjects at the medical colleges, where they were trained, or produce a certificate of five years' active practice in the profession after their degree qualifications. After the training of six months, or on the production of such a certificate, their degrees should be recognised from the date the University degree was recognised and placed on Schedule 1 by the Government of India. We would like to repeat what we have so frequently stated in these columns, that in the matter of medical education as in every other matter relating to the teaching and practice of Medicine in India, the Union Government should be guided by the Medical Council of India which is a responsible, representative, statutory body created by an Act of the Legislature.

THE STATE'S INTEREST IN LABOUR WELFARE

RASHTRAPATHI Dr. RAJENDRA PRASAD, who inaugurated the Employee's State Insurance Scheme in Madras on the 14th November, 1955, said that the interest of the employees, the producers of wealth, "was an important consideration for the employers and also for the State, though the benefits envisaged did not constitute a new principle." The extension of the scheme to Madras City marks yet another instalment in the application to workers in specified industries of a system of social security which will ensure them of care and maintenance in the event of illness and consequent absence from work. When the scheme was inaugurated at Coimbatore in January last, the Madras State Minister for Industries and Labour expressed the hope that the employees in the whole of Madras State would be very soon covered by the scheme. But after ten months, it has been extended only to the Madras City embracing about 50,000 employees. Large industrial centres like Madurai and Tiruchirapalli await the introduction of this scheme, and outside the State there are States like Mysore, Hyderabad, Travancore-Cochin and Assam where the Act remains to be extended. The working of the scheme at Coimbatore has been satisfactory according to the State Labour Minister, as the authorities have received willing co-operation from the workers and their trade unions. In the City of Madras, however, not all the workers to whom the scheme will apply are organised in such trade unions. The State Government have decided to provide medical aid under the scheme through their own full-time dispensaries, which we are told, will be increased in number as and when need arises. The insurance scheme is now administered by a Statutory Corporation worked on a contributory basis, workers getting below Rs. 400 p.m. and their employers being called upon to pay; those earning below Re. 1 per diem, are exempt from contributing. Inasmuch as employees earning more than a rupee a day are obliged to contribute towards the cost of the scheme, the State Government must normally expect a large number of workers to seek all the benefits they are entitled to under the scheme. It is also possible that workers, who formerly did not seek relief for minor ailments, may now claim it as a matter of right. This contingency may be avoided to some extent if those who do not fall ill and do not seek relief, say, for a period of six months were given special awards or concessions, consistent of course, with financial and other considerations.

This scheme is a co-operative venture in which employers, employees and the State Government are all intimately associated, and so as Lt. Col. V. M. ALBUQUERQUE, the Director General of the E.S.I. Corporation stated in his welcome address, "the scheme must be worked efficiently and honestly (and may we add, with much sympathy and a minimum of red-tape?) if the benefits are to be directed

in proper channels" and made to reach the beneficiaries in time. We are told that a 60-bed hospital will be set up in a rented building in Kilpauk to give medical aid under this new scheme, and in addition some beds have been reserved as a temporary measure for maternity and T.B. cases in some of the existing hospitals in Madras City. Specialists have been appointed for giving expert treatment to workers whenever required and facilities for pathological and X-ray examinations and blood tests would also be provided. While we gladly welcome all these measures designed for promoting labour welfare, we do not know why a separate hospital for workers with 60-beds has been proposed. Would it not conduce to economy and efficiency if additional accommodation is provided in the already existing well-equipped hospitals, for such cases as may require hospitalization? In England where such a scheme has been in active operation for many years now, it was not considered necessary to establish new hospitals, but additional accommodation and treatment facilities were provided in already existing established hospitals. Perhaps our State Government will eventually come to a similar decision, as a result of experience gained in actual working.

In the context of this newly introduced measure of social security for the Welfare of Labour in this City, it might interest our readers to know that the benefits provided under the scheme are of five different types: viz., medical benefit, sickness benefit, maternity benefit, disablement benefit, and dependant's benefit. While the medical benefit is given in kind by way of free treatment of insured employees, the others are all cash benefits. Under the Constitution of India, *Health* is the responsibility of the State Governments. The Medical benefits are therefore, to be provided by the States. Medical care is provided to insured persons in case of sickness, maternity and employment injury, and includes, besides necessary medical examination at dispensaries or clinics, free supply of drugs, dressings and other appliances in sufficient quantities, skilled supervision at child birth, ante-natal care and post-natal care, and immunisation against common infectious diseases. At the dispensaries drugs like sulphonamides and antibiotics which are ordinarily out of reach of persons with low incomes will also be supplied free of cost.

Besides free medical care, a factory employee is entitled to receive from the Corporation through its local offices, the following cash benefits, viz., sickness benefits during periods of sickness, maternity benefit for women employees, temporary disablement benefit due to employment injury, and permanent disablement benefit during the rest of life in case the temporary disablement due to employment injury results in permanent disablement whether total or partial and dependants' benefits to the dependants of an insured employee who dies as a result of employment injury.

I concede, of course, doctor, that there's nothing like mother's milk, but what happens when mother cannot feed me? And in any case, after five months, you know mother's milk often does not suffice. And what with all this I hear about the extreme importance of the first two years of life in determining the physical development achieved at maturity, I just cannot be too careful. They even tell me that there's a definite relation between height at two years and that at maturity. Just imagine!

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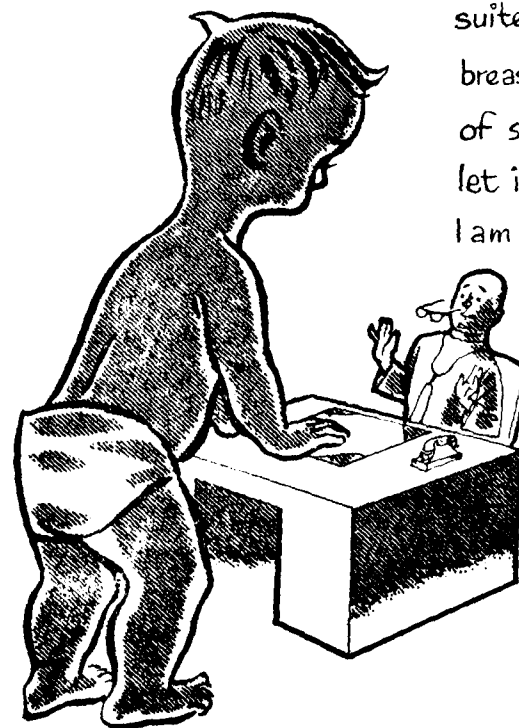
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Gleanings from the Medical Press

OBSTETRICS AND GYNAECOLOGY

Failures in sterilization.—(W. J. Surg. Obst. Gynaecol., March 1955).

One hundred and five operations for the prevention of pregnancy have been done since January, 1942. No attempt has been made to follow every patient on whom a tubal ligation was done. Data have been collected from the records of those who have returned pregnant following the preventive procedure. Five such patients have been cared for and naturally all were curious as to "how" of another pregnancy.

Because these five failures returned and presented an opportunity for study it was hoped that some plausible explanation might be arrived at and good reasons determined. This has been successful only in part:—

Of some interest are the data recovered in an analysis of the five cases presented:—

1. The operations were done in the period from January 1942 to September 1954.
2. The age of the patients ranged from 29 to 32 years.
3. Three sterilizations were done at the time of caesarean section.
4. Two were done twelve to 24 hours after delivery of the third or fourth child.
5. In each instance portions of removed tissues were confirmed as fallopian tube by the hospital pathologist.
6. The time interval between tubal ligation and subsequent pregnancy was two months, three months, twelve months, 23 months and 53 months.
7. In four patients the condition of the tubes has been inspected at laparotomy. The fifth has been subjected to hystero-salpingography.

The simplest method of preventing pregnancy is to block the lumen of the tubes. At least 100 different methods for accomplishing this end have been described. This would indicate, and is

so proven in many respects, that none is a guarantee against failure.

The operation for blocking tubal lumina was practically the same in each of the five cases under consideration. The only variation was the use of non-absorbable suture material (black silk) in the first patient. For some reason, years ago, cornual resection was chosen. At the time this seemed to be the simplest to do and to cause the least trauma.

Briefly the technique consisted of crushing gently, the tube at its juncture with the cornu of the uterus and again about an inch laterally. A double ligature of No. 1 chromic catgut was carried through the mesosalpinx and one-half of it used to tie each crushed area. The intervening portion of the tube was then excised.

The same operation, resection at the uterine cornu, was used in all cases. The sites of sterilization have been visualized in four patients. The fifth has been subjected to hysterosalpingography. Probably endosalpingiosis explains the failure in two patients. In three cases, no cause is determined.

A number of failures occur regardless of the operation. Pregnancy occurs most frequently after postpartum sterilization. Removal of a portion of the tube further removed from the cornu might possibly be less inducing to recanalization due to endometrial proliferation or endosalpingiosis. Pregnancy will mysteriously take place in the face of no demonstrable defect in operative procedure or technique.

Prevention and treatment of complications in diabetic and prediabetic pregnancies.—(Semaine hop. Paris, 31: 662-666, Feb. 22, 1955: (In French); via J. of Am. Med. Assoc.).

All the standard precautions must be observed if pregnancy in diabetic women is to be successfully managed. The diabetes must be strictly controlled by

diet and insulin therapy; the clinical, hormonal, and obstetric state of the patient should be completely assessed at the end of the 35th week to determine whether or not an early caesarean operation is advisable; and the care of the newborn infant should be scrupulous. Foetal mortality, however, is high, amounting to from 20 to 30% (normal, 3 to 4%) in women with frank diabetes, or, if abortions are included, to from 35 to 50%; in prediabetic patients, the rate, though well above normal, is slightly less: from 20 to 25%. Two factors closely related to the problem of foetal mortality are the tendency to foetal macrosomia seen in the children of diabetic and prediabetic mothers and the comparative frequency of obesity in the mothers, although the significance of this last is not yet fully established. The gravity of the prognosis for the foetus depends, apparently, on three principal factors: acidosis, which can be fairly easily guarded against, even in pregnant women; vascular changes, which are especially frequent in patients with long-standing diabetes; and hormonal imbalance, the effect of which is felt both in the diabetic and the prediabetic periods. Opinions differ in regard to the exact nature of this imbalance and the best method of correcting it.

PAEDIATRICS

Congenital pneumonia: A clinical summary.—(M. J., 4: 327-333, 1955, Baltimore; via *Journal of American Medical Association*).

Congenital pneumonia may be acquired days or weeks before delivery or it may have its inception during some stage of labour. Autopsies were performed on 76 infants at the Maryland Women's Hospital. These were either stillborn infants or those who died within the first three days of life. Pulmonary inflammation was found in 27 (35%); in 7 it was considered to have constituted a contributory cause of death; in 6 others it was the sole discoverable cause of death. The following conclusions were drawn from a careful study of the 13 severe cases in the Women's Hospital plus 15 comparable cases from the Johns Hopkins

Some authors believe that it consists of an increase of chorionic gonadotropin and a reduction of folliculin and pregnadiol, as in toxæmia of pregnancy; Jayle, on the other hand, found an isolated and often substantial lack of folliculin. The authors' experience and that of others show that the foetal prognosis can be significantly improved by hormone therapy, which may consist either of stilboestrol alone or of a combination of stilboestrol and progesterone. Whichever method is chosen, it should be started early in order to have the maximum preventive effect, and it should always be adjusted to the individual needs of the patient as shown by regular assays of hormone levels. Foetal macrosomia is apparently best explained by a hypersecretion of somatotropin, which would also account for maternal obesity and the subsequent appearance in some women of frank diabetes. Solution of the problem of pregnancy in prediabetic patients depends on early detection of the prediabetic state as suggested by foetal deaths without a satisfactory explanation, foetal macrosomia, and gestational obesity; prompt institution of measures designed to delay the appearance of frank diabetes; and perhaps, preventive treatment with hormones in the event of later pregnancies.

Hospital. Ten examples were called from the 28 for this study of clinical characteristics. The rest were eliminated because they were stillborn births or because other lesions were found at autopsy that might have confused the symptomatic picture. Six of the 10 were full-term infants, and 4 were premature. All the full-term infants were sick at birth. Three showed characteristic asphyxia livida, two had asphyxia pallida, and the sixth breathed promptly but was grayish and dusky in colour. Breathing time in the others was delayed 2.5 to 10 minutes; crying was delayed or never occurred. The respiration was abnormal after spontaneous breathing was established. Physical signs varied. In most, dullness, to percussion could be elicited and either rhonchi or fine crackling rales could be heard. Fever occurred in

all the mature infants. Neurological complications were present in four of the six. These consisted either of persistence of flaccidity or of the development of hypertonicity and rigidity of all of extremities and back. The heart failed in two, as evidenced by cardiac enlargement, poor heart sounds, and enlargement of the liver. In the premature infants who died of pneumonia, the clinical picture was much less sharply defined. They were all tiny (1 to 2½ lb. (453.59 to 1,134 gm.), and they all became deeply cyanotic shortly after birth. Roentgenoscopy shows a fairly characteristic distribution of shadows. Intrauterine pneumonia must be differentiated from a number of morbid conditions that commonly affect the newborn infant. This task is rendered doubly difficult by the fact, demonstrable by postmortem examination, that pneumonia often complicates many of these same conditions. The authors briefly discuss the differentiation of hyaline membrane disease, atelectasis, and pneumothorax. Congenital pneumonia is not necessarily fatal. Vigorous antibiotic therapy of mothers whose membranes had ruptured prematurely will probably, although not surely, prevent a certain number of cases. Antibiotic therapy of the infant must be begun at the first suspicion that pneumonia might be present, and must be intensive. Both the paediatrician and the obstetrician must develop a greater awareness of this condition.

Difficulties in treating children with large doses of salicylates in rheumatic fever.—(*Lancet*, 2: 1197, December 4, 1954).

Between 1948 and June 1954, 52 children, aged 4 to 14 years, received 58 courses of salicylate treatment, lasting between 22 to 196 days. The initial daily dose of salicylate was 1½ grains per pound of body weight daily, and the dose was altered when necessary to achieve a serum salicylate level of 30 to 40 mg./100 ml. One child was given aspirin and sodium bicarbonate in equal amounts but sodium salicylate was used for the

other 57 courses of treatment. In 37 courses of treatment with sodium salicylate the same amount of sodium bicarbonate was given; in 12 courses cortisone also given, and in 8 courses the sodium salicylate was given alone. The medicines were given four hourly. The salicylate solutions, flavoured with a little raspberry syrup, were freshly prepared for each case in small quantities requiring renewal in a few days. Where sodium bicarbonate was given this was from a separate bottle. These precautions were taken to prevent inaccuracy of dosage due to deterioration and precipitation of the salicylate. As a further check the solutions were analyzed occasionally to ensure that they contained the prescribed dose.

The observations in the present study suggest that sodium bicarbonate is unnecessary in salicylate treatment. Children with rheumatic fever and receiving high doses of salicylate should be in a hospital where close observation is possible, for the following reasons:—

1. Frequent adjustments of dose are necessary if therapeutic serum-salicylate levels are to be maintained and toxic features avoided.
2. Laboratory facilities are essential for the estimation of serum-salicylate levels.
3. Hyperpræa is a common toxic sign in children and skilled staff is necessary for its early recognition.

It is felt to be unnecessary to use sodium bicarbonate with salicylate routinely; but, when salicylate is used alone or with cortisone, it should be remembered that toxic effects and excessively high levels often occur without very large doses. The maintenance dose of salicylate in 20 courses of treatment was never more than 1½ grains per pound of body weight and was often less.

The development of tinnitus or of deafness is not a reliable sign of intoxication in a child, because dangerously high serum salicylate levels were attained without any complaints of these symptoms.

Laryngeal lesions from misuse of voice.—(*Modern Medicine*, Sept. 1, '55).

George B. Ferguson, M.D., Durham, N.C., reports that spastic misuse of the voice often leads to organic laryngeal disease. Some types of occupation as well as specific personality types tend to the production of spastic vocal disorders and to ultimate vocal cord damage.

When a high-gearred nervous person with rapid, explosive, continuous speech is placed in a job which fosters tension, trouble is likely. The politician, teacher, minister, high-pressure salesman, and harried mother are all susceptible. Any patient with chronic or frequently recurring laryngitis should be suspected of having vocal trauma.

Acute vocal traumatic lesions come on suddenly and usually subside promptly. Submucous hæmorrhage of the vocal cords is not uncommon in the enthusiastic sports fan. Acute traumatic laryngitis may be induced by similar vocal indiscretions. Lesions of this type usually clear with brief periods of vocal rest and rarely leave any permanent damage.

Some chronic organic laryngeal disorders appear to be definitely associated with spastic or hyperfunctional disorders. Vocal nodules occur most frequently in workers who must speak above noise. The prevention and sometimes the cure of this lesion seem to lie in simple reduction of voice use. Insulation and sound proofing of industrial plants often will allow reduction in the use of the voice. Patients must learn to speak as little as possible and to move closer when speaking to another person.

Contact ulcer is less frequent than vocal nodule and presents a complicated problem. The patient with this lesion usually exhibits severe nervous tension and often has psychiatric troubles. The condition is perichondritis of the vocal process of the arytenoids. The patient with contact ulcer, often tense and continually active, is best treated by very careful vocal reeducation.

Epistaxis in hypertension.—(*Irish J. M. Sc.*, 1954, 6: 427. via *Int. Abst. Surg.*).

Epistaxis increases in frequency from the third year until puberty; it is then more rare until late in life. Epistaxis is a common complication of hypertension and arteriosclerosis.

Little's area or Kiesselbach's plexus on the nasal septum is the commonest site of hæmorrhage. However, in hypertensive patients the lateral wall and the posterior segment of the septum are the more common sites.

Cardiovascular epistaxis usually starts with a sudden and severe hæmorrhage. Many hypertensives, when seen, are found to have normal or low blood pressure—a result of shock due to hæmorrhage.

The author recommends first the method of treatment described by Trotter: prop the patient up with a comfortable inclination to one side, arrange a large pad of wool for him to dribble into, put a dental prop between the teeth, forbid him to breathe through the nose or to swallow, and give a substantial dose of morphine. Transfusions are given when required. Usually no complications are encountered with this treatment, but 31 per cent of patients treated by nasal packing develop complications.

When possible, the bleeding area is cauterized. The author discusses the various methods of anterior and post-nasal packing.

If all other methods fail, it becomes necessary to stop the hæmorrhage by occlusion of the bleeding vessel or the main trunk from which it springs.

Bleeding from above the middle turbinate comes mainly from the anterior and posterior ethmoidal areas. Using the Ferris Smith approach, the anterior artery is occluded by a silver clip and the posterior artery is treated by diathermy. For hæmorrhage below the middle turbinal bone the easiest vessel to ligate is the external carotid. More recently ligation of the internal maxillary artery has been recommended.

The author reviews 80 cases of epistaxis associated with hypertension

DEC. '55]

which were admitted to the Royal Victoria Infirmary. Fifty-six (70%) patients were successfully treated by Trotter's procedure; 8 patients were treated by cauterization; packing was resorted to usually when simpler methods had failed; 16 patients had nasal packs, preferably with ribbon gauze damped with liquid paraffin. The complication rate was 31.25 per cent. In 32 cases (40 per cent) the exact site of bleeding was not determined;

bleeding was septal in 12 cases, from the roof in 11 cases, and occurred posteriorly on the lateral wall in 25 cases.

No relationship could be found between the severity of hæmorrhage and the blood pressure, source, or age of the patient. Sex was not relevant. The older patients appeared to become shocked more quickly and more easily, and required a longer stay in the hospital.

OPHTHALMOLOGY

Corneal transplantation: a review of 365 operations.—(*Arch. Ophth.*, 1954, 52: 871; via *Int. Abst. Surg.*, Sep. 1955).

Three hundred and sixty-five corneal transplantations, all but 18 of which were performed by the author, were analyzed. After reviewing various other surgeons' results and opinions, he found that his results were in accord with their statements that there is an inverse relationship between the size of the opacity and the extent of the corneal vascularization on the one hand and the resulting clarity of the graft on the other.

Twenty-five patients necessitated a second graft operation, and 5 had three operations. Thirteen patients having a clear cornea on leaving the hospital, had no follow-up; 18 were checked in less than 2 months, and of these 55.6 per cent had clear, and 44.4 per cent had clouded corneas. The remaining 299 patients were followed up for 2 months or more; of these, 64.5 per cent had clear, and 35.5 per cent had clouded corneas. Seventy-five of the 299 had had keratoconus, which is the most favourable indication.

Excellent and complete tables are given in the original article and should be read by those interested in keratoplasty.

Keratoconus is generally considered the most favourable indication, and the author found 89.3 per cent of his patients (75) to have clear corneas, 1 requiring enucleation because of glaucoma.

Groenouw's dystrophy resulted in 85.7 per cent of the clear grafts (24 of 28 cases). This condition is second in the prognosis list in the author's series, although other surgeons rate it less favourably.

Next successful in the series was nonspecific scarring resulting in 68.8 per cent of the clear corneas (11 of 16 cases).

Twelve of 18 grafts with postulcer scarring remained clear (67.7%). Interstitial keratitis (45 cases) showed clear corneas in 62.2 per cent. Leucoma (9 cases) resulted in 5 clear corneas. Active ulcer, (6 cases, of which 4 were lamellar and 2 penetrating), resulted in 3 clear corneas and all of the patients were relieved of discomfort. In 11 cases with scarring of the trachoma, 5 of the corneas remained clear.

Chemical burns, traumatic wounds, and explosion injuries generally produced poor risks. Nine patients showed no clear grafts after chemical burns. In 2 cases of traumatic scarring the corneas remained clear, while in 7 of 10 explosion scars the corneas were clear. These results agreed generally with other surgeons' reports. Adherent leucoma (17 cases) resulted in clear corneas in 6 cases (35.5%). Fuch's dystrophy, previously considered a contraindication to transplantation, resulted in clear grafts in 4 of 13 cases (30.8%). The author believes that a graft should be done in these cases before it progresses beyond 20/200 vision.

Various other types of patients were operated upon, including those with

sclerosing keratitis, band dystrophy, and bullous keratitis, with some success, but the cases were too few to tabulate.

The outcome regarding vision revealed that of 222 cases, 160, or 72.1 per cent, showed some improvement. Fifty-seven (25.7%) of the patients saw 20/30 or better, 46 (20.7%) saw no better, while 13 (5.9%) had poorer vision. Three patients had panophthalmitis requiring enucleation.

In cases re-operated upon, 3 of 5 corneas remained clear, but only 2

patients had visual improvement.

Of 54 lamellar grafts, 12 were done therapeutically, 15 remained clear, and 19 clouded. Four of these were preparatory to a penetrating graft, but 3 of the 4 clouded.

This very extensive report is of great value to all ophthalmologists and should be read in full. Dr. R. Townley Paton known for his ability and experience in this field, has contributed much toward elucidating many important factors in this relatively new branch of specialized surgery.

MEDICINE AND THERAPEUTICS

Rehabilitation of the patient with chronic rheumatoid arthritis: two-year study.—(*J. Chronic Dis.*, 1: 628-637, June 1955, St. Louis, via *Journal of American Medical Association*).

Rheumatoid arthritis is a progressively crippling disease of unknown origin for which there is no known cure. The fact that severe crippling and invalidism ultimately appear in from 10 to 15% of the patients with this condition makes the problem of their rehabilitation socially and economically important. Rehabilitation was formerly considered applicable chiefly to patients with a "burned-out" disease process. The advent of the adrenal and pituitary hormones for the better control of the inflammatory process of rheumatoid arthritis, however, suggested the possibility that a combined medical and rehabilitation programme might be used to advantage in patients with active disease. The favourable impressions obtained from work with a pilot group of severely crippled patients who were hospitalized and treated with a combination of cortisone and rehabilitation measures led to the establishment of a full-scale research project in December, 1951, at the Goldwater Memorial Hospital. The various types of special treatment needed included physical therapy, occupational therapy, remedial exercises, psychotherapy, psychological testing, vocational counselling, and assistance from social workers. Patients admitted during the first year of the study (group 1) had to

meet the following criteria: 1. They had to be within the 21 to 55 year age group, with severe functional impairment but without any obvious need for corrective orthopaedic procedures. 2. The rheumatoid process had to be active and progressive. 3. There could be no medical contraindications for hormone therapy. Less rigid criteria were adopted in the second year in order to obtain a group for comparison with the first, but the group 2 patients still had to have active and progressive rheumatoid arthritis, to be free from problems requiring primarily orthopaedic correction, and to be incapacitated for gainful employment. Patients in group 1 had an average age of 46 years, with a disease duration of 13 years. Those in group 2 averaged 40 years in age and had a disease duration of 7 years. All were evaluated medically, functionally, and psychosocially before treatment was begun. Cortisone or hydrocortisone in oral doses was the drug used in most cases. Physical rehabilitation measures were started as soon as the maintenance dosages of the drug were established, and the patients were then continued on both drug and rehabilitation measures. They were scored on their proficiency in the activities of daily living before treatment began, after the establishment of maintenance drug therapy, and repeatedly thereafter. Evaluation of the results at the end of the first two-year period showed that 14 of the 18 patients in group 1 and all 20 of those in group 2

DEO. 55] GLEANINGS FROM THE MEDICAL PRESS

had been discharged from the hospital. Only four group 1 patients still required custodial hospital care and even in these there had been a 20% increase in function. Functional improvement in the other group 1 patients ranged from 26% to 39% in the case of those who were totally self-sufficient group 1 of the totally self-sufficient group 1 patients was placed in a job. Full-time jobs were also found for 7 of the group 2 patients, 15 of whom were totally self-sufficient. Several of the patients not placed in jobs are now at home. These results show that patients with rheumatoid arthritis can often be saved from invalidism by a broad programme of rehabilitation.

The role of hypertension in the aetiology and prognosis of coronary occlusion.—(*Ann. Int. Med.*, 42: 369-376, Feb. 1955; via *J.A.M.A.*).

In order to determine whether hypertension affects the incidence of coronary occlusion and whether it alters the prognosis, Sigler reviewed a series of 1,160 patients with coronary occlusion with and without hypertension. Each patient selected for the present study had had many blood-pressure determinations both before and after the onset of coronary occlusion. The series included 946 men and 214 women. At the time this report was compiled 797 were still alive and 363 were dead. The cases were classified into four blood-pressure groups: group 1: systolic up to 140 mm. Hg., diastolic up to 90 mm. Hg; group 2: systolic 140 to 160, diastolic 91 to 100; group 3: systolic 161 to 200, diastolic 101 to 110; and group 4: systolic above 200 and diastolic above 110. This last group included some patients with blood pressures as high as 300 systolic and 170 diastolic. Each blood pressure group was subdivided into ages in decades with regard to the occurrence of the first attack of coronary occlusion in males and in females; the average longevity after the first attack of coronary occlusion; and the length of survival of more than one year, 5 years, and 10 years after the first attack of coronary occlusion. The ratio of males

to females as regards coronary occlusion was 4.4:1, while percentage-wise, hypertension was about twice as frequent in females as in males. It was found that in men coronary occlusion begins to appear earlier in life and its incidence progressively rises, reaching a peak between 50 and 59 years. In women, the peak is reached between 60 and 69. The incidence of hypertension likewise increases with age, but this increase does not correspond to the increase in coronary occlusion. Of the 363 patients who died, the few who died before 40 years of age were all in the normotensive group, except for one who died from uræmia. After that age, there was a progressive increase in deaths from coronary occlusion with advancing age, but such increase did not correspond to the increase in blood-pressure. A greater percentage of men than women survived more than 1, 5, and 10 years after the attack of coronary occlusion. However, a greater percentage of hypertensive than normotensive women survived. Thus the figures do not indicate that hypertension has any definite causal and prognostic relationship to coronary occlusion.

Triopathy of diabetes.—(*Arch. Int. Med.*, 94: 931, 1954, via *G. P.*).

According to Root, Pote and Frehner, when diabetes begins early in life, a triad is being recognized with increasing frequency; namely, the sequence in the same patient of neuropathy, retinopathy and nephropathy. They observed this syndrome in 155 cases. The majority of patients had had diabetes for well over ten years. An outstanding feature was the frequency of the triad in the more severe type of diabetes that has its onset early in life and in which diabetic control has been least exact.

In no case in the group could it be said that the patient had well-controlled diabetes. Until more exact information regarding the basic biologic defects causing these sequelæ is available, early and continuous attempts at control of diabetes by clinical methods are necessary if the lesions of the triopathy are to be prevented or postponed.

SURGERY

Anaesthesia for the burst abdomen.—(*Anaesthesia*, 10: 67-69, Jan. 1955, London, England; via *Journal of American Medical Association*).

Reviewing a small number of cases of burst abdomen, which occurred over the past 18 months, Conway and Thompson found that in these cases standard anaesthetic techniques do not produce ideal conditions for either the surgeon or the patient. A high proportion of these patients have pulmonary complications, post operative atelectasis, bronchitis, or pneumonia, and the majority are in a collapsed condition with a rising pulse rate and a falling blood pressure. Furthermore, since many of these patients had been operated on for abdominal neoplasms, they were in a cachectic condition, which increases the anaesthetic risk. The anaesthetic must produce full muscular relaxation for a comparatively short time with the minimum of upset to an already gravely ill patient. Local infiltration of the wound does not always produce adequate conditions, may further delay healing of the wound, and is much resented by the apprehensive patient unless he is given a dangerously heavy premedication. Regional block unduly prolongs the procedure and necessitates the injection of large amounts of relatively toxic drugs. Spinal analgesia is contraindicated in cases of burst abdomen by virtue of the fall of blood-pressure, which may prove fatal in a patient already in shock. The authors used a light general anaesthesia in most of their patients, but they found that while it was safer than local or spinal analgesia, it still left much to be desired. It was felt that the recently described techniques of "hibernation" anaesthesia would be especially advantageous in these cases, as it is claimed that this technique leads to a reduction in the incidence of postoperative pulmonary complications, and that the patient is much more fully protected from shock than under general anaesthesia. The authors present one patient in whom they employed this technique with good

results. They suggest that in poor operative risks this technique offers advantages over the more orthodox methods of anaesthesia.

Reaction failure in pulmonary tuberculosis.—(*J. Thor. Surg.*, 29: 335-343, April 1955, via *J.A.M.A.*).

Of 411 resection procedures performed on 400 patients with pulmonary tuberculosis between June, 1946, and Sept., 1951, 160 were pneumonectomies, 244 lobectomies, 6 segmental resections, and one nodulectomy. The first 38 patients were operated on without antibiotic therapy, while the remaining 362 patients received 1 gm. of streptomycin daily from one to 14 days before surgical intervention and from two or six weeks thereafter. The average patient was treated before intervention with prolonged bed rest and following resection bed rest prevailed for a minimum of six months. Failure of resection resulted in the early deaths of 21 patients within six weeks of surgery, a surgical mortality rate of 5.1 per cent. Additional 33 patients died six weeks or later postoperatively. Of the 357 patients who were followed up, 54 died, a mortality rate of 15 per cent. Inadequate functional reserve was a major cause of both early and late deaths. Whereas major blowout of a bronchial stump indicating insecure closure was responsible for the early deaths of two patients, empyema with late bronchopleural fistula accounted for one-third of the late deaths. In most cases these late hazards were felt to stem from seemingly innocuous but persistent pleural fluid. Twenty seven patients who had undergone resection left the sanatorium only to be readmitted for further treatment. Evidence of reactivation of the disease was revealed either by change in X-ray shadow or by the discovery of positive sputum. Fifteen (58%) returned during the first two years after the surgical intervention and most of these during the second year. Twelve of the readmitted patients had undergone pneumonectomy; this seems to reflect the

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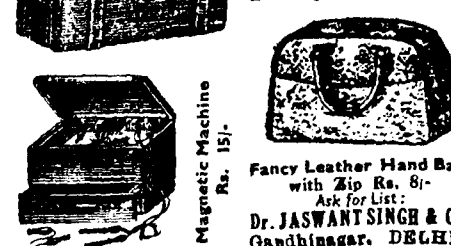
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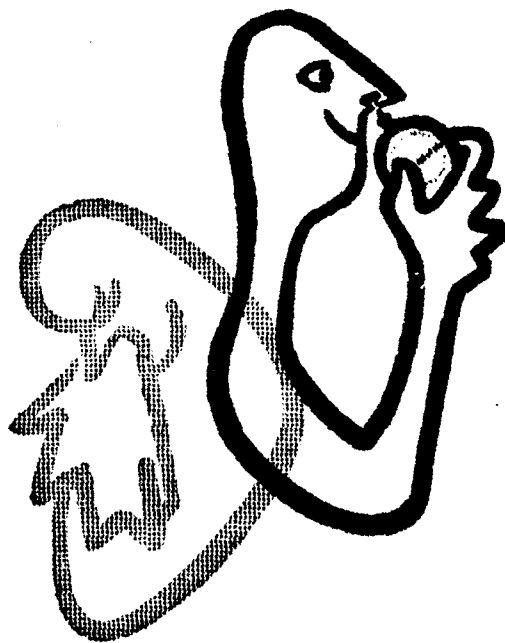
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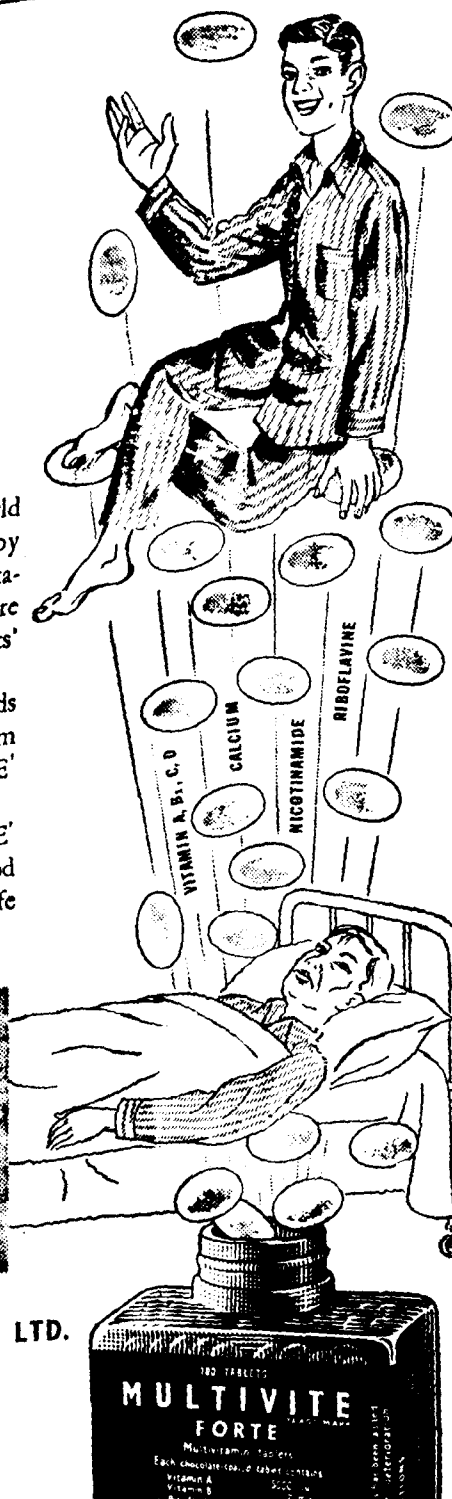
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greater severity of the original disease and probably the lesser resistance of the host. Of 18 patients who underwent multiple resections, 3 did as planned in their over-all therapy, while of the remaining 15, 13 required a second resection because of recrudescence of the tuberculosis postoperatively, one because of empyema and one because of stump blowout. Twelve of the 18 patients ultimately achieved a good result after removal of more lung tissue. Fifteen additional patients were also classified as failures because of postoperative extension of the disease or persistence of positive sputum despite

prolonged drug therapy. Two hundred and seventy-nine patients (78%) ultimately achieved a good result; they are at home and their sputums are negative. As demonstrated by the patients who had to be readmitted and by those who underwent multiple resections, residual caseous disease is a definite threat to a patient's future. In certain of these patients somewhat greater extension of the initial resection might well have prevented later surgery. Reactivation rather than "spread" is usually the manner of exacerbation of disease following treatment by resection.

Reviews of Books

BOOKS

The Medical Annual 1955—A Year Book of Treatment and Practitioners' Index. Edited by Sir HENRY TIDY, K.B.E., M.A., M.D. (Oxon.), F.R.C.P. and R. MILNES WALKER, M.S., F.R.C.S., 73rd year. 548 pages. (Published by M/s. John Wright and Sons Ltd., Bristol). Price 66 shillings.

The present volume is the 73rd consecutive issue of this well-known publication. It maintains the high standard set up by the publishers and editors throughout these many years. It provides a complete review of the most recent developments and progress in the several fields of medical and surgical practice. In spite of the immense literature that has grown up, the editors and the contributors have managed to compress this literature and present it in a very readable manner in as short and concise a form as possible. The contributors to this issue of the Medical Annual include some of the well known authorities on the subjects they have handled. There are more than 40 plates and a number of illustrations to make the book very valuable. There is a practitioner's index which gives recent pharmaceutical and dietetic preparations and medical and surgical appliances. A list of some important English and American medical works published during the preceding 12 months is also given. There is a very good index. The printing and get up are very good.

The present volume should be in the possession of every medical practitioner. U.K.R.

The Principles and Practice of Surgical Nursing—By D. F. ELLISON NASH, F.R.C.S. Pp. 1007, illustrated. Published by M/s. Edward Arnold (Publishers) Ltd., London. Sent by M/s. Orient Longs Ltd., 36-A, Mount Road, Madras 2. Price 30 sh.

During recent years on account of the advances in scientific discovery, nursing has become a very important subject. The art of nursing has become a highly specialised subject and the methods of nursing have changed beyond recognition. It is therefore appropriate that Dr. Ellison Nash should have brought out a book giving details of the principles and practice of Surgical nursing. The book is divided into 10 sections. The first section deals with Hospital organisation and the basic principles of treatment, the second section deals with hæmorrhage, shock, and asphyxia; the third section deals with anaesthesia, the fourth section deals with ward records, patients' notes, ward equipment and sterilisation; the fifth section deals with pre-operative preparation and post operative care; the sixth section deals with the principles of abdominal surgery and general principles of thoracic surgery; the seventh section deals with urological and gynaecological surgery; the

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