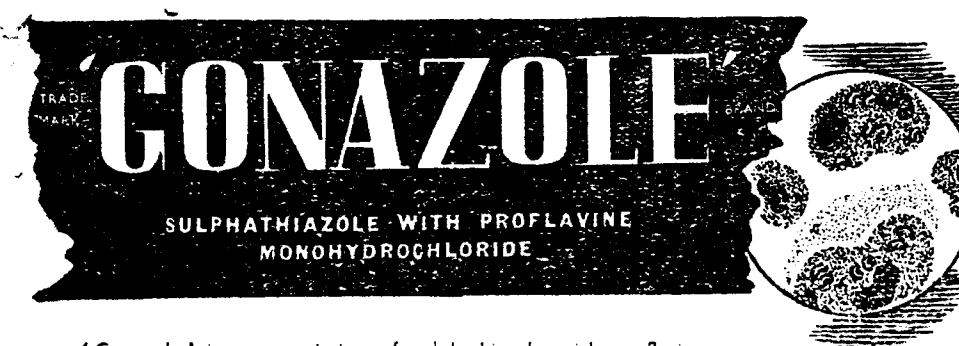


सर्वजनाः सुखिनो भवन्तु

THE MISCELLANY

Managing Editor: Dr. P. A. S. RAGHAVAN

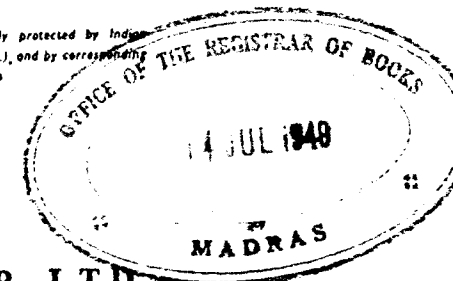
MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
INDIAN MEDICAL ASSOCIATION



'Gonazole' is an association of sulphathiazole with proflavine monohydrochloride in tablet form and is offered to the medical profession in response to a demand for a product of this nature for the treatment of gonococcal infections.
Each tablet contains 0.50 Gm. sulphathiazole and 0.015 Gm. proflavine monohydrochloride.

SUPPLIES: 'Gonazole' tablets are supplied as follows: Containers of 25, 100, 500.

The manufacture and sale of sulphathiazole is fully protected by Indian Patents Nos. 26513/39 and 26850/39 (May & Baker Ltd.), and by corresponding patents in many other countries



MAY & BAKER LTD

DISTRIBUTED BY MAY & BAKER (INDIA) LTD.



OUR EXPERTS

ARE

PIONEERS IN THE
PREPARATION OF
INJECTABLES AND
BIOLOGICAL
PRODUCTS
IN INDIA

**STANDARD
PHARMACEUTICAL WORKS LTD., CALCUTTA**

THE MAKERS OF

VINKOLA AND LIVERGEN

ARE ALSO

THE MANUFACTURERS OF

SERA: VACCINES

AND ALL INJECTABLE PRODUCTS

THEIR DEPENDABILITY RECOGNISED BY

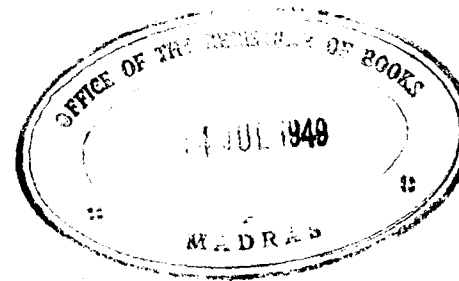
THE GOVERNMENTS OF

INDIA, PAKISTAN, BURMA, SIAM, CEYLON AND EGYPT.

ADDRESS YOUR ENQUIRIES TO

STANDARD PRODUCTS LTD.

67, SURESH SARKAR ROAD, CALCUTTA.



The MISCELLANY—April, 1949

- HYPERACIDITY
- PEPTIC ULCER
- ACID-DYSPEPSIA
- FERMENTATION
- PAIN BEFORE OR AFTER FOOD



COMPOSITION		
Each Drachm Contains:		
Calcium Carbonate	7.5	Grs.
Magnesium Carbonate	10.0	Grs.
Bismuth Carbonate	5.0	Grs.
Magnesium Trisilicate	7.5	Grs.
Aluminium Hydroxide	7.5	Grs.
Pancreatin	0.4	Gr.
Kaolin	21.0	Grs.
Ext. Belladonna Siccum	0.4	Gr.
Aromatics Q.S. to make	1	Drachm

*an ideal
antacid
in powder
form*

CARBO-KAOLIN

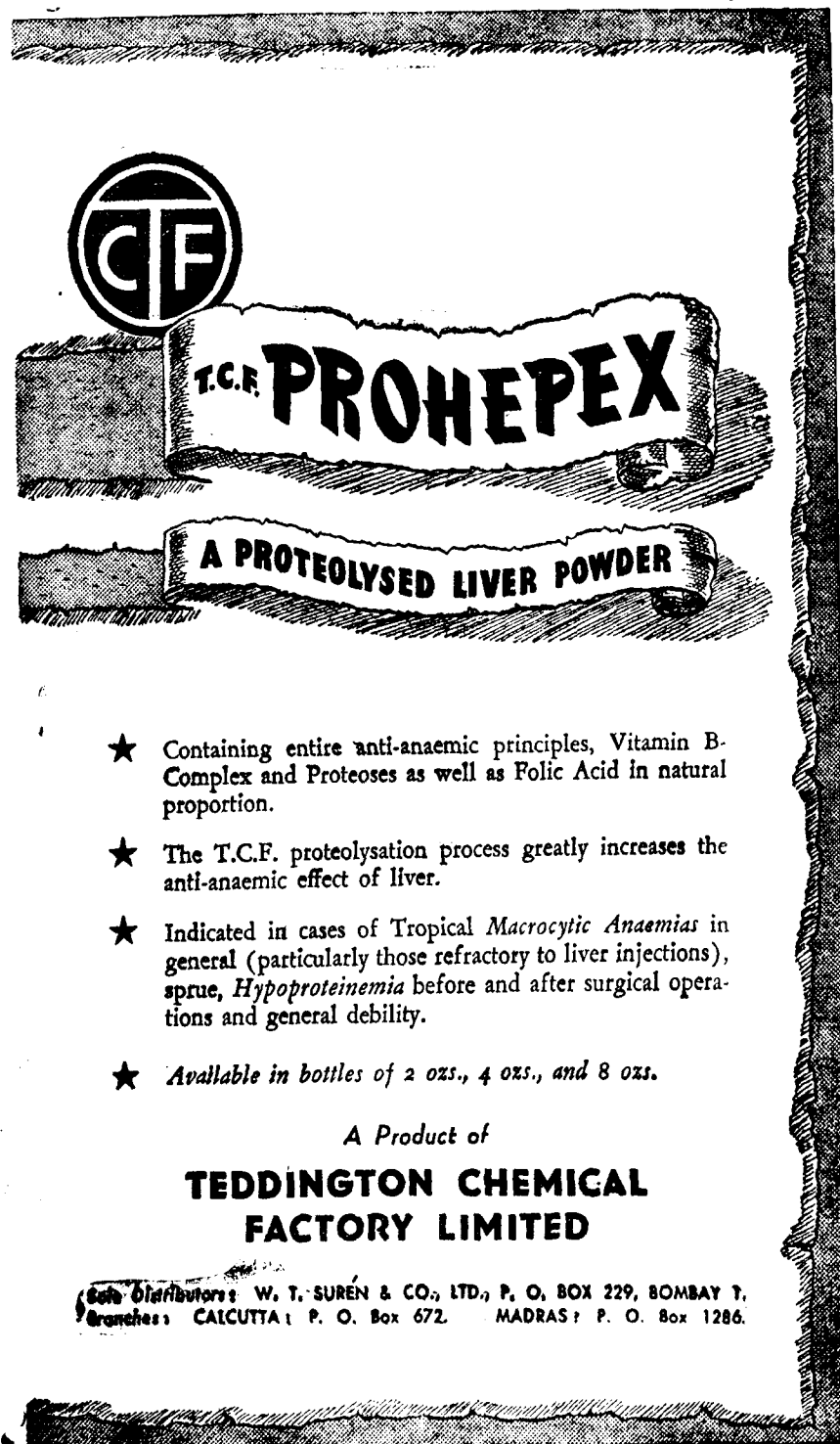


WITH & WITHOUT BELLADONNA

BOTTLES OF 3½ OZS.

ALEMBIC CHEMICAL WORKS CO. LTD., BARODA.

AL 441



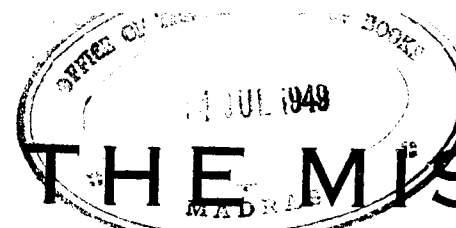
T.C.F. PROHEPEX

A PROTEOLYSED LIVER POWDER

- ★ Containing entire anti-anaemic principles, Vitamin B-Complex and Proteoses as well as Folic Acid in natural proportion.
- ★ The T.C.F. proteolysation process greatly increases the anti-anaemic effect of liver.
- ★ Indicated in cases of Tropical Macrocytic Anaemias in general (particularly those refractory to liver injections), sprue, Hypoproteinemia before and after surgical operations and general debility.
- ★ Available in bottles of 2 ozs., 4 ozs., and 8 ozs.

A Product of
**TEDDINGTON CHEMICAL
FACTORY LIMITED**

Sole Distributors: W. T. SUREN & CO., LTD., P. O. BOX 229, BOMBAY 7.
Branches: CALCUTTA: P. O. Box 672. MADRAS: P. O. Box 1286.



(FOR CIRCULATION AMONGST MEMBERS ONLY)

THE MISCELLANY

MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
THE INDIAN MEDICAL ASSOCIATION

VOL. XV]

APRIL 1949

[No. 10

ACUTE ANTERIOR POLIOMYELITIS

BY

N. S. NARASIMHAN, F.R.C.S., *Madras.*

Acute anterior poliomyelitis is an acute infective disease, endemic in the world.

isolated from 50% of affected children and from healthy contacts; it is present in sewage during epidemics.

Epidemics have occurred in this century after the first world war, in Scandinavia, Iceland, Australia, New Zealand and America (and in England in 1947 upto October—6500 cases have been reported). Usually it is a disease of childhood but there is a shift in age incidence to older people contrary to the trend of infectious diseases, with high percentage in some and low in others. 20% is above the age of 15 at present. Although cases do not occur before the age of one; 5% of cases in Madras was before the age of one.

The virus reaches the spinal cord by way of nerves innervating the gut. Passage takes place in the axen, the multiplication of the virus and the essential interaction between virus and nerve cell takes place only in the cell body. The mesodermal and glial cellular reaction characteristic of the lesions of the poliomyelitis is a sequel to this interaction.

It travels in spinal cord on the routes composed of short parts. The virus is strictly neuronotropic.

Attack rates are higher in rural parts than in towns in some countries and the reverse in others; the mortality rates are higher in towns and in the age groups 20 to 45; probably there is no immunisation due to sub-clinical infection.

Only men and monkeys are susceptible. In vitro, growth is possible only in the brain and case of human embryo. The virus has been found in the walls of the pharynx, contents of ilium and contents of descending colon.

The virus is filtrable—passes through asbestos and Berkfeld filter. Resists light, heat, drying and freezing for a considerable period and is also resistant to the action of chemicals: (This is of public health importance.)

The old theory of spread through pharynx and olfactory route is given up now. Pregnancy has little, if any, influence on the course of poliomyelities in a paralysed mother and in utero infections of the foetus are not known.

The route for entry and dissemination of the virus is alimentary tract and not through naso-pharyngeal tract. Virus is

There is a marked tendency to develop bulbar type of paralysis 9 to 12 days after operations of tonsils, adenoids and dental extractions. Do not do tonsil and adenoid operations during epidemics.

Other operations on head and neck or abdomen need not be postponed.

Carriers are not easily recognised by any test. Whether segregation can help is not known.

Pathological lesions are found in the central nervous system:—

- (a) Spinal cord and posterior root ganglion.
- (b) Medulla—vestibular nuclei and nuclei of various cranial nerves.
- (c) Cerebellum—roof nuclei.
- (d) Midbrain.
- (e) Thalamus, hypothalamus, globus pallidus.
- (f) Motor cortex—especially area 4 of Brokman.

Acidophylic necrosis of the cell—invasion by polymorpho-nuclear leucocyte and replacement by glial cells—constitute the essential pathology of the disease.

Signs and symptoms depend upon the number and location of neurons. The cells present in the meninges are an overflow from neuronal damage through perivascular spaces. Signs of meningeal spasm are early signs of neuromal damage and not of meningitis.

Changes occur in nerves, muscles and other tissues as bones.

After some months the affected bones become thinner than normal, rarefaction is widespread, the medulla is diminished in size and there is considerable shortening in the length of the bone.

Incubation period is 2 to 32 days (American observation).

Clinical Signs:—

(a) Prodromal stage—1 to 7 days before paralysis. The cause is not known.

(b) *Preparalitic stage*:—Meningeal irritation pain; reflexes normal.

(c) *Stage of paralysis*:—Generally the paralysis affects the limbs or groups of muscles, abdominal, spinal and cervical groups of muscles may be affected; the paralysis is sudden, flaccid in type; the muscles may be tender. Occasionally a single muscle only as ext. rectus of the eye, deltoid, quadriceps, femoris, gastrocnemii may be affected.

Dysuria,

Retention of urine, constipation in adults, localised paralysis,

Polio-Encephalitis, brain stem syndrome, (diplopia and or nystagmus)

Masseter paralysis,

Bulbar paralysis may be met with.

The following clinical types are met with:—

1. Non-paralytic poliomyelitis.
2. Paralytic poliomyelitis.
3. Polio-encephalitis.
4. Abortive poliomyelitis.

Prodromata are present in 70% of the non-paralytic and paralytic cases. They are of three types—

- (a) usual signs of any infective fever.
- (b) upper respiratory infection.
- (c) gastro-intestinal upset.

The criterion to classify as abortive or non-paralytic type is—

No changes in C. S. F. mean abortive type. Changes in C. S. F. and nystagmus mean non-paralytic type.

Abortive cases cannot be diagnosed in England by any test.

In non-paralytic cases—Meningitic signs, headache, stiffness of neck, no paresis, nystagmus (lateral or vertical

fixation) occurs and will disappear in convalescence.

In the paralytic form—prodromata, low meningeal signs, severe low back-ache as a local sign in poliomyelitis occur.

Sensory symptoms as pain, tenderness of the skin with pins and needles or a numb sensation confined to or more pronounced in that part of trunk or limbs which subsequently become paralysed are present.

Diagnosis—A lumbar puncture is of great value. Cell increase in C. S. F. particularly those of lymphocytes in a patient who presents signs of meningitis should suggest poliomyelitis.

(a) *In acute toxic polyneuritis*—symmetry of paralysis of four limbs, sensory loss, increase of protein only in C. S. F. are suggestive.

(b) *Infective neuritis*—is diagnosed by the absence of constitutional symptoms, a peripheral rather than a segmental type of paralysis, occasional presence of sensory loss, a normal C. S. F., the occurrence of relapses.

Clinical examination and recording the groups of paralysed muscles is essential.

Assessment of paralysed muscles by clinical examination is done. To record progress, the following scheme of noting is adopted:—

0. No contraction.
1. Flicker or trace of contraction.
2. Active movement with the force of gravity eliminated.
3. Active movement against the force of gravity.
4. Active movement against the force of gravity and power.
5. Normal muscular power.

Recording by noting the chronaxia is being done for the past eighteen years.

This method has been useful in evaluating incorrect claims and theories recently propounded by Sister Kenny and her group.

Experimental testing and chronaxia

The degree and extent of the injury are evaluated by chronaxia; this aids in the diagnosis and prognosis. Paralysis of a muscle in poliomyelitis is always accompanied by some degree of neuromuscular degeneration; this is the result of damage to the interior horn cells. Degeneration will be more or less marked, depending upon the intensity and extent of the lesions. If the chronaxia is slightly increased (partial neuromuscular degeneration) than there is a good chance that the involved muscles may recover completely. Muscles with total degeneration (chronaxia markedly increased) are doomed because their loss of function is the result of destruction of all the corresponding anterior horn cells.

A muscle is supplied by motor neurons from several segments of the spinal cord. Therefore total degeneration, implying a more widespread lesion is not so frequent as partial degeneration. Clinically paralysed muscles appear to be involved to the same extent while electrical tests show great differences and consequently prognosis will not be the same. Accurate electrical tests should always be made if one wants to have an exact evaluation of different methods of treatment. These tests show when to stop physiotherapy and when to begin orthopaedic treatment.

Measures adopted to limit the spread of infection are as follows:—

(1) Based on the assumption that the transmission was by droplet infection from the upper respiratory mucosa, restriction of travel, avoidance of places of assembly and segregation of suspects and contacts. Prevention of children from attending cinemas have been advocated.

168198

(2) The use of rebreathing anaesthetic apparatus is to be avoided during the course of epidemics.

(3) Effective chlorination of swimming water bath is good.

(4) General hygiene, especially the washing of hands is good. Care in common messes of washing plates is essential.

Treatment—Careful nursing, attention to bowels, and to retention of urine. (Catheterisation)

Sulpha drugs, Iron lung, prone position, aspiration of mucus, postural drainage by raising the foot of bed feeding by nasal and intra gastric tube in bulbar cases and respiratory paralysis cases are the essentials.

There is no specific treatment by drugs & X-ray.

Prostigmine—methyl sulphite 1.5 to 2 mgm. for adults with 1/100 gr. atropine by injection 1 mg—for children 8 to 13 years with 1/200gr. atropine.

0.5 mg—for children 2 to 6 years—no atropine.

Prostigmine bromide 45 mg by mouth with atropine 1/100 gr. for adults; children 12 to 14 receive 30 mg and atropine 1/200 gr. t. d.; younger children 15 mg. 2 to 5 times daily without atropine.

Treatment of paralysed muscles:—

(a) Complete rest to paralysed muscles—complete, uninterrupted rest until all signs of tenderness have disappeared keep the limbs warm by hot baths or radiant heat.

(b) When tenderness has disappeared, complete uninterrupted rest with massage (in 2 weeks; passive movement daily; complete full range of all joints) but the patient is recumbent for at least six months till the muscle recovery is complete.

(c) Extensive paralysis with muscle involvement of trunk—recumbency for 12 to 18 months is required.

(d) Prevent deformity by the application of suitable splints—keep the muscles in the best possible functional position. Prevent stretching of the paralysed muscle. Protect from the force of gravity and from deprivation of blood supply which follows on tight bandaging.

(e) Start massage when tenderness has disappeared to improve the circulation.

(f) Electrical stimulation with galvanic current also improves circulation. It is not necessary it should be prolonged or vigorous.

(g) Well regulated scheme of muscle training first without and then with resistance is the most important.

To summarise:—

(1) Prolonged recumbency i. e. 6 months in upper extremity and 12 to 18 months with lower limbs or spinal and abdominal muscle.

(2) Warmth.

(3) Prevention of deformity and stretching for 2 years by suitable splints.

(4) Massage when tenderness has disappeared.

(5) Muscle reduction.

(6) Support for residual paralysis when walking is permitted; these protect the paralysed muscles from strain whilst leaning than free from pressure.

Paralytic deformities occur due to the action of unopposed muscles or prolonged flexion of joint; operations are useful.

Tendon transplantation for wrist drop.

Stabilising operations on foot which produce bony ankylosis—hence done during adolescence.

Souttar's operation for flexion contracture of hip joint.

Contracture of knee—extension in Thomas' knee splint or with flexion piece attachment.

Hyper-extension of knee:—

(a) raise the heel to produce flexion at knee.

(b) supracondylar osteotomy.

Stabilisation of foot by triple arthrodesis of Dunn or Lambrinudi's method has given good results. Tendon lengthening for contracted tendo-achillis is good.

Arthrodesis of hip or only apparatus crutches when the hip is unsteady.

For spine, apparatus or bone grafting of spine.

For shortening

of limb—(a) lengthening of tibia or femur.

(b) destruction of normal epiphysis of lower end of femur and upper end of tibia at the age of 10 or 12.

(c) lumbar gangli-onectomy.

I have not given the test to find out the groups of muscle affected by paralysis and also the exercises against resistance.

Doctors interested will find them in Robert Jones text book.

A great deal can be done for these children by every doctor in the earlier stages. They recover wonderfully well. The belief entertained by Sister Kenny that no splinting is required in the case of paralysed muscles is not correct. Splinting should not be left for a long time without looking after the limb. All the joints of the limb should be put through a full course of movements. Hand massage, active movements first without and then with resistance without weight bearing according to the scheme of Lovett and Jones will give the best results. Surgery does help a great deal in children over seven.

I request that doctors will become polio-conscious and give these children correct advice. The disease is a self-recovering disease if there is no damage to the neurons. Any drug or oil used can always get some cures.

The Supreme Products of
THE BENGAL MODERN DRUG HOUSE LTD.

❖ **INOPEPSIN** ❖
The Digestive Corrective
of Choice

|| **MONOLECITHIN** ||
The Unequalled Nervine Tonic

Agents:

B. J. NATHAN & Co., Nowroji Road, Madras 10.

DIAGNOSIS OF SCROTAL SWELLINGS

BY

Lt. Col. D. S. IYER, M.S., F.R.C.S., *Surgeon, General Hospital, Madras*

In human beings the migration of the testicles from an abdominal position to an extra-abdominal one begins in early foetal life and is complete by the time the child is born. After birth the testicles are kept in a special pouch, the scrotum, whose main function is to maintain the testicles at a lower temp. than the rest of the body. This lower temperature than that of the body is essential for spermatogenesis, which is therefore lost when there is a nondescent or incomplete descent of the testis.

In the diagnosis of a scrotal swelling the clinical examination is conducted in the same way as for any other swelling. First step is inspection and this should be done in good light with the patient standing in front of the examiner who is seated downwards facing the patient and the patient stripped from the navel. This simple step will reveal to the eyes, the size, shape, and symmetry or otherwise of the scrotum, and the diseases of the scrotum itself. Conditions like epithelioma of the scrotal skin and elephantiasis of the scrotum can be recognised at a glance.

It is palpation that determines the size, shape, position and consistency of the scrotal contents, i. e., the structures which were extruded from the abdomen into the scrotum viz, the spermatic cord, the testis and the epididymis. The spermatic cord is palpable from the top of the testis up to the external ring. It is therefore best felt at the neck of the scrotum. Feel the neck on either side using the right hand for the left side and the left hand for the right side and palpate the cord between the index finger and the thumb. The index finger is passed behind the neck and thumb in front to hold the cord and slowly the thumb is moved outwards, rolling the structures of the cord, between the index

finger and thumb. The feeling one will get than is that of a loose skin or bundle of soft strands running longitudinally, amongst which will be felt, a firm, whip-cord like structure, the vas. The cord leads to the testicle. The abnormal swellings that will be recognised will first be the swellings on the constituents of the cord, then swellings of the epididymis and swellings of the body of the testis, and swellings of the tunica-vaginalis. The first decision, one makes from the examination of the neck of the scrotum is whether the swelling is inguino-scrotal or purely scrotal. If it is inguino-scrotal, it is one connected with the funicular process of peritoneum which preceded the migration of the testis. (inguinal hernia)

Having examined the cord and found that the swelling is scrotal feel the testis. It is identifiable by its shape position and the peculiar sensation called testicular sensation. Examine the body and the epididymis.

If the testis is not identifiable than it must be obscured by fluid or blood in the tunica-vaginalis or the testis itself distorted by disease.

Conditions that will present are:—

(1) Cord at the neck normal, epididymis and the testis cannot be felt, and instead an ovoid swelling is felt diagnosis is, distension of the tunica-vaginalis with fluid. This is confirmed by testing for fluctuation. If it fluctuates, than it contains fluid. To test for fluctuation, the swelling must be held against a hard object. Next try transillumination. If it transilluminates the fluid is clear. Fluid in the tunica-vaginalis and clear fluid is hydrocele. Hydroceles are of two varieties, primary, where no cause is discernible and secondary,

where a cause is present in the testis or epididymis.

Primary hydrocele is the commonest scrotal swelling. Its cause is unknown. Incidence is middle life, age 30 to 60. They are fairly large tense, thick-walled and the only symptom complained of by the patient is the discomfort from its weight and size. Shape—two common types with a circumferential constriction, one with a constriction at the middle, resembling the ground nut and the other with a constriction at the top, resembling the pear. The testis cannot be felt but its shadow can be seen behind and below, when transilluminated. The testis usually lies at the back but may however lie in front in about 1% of individuals. It is usually tense, transilluminates, but not very well, for the coverings are thickened and a good light is necessary. Fluid, is clear, golden yellow colour, feels soapy, froths and solidifies on boiling like the white of egg. It contains albumin in plenty sp. gr. high, 1020 to 1025. It contains fibrinogen but no thrombin so that it clots when blood is added. Old standing cases contain cholesterol crystals in suspension, which gives the fluid a shine. Secondary hydroceles are seen with inflammations of testis or epididymis and in neoplasms of the testis. They are small in size, slack and transilluminate easily. It is important because it obscures the outline of the testis. When therefore the nature of the disease in the testis or epididymis cannot be made out on account of a hydrocele it should be tapped to facilitate proper examination of the testis and epididymis. A collection large enough to be called a hydrocele is present in all syphilitic lesions and in one-third of tubercular lesions. In carcinoma, an obvious hydrocele is uncommon. Heamatocoele when fluid in the tunica vaginalis is blood.

Blood stained fluid is present in new growths and in torsion of the testis. The fluid then transilluminates.

Heamatocoeles i. e. pure blood is due to trauma. Fresh blood fluctuates, but does not transilluminate. Diagnosis is confirmed by the history and tapping.

Old clotted heamatocoeles. Appearances are those of a testicular tumour. Orchidectomy reveals the diagnosis.

2. The other scrotal tumour which transilluminates is a cyst of the epididymis. The great majority of the cysts contain milky fluid with dead or live spermatozoa. Seldom seen before middle life usually single (sometimes groups of two or three cysts) usually soft, larger than the testicle and unilateral. The testis can be felt separate from the swelling. The fluid is opaque, milky, low sp. gr. (less than 1005.) Slightly cloudy on boiling and microscopically mobile spermatozoa are found.

Epididymal cysts containing clear fluid are bilateral or multiple, occur in old people probably from the remnants of Organ of Giralde.

3. Swellings of the body of the testis inflammatory.

(i) Orchitis, cause mumps, the testis is enlarged, tender and surrounded by a moderate sized hydrocele bilateral.

(ii) Syphilitic orchitis. 3 chief features, painless, testicular sensation is diminished, a small hydrocele in every case is present. Congenital, age 2 to 3 years. Enlargement is hard, painless a small stony hard functionless organ in the end. Size, pigeons egg. Acquired. Diffuse syphilitic orchitis seen during the 3rd or 4th year after infection. About the 10th year or still later gummata seen. Localised swelling or knob, softens and breaks through the skin. Presents as a typical gummatous ulcer or hernia testis. Testicular neoplasms. The undescended and the ectopic testis are very prone to malignancy.

2 types, (i) teratoma and (ii) the seminoma, equally common. Both highly

malignant. Metastasise through lymphatics. Spread to the para aortic glands, close to first and second lumbar vertebrae and to the internal iliac through the lymphatics along the vas. Spread also by blood stream to lungs, bones, brain and liver. The urine contains gonadotropic hormones, which give the Ascheim Zondek reaction.

Features of a tumour testis are. Presents, as an enlargement of the body of the testis. At first it is painless, and is not noticed. The shape remains ovoid as long as it remains within the confines of the tunica albuginea. The epididymis is at first converted by gradual stretching, to a flattened strap and later it cannot be identified. A small hydrocele is usually present. It may be blood stained.

(i) Seminoma. (ii) Teratoma.

INCIDENCE:—Commoner than teratoma.

AGE:—Age. 40 25 to 30

MALIGNANCY:—Both highly malignant. Teratoma more than seminomas.

SPREAD:—Spread. Seminomas. delayed for long and mainly through lymphatics. Teratomas. Early by both lymphatics and blood even when the primary growth is very small.

RADIOSENSITIVITY:—Radiosensitivity. Seminoma more than treatomas.

Only examafter removal and the pathologist report can settle their nature.

Seminoma; uniform creamy, white with areas and degeneration haemorrhages here and there.

Large rounded cells resembling the spermatogonia of the seminiferous tubules and collections of small round cells.

Teratoma. complete morphology variegated appearance. The remaining testicular tissue demarkated from the tumour tissue. Surface shows, cysts, cartilage,

and areas of haemorrhage. Histology is very complex and contains all the three germinal layers.

4. Swellings of the epididymis. Nearly always inflammatory.

Gonococcal, and septic epididymitis are acute lesions. Give a short history of sudden onset with the whole epididymis enlarged, tender and firm. A small hydrocele is present but the body of the testes can be palpated through it.

The scrotum on the affected side is red, swollen, hot and tender. In Gonococcal affection, there is a history of gonorrhoea or gleet usually occurs during the 2nd or 3rd week after the onset of the disease, and urethral discharge is positive for gonococcus. Seldom suppurates. Septic epididymitis is secondary to operations on urethra and prostate or disease in these organs. They are liable to terminate in suppuration. G. Epididymitis seldom suppurates. Clinical signs alone difficult to differentiate nonspecific epididymitis. Presents as a hard, tender enlargement of epididymis without involvement of the scrotum and without the signs of acute inflammation. The enlargement is smooth and subsides with rest and the cause is not known.

Tubercular disease of the epididymis. When first seen it is sub-acute, affects only a part of the epididymis first and does not involve the scrotum in the beginning. In early cases the first sign is usually the presence of a very firm nodule in the globus minor or major. Later the whole epididymis is affected, and still later, there is a coalescence of the nodules, and caseate on softening, the scrotum becomes adherent, a cold abscess forms and breaks at the back of scrotum leaving a persistent sinus. Position of sinus is very characteristic confirmation must be obtained by looking for a primary focus of tuberculosis, in other parts of the genito-urinary tract, swellings of epididymis and testis urine for tubercle bacilli. Rectal exam. and Lung X-Ray.

5. Involvement of the body of the testis and the epididymis. This occurs in torsion of the testis.

Normally descended and fixed testis has no pedicle and therefore it cannot twist. Three abnormalities are met in the normally descended testis i. e. 3 abnormal fixations (i) rotation, (ii) horizontal inversion and (iii) full inversion.

i. Rotated testicle. Anteversion. Tapping in front will cause injury to testis. This does not twist.

ii. Horizontal inversion. Body horizontal and the epididymis above and the cord enters the body of the epididymis.

iii. Fully inverted testis. Testis hangs upside down and the cord enters the lower end.

In the above two conditions the testicles hang in the tunica vaginalis, suspended by a narrow vascular pedicle. Hence the badly fixed testis undergoes torsion. Age 5 to 10 and 15 to 20. After 50, it is rare. Direction of torsion is from without inwards and the exciting cause impact of the thigh on the testis. Symptoms are:—

Sudden onset, with pain, vomiting and shock. A very tense and tender swelling appears soon; this swelling lacks the normal outline of the testis and is definitely higher. After some time the swelling shows a cold oedema and haematocoele develops and surrounds

the testicle. The undescended testicle is 400 times, (many hundred) more prone to torsion than the normally descended testicle. There are two abnormalities in this connection. Abnormally arranged testis and epididymis is suspended by the cord into the processus vaginalis or the epididymis is not folded on the testis and the testis is suspended by the epididymis.

6. Inguino scrotal swellings.

Inguinal hernia and varicocele, the commonest, their diagnosis is easy. Rare swellings.

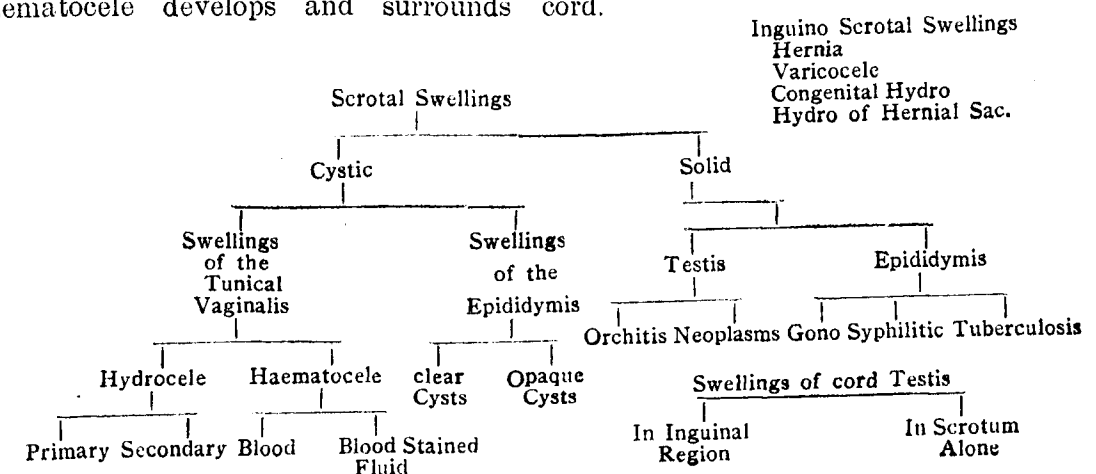
(a) Congenital hydrocele and (b) hydrocele of a hernial sac. In them the main portion of the swelling is scrotal and resembles a hydrocele, but palpation of the neck shows that the scrotal swelling extends into the inguinal canal. The inguinal part of the swelling is also fluid in a congenit-hydrocele, but in a hydrocele of a hernial sac, it is solid because of omentum.

Rare swellings of the cord alone.

7. (a) Encysted hydrocele of the cord. Hydrocele of a sequestered portion of the funicular portion.

(b) Haematoma of the cord. Rupture of a vein of the pampniform plexus. Simulates a strangulated hernia.

(c) Secondaries in the lymphatics of the cord. Diffuse hydrocele of the cord.



B. C. G. VACCINATION IN INDIA

BY

DR. P. V. BENJAMIN, M.B.B.S., T.D.D. (Wales)

*Tuberculosis Adviser, Government of India and Technical Adviser,
Tuberculosis Association of India*

I understand that doubts have been raised in the minds of people by some recent statements in the Press, as to the efficacy of B. C. G. Vaccination against Tuberculosis, and whether it is a procedure that is fraught with any danger to the health of persons Vaccinated. It is also feared that the Government and the people may be led into a false sense of security against the disease, because of vaccination, and thereby neglect paying attention to the other important measures such as improvement of environmental hygiene, housing, nutrition, sanitation, water supply etc.

I shall attempt now to give you a positive statement about what the vaccine is, the evidence in our possession regarding its harmlessness and efficacy, and its place in the campaign against tuberculosis in India at present.

What is B. C. G. ?

Bacillus Calmette—Guerin. (B. C. G.) was developed by Calmette in the Pasteur Institute in Paris. A bovine strain of tubercle bacilli was isolated by Calmette in 1906 and this was sub-cultured on an oxbile potato medium and as a result of work covering a period of 13 years, a strain of a non-virulent bacilli was secured. This strain now called B. C. G. was proved to be harmless if injected in proper doses in animals and human beings. After experiments on animals, it was used in human beings for the first time in 1921. Proper technique and doses for this were carefully worked out during the years 1921—1935. In most countries, B.C.G. Vaccination was given only for

new born infants following the practice adopted by Calmette, but in the Scandinavian countries, it was given to older children and young adults also. By 1948, more than 1 million people were vaccinated in Denmark, Norway and Sweden alone. Vaccination has been in vogue in other countries like U.S.A., Canada, South America, Russia and more recently in most of the other European countries.

There had been much controversy as to the harmlessness of the vaccine and its efficacy during the years 1927 to 1932. Petroff in America claimed that the B. C. G. strain could be made virulent, and hence it was dangerous to use this vaccine. Then followed the Lubeck disaster in 1930 where many children who were vaccinated, developed tuberculosis. Petroff's claim has not been sustained by other investigators and Lubeck disaster was definitely proved to be not due to B. C. G. Vaccine, but was due to mixing up of virulent human tubercle bacilli by mistake with B.C.G. This virulent human strain was being cultured in the same laboratory, and in the same incubator. These criticisms and accidents have prevented the use of B. C. G. Vaccine on a large scale by many countries. Though this has retarded the popularisation of Vaccination, it has brought to the forefront the need of extreme care in the preparation and use of the vaccine.

Dr. Wilson has published an article in British Medical Journal (November 47) expressing doubt on the efficacy of B. C. G. Vaccination. This and the Lubeck disaster, have been freely quoted by those who are opposed to this

vaccination. These criticisms are effectively answered by Dr. Wallgren and others. I shall, however, give the results of a few instances of specially controlled investigations that prove the efficacy of B.C.G. Many investigations have been carried out for this purpose. The difficulty in these experiments has been to get good control groups with relatively large number of non-reactors to tuberculin, who could be divided into those getting vaccination and those not getting it, and both living in exactly the same conditions exposed to natural infection. In practice it is almost impossible to carry out a study where strict conditions for control can be fulfilled so as to satisfy the demands of all statisticians. However there had been a few such investigations, though not perfect, but fulfilling the conditions fairly well. One of the most interesting studies which comes close to the theoretical conditions is the one made among the North American Indians. This is given by Joseph D. Aronson (American Review of Tuberculosis—January, 1948—page 96). The investigation was carried out during 1935 to 1947. Three thousand and seven persons were followed up. Among these 1550 were vaccinated, 1457 were not vaccinated but used as controls. Vaccination was done during 1936—38 and were followed up till 1947. The results are that among 1457 persons who were not vaccinated, there were 52 deaths due to tuberculosis as against 6 deaths in the groups of 1550 vaccinated; 8.7 to 1 ratio. In this group there were 262 new born children. Of these 123 were vaccinated and 139 were non-vaccinated. Death due to tuberculosis in the vaccinated children was nil, while in the non-vaccinated group seven died of tuberculosis.

Heimbech in Oslo carried out a more or less similar controlled investigation, mainly among the nurses. (Results are published in the Tubercle—April 1948). His conclusion after 20 years

of vaccination is that tuberculous disease is reduced to about 1/5th in the vaccinated as against the non-vaccinated group. Ferguson (Canadian Journal of Public Health, 1946, Vol. 37 No. 11) gives the results of a similar investigation done among the nurses of the hospitals and sanatoria in some parts of Canada, which shows the proportion of incidence of active tuberculosis as 1:4.5 and 1:6.5 in the vaccinated and the non-vaccinated controls respectively. To this may be added extracts from the most recent publication of the Tubercle, January, 1949. The quotation runs. "Drs. Ferguson and Simes present a closely controlled study of tuberculosis amongst Indian infants in Saskatchewan in Canada." These North American Indians have suffered more perhaps than any other race from tuberculosis and their mortality is on a scale which we in Europe have no experience. According to our authors the tuberculosis mortality had fallen by 1927 to 800 per 100,000 with which we may compare our rate in England of about 55. The infants, therefore, presented a favourable subject for study, being of a susceptible race heavily exposed to the disease. The results of the study show that manifest tuberculosis was in the ratio of 1:4.85, comparing the vaccinated with the controls and that tuberculosis deaths were in the ratio of 1:4.5 comparing the vaccinated with the controls. The type of the disease amongst the controls was more serious and generalised than in the vaccinated. The planning of the work ensured that there were no extraneous factors favourably influencing the vaccinated group. We can say, therefore, that in these Indians B. C. G. Vaccination is a very powerful preventive measure. Would it be the same in England say the doubters. We have difficulty in understanding why B.C.G. is singled out by this dilatory management. No one has ever shown that the vaccine has done any appreciable harm; no one has been able to make

it virulent while the evidence as to its value, pours in from all over the world".

Dr. Gerhard Hertzberg of Oslo has just published (Nov. 1948) a long monograph entitled 'The Achievements of B.C.G. Vaccination' which is largely an account of its use in Oslo. Let us quote some of his conclusions verbatim. "Taking the whole of the exclusive material, irrespective of sex, age, environment and observation period, I can give a rate for each of the disease groups after the final morbidity results have been revised.

In the disease group A (primary tuberculous lesions the morbidity rate between the B.C.G. material and the control material is 1:137.

In the disease group B (tuberculosis of the glands, skin and soft tissues) it is 1:6.

In the disease group C (pleurisy, pulmonary infiltration and tuberculosis of the bones, joints and eyes) it is 1:9.

In the disease group D (tuberculosis meningitis, miliary tuberculosis and destructive pulmonary tuberculosis) it is 1:27.

For destructive pulmonary tuberculosis alone it is 1:21.

For all forms of tuberculosis together it is 1:23.

In order to calculate the rate of deaths from tuberculosis, I must fall back on the subsidiary material which shows the ratio of B.C.G. material to control material to be 1:45."

There are other investigations done in Sweden and Denmark which also prove the same. Therefore, it can be said that it has been definitely proved by control investigations that active tuberculosis in human beings and deaths due to tuberculosis among non-reactors to tuberculin can be brought

down to at least 1/5th of what it would be without vaccination.

To these evidences can be added the experience of tuberculosis workers and specialists in countries where the vaccination programme has been in use for many years. It is stated that, in Copenhagen not a single case of tuberculous meningitis has been observed among the vaccinated group of children while there were many deaths due to this in the same age groups before vaccination was started. It is further stated that even when tuberculosis develops among B. C. G. Vaccinated the disease usually takes a more benign course than among the non-vaccinated. The progressive types of tuberculosis which are commonly noted in the non-vaccinated young adults are not usually seen in the vaccinated groups.

About the technique of vaccination, the groups to be selected and the precautions to be taken, these have been dealt with, I understand, by the B. C. G. Vaccination Committee, in Madras. But it seems necessary that I should touch on one point, namely whether the vaccinated individuals who are living in infectious surroundings should be segregated

It is true that some time back such segregation was advocated but this was mainly in connection with infants whose parents were known to be infectious patients of the disease. Even in such cases, the emphasis on isolation was not because of any enhanced danger of the development of tuberculosis as the result of vaccination but because of the desire to protect the reputation of the vaccine. A newly vaccinated child takes about six weeks to develop immunity and, in the meantime, if it is exposed to massive doses of infection from its mother or some such close relative in an active state of the disease, the chance of its developing tuberculosis is high, with the result that the vaccine may be dis-

credited. In this connection I give below the remarks of Dr. Johannes Holm, Chief of the Tuberculosis Division, State Serum Institute, Copenhagen, Denmark, who is a recognized authority on the subject and who also is the expert adviser to the World Health Organisation on B.C.G. Vaccination:—

"It should be stressed that when isolation is used at all, it is only to protect the reputation of the vaccine, and not because it is considered dangerous to give vaccine to a person in the so-called pre-allergic stage of a virulent tuberculous infection, nor especially dangerous for a person who is vaccinated to be exposed to a virulent tuberculous infection before the vaccination has made him a reactor to tuberculin. If vaccine is given to persons in the pre-allergic stages of a virulent tuberculous infection, the vaccination will, of course, have little or no value and some cases of tuberculosis will develop. These cases do not develop because of the vaccination but would develop anyway".

As its meeting in Paris, on 15th June, 1948, the World Health Organisation Sub-Committee on Tuberculin Testing and B.C.G. vaccination recommended:—

'that for the mass vaccination programme, isolation of vaccinated persons was not necessary, and that segregation of open cases even though desirable for other reasons is considered not to be an essential measure for a mass B.C.G. vaccination programme'.

The Place of B.C.G. Vaccination in India to-day

At the outset, it can be stated that tuberculosis cannot be controlled in any country adequately, unless it is tackled from different sides. Tuberculosis is intimately connected with the standard of living of the com-

munity. Improvement of housing, sanitation, water supply, nutrition etc. are all necessary. In Western countries, the tuberculosis death rate has come down considerably even before the discovery of the tubercle bacilli and the introduction of definite anti-tuberculosis measures. This fall in death rate was rightly attributed to the improvement of the general standard of living in these countries. But it must be emphasised that such improvements alone will bring down the death rate only to a certain level. As an illustration, it may be mentioned that in England, the Scandinavian countries and Germany, which introduced anti-tuberculosis measures in the early part of the century, the death rate due to tuberculosis came down much more rapidly and to much lower level than in France, where the Government and the people depended more on the improvement of the general condition of living and did not simultaneously introduce anti-tuberculosis measures. After 1920, France realised this and introduced anti-tuberculosis measures with the result that the death rate has declined more rapidly since then.

At present, we have the advantage of the experience of other countries and it is our duty to make use of this knowledge both regarding the general improvement and the introduction of anti-tuberculosis measures. Let us face squarely what the implications of this are. The immensity of the tuberculosis problem in India can be gauged by the fact that there are about 5,00,000 deaths per year and there are about 25 lakhs of people living with the disease. To provide the minimum standards of anti-tuberculosis measures such as clinics hospitals, and sanatoria, it will cost well over Rs. 500 crores. Again, with regard to the improvement of environmental conditions, the money needed for housing alone in Madras city, according to the Provincial Committee, as I understand, comes to Rs. 100

crores. This has to be multiplied probably over a hundred times for the whole of India. To these must be added the cost for general sanitation, water supply etc. We want all these to be done, but as our resources are limited it will take many years before we could carry all these out. It is because of the consciousness of our limitations that we are advocating the B.C.G. Vaccination. This is not advocated as a substitute for the other measures mentioned above, but only as a part of the general plan. In B.C.G. Vaccination, if properly carried out on a mass scale, we have the cheapest and the quickest method by which we can check the spread of this disease.

The experience of controlled investigations mentioned above, shows that the tuberculosis mortality can be reduced by at least 4/5 by B.C.G. Vaccination. I would specially draw attention to the success achieved among Red Indians in North America, where the tuberculosis death rate in the population was four times more than what is calculated for our Indian city population. This, I particularly mention, because it has been suggested that the figures quoted for Western countries of Scandinavia and other countries of Europe cannot hold good for a country like India because of the difference in the condition of living. It is just because our conditions of living in India are conducive to the rapid spread of the disease that we need a weapon like B.C.G. vaccination more than Western countries.

It may be mentioned that even in Western countries where the urgency for vaccination is not so great, vaccination on a mass scale is now being carried out. The W. H. O. and the U.N.I.C.E.F. are using this method in the war-devastated countries of Europe. In Norway, the vaccination has been made compulsory by law and in Sweden and Denmark, all tuberculin

negative individuals are being vaccinated and though there is no law compelling it, all are coming out to be vaccinated voluntarily. Even in India, this has been our experience both at Madanapalle and at Delhi, where vaccination has been started a few months ago — (certainly enlightened people in Sweden and Denmark and also in Norway would not submit to this vaccination blindly, because some enthusiasts advocate this and unless they were convinced that this has definite place in controlling tuberculosis.)

It is admitted that in smallpox, cholera, plague, etc., vaccination and preventive inoculation have got a definite place, though these have not eliminated the incidence of these diseases in India. The question is what the position in India would have been these years, if these preventive measures had not been popularised. What is claimed for B.C.G. vaccine is nothing more and nothing less. With this difference, that in the case of acute epidemic diseases, results can be noted in a short period, while the results of B.C.G. vaccination will require 10 to 15 years before it becomes evident.

The statistics which have been quoted are only those scrutinised by statistical experts and not the mere statement of enthusiasts. We, in India, also propose to observe controlled groups for many years, after vaccination. Accurate data is being collected and arrangements are already made with the statistical department of the All India Institute of Hygiene and Public Health to analyse these data scientifically, without being biased by the opinion of field workers in different parts of India.

To sum up, it can be stated definitely

1. B.C.G. vaccination has proved definitely of use in the control of tuberculosis.

2. It has passed the stage of experiment. It is introduced into India for the purpose of experimentation; but controlled investigation will be carried out in the course of the following years to find out whether the efficacy of the vaccine in Indian conditions will be in any way different from what is noted elsewhere.

3. It is a safe vaccination which does not effect adversely the health of any individual vaccinated.

4. The importance of the improvement of the standard of living and of environmental condition is great in controlling the spread of the disease in the country and it is advocated that

all attempts are to be made to improve these conditions and vaccination should not be taken as a substitute for these necessary improvements.

5. It is because the disease is spreading rapidly in India and the chances for infection with poor housing, nutrition, etc. are great that it is specially urgent that the vaccination should be used in this country on a mass scale.

It is hoped that the enlightened public opinion will co-operate wholeheartedly with this effort and parents and guardians in Madras will be as eager to get their children and wards inoculated as elsewhere.

(Lecture delivered in Madras on 15-2-1949, at the inauguration of B. C. G. Vaccination, Madras City)

CHANGE OF ADDRESS

DR. R. P. HARAN L.M.P. from Trichinopoly to Krishnarayapuram.

DR. N. S. MUKANDA RAO from Puliampatty to Thalavadai Post (Coimbatore Dt.)

DR. T. R. RAMACHANDRAN from Natchiarkoil to Jayankondacholapuram., Trichy Dist.

PRESS NOTE

The Superintendent, Ceylon Government Quarantine Camp, Thattapparai has brought to the notice of the Registrar, Madras Medical Council that the signatures of Registered Medical Practitioners who issue vaccination and other certificates for emigrants abroad do not tally with their name as entered in the Madras Medical Register and that considerable difficulty is being experienced by them in checking such certificates. All Registered Medical Practitioners are advised in the interests of all concerned to give their Registration Certificate Number and their name as entered in the certificate of registration below their signature when issuing vaccination and other certificates to intending emigrants.

ABSTRACTS FROM THE CURRENT MEDICAL LITERATURE

PRESENT STATUS OF THE PEPTIC ULCER PROBLEM—S. Allen Wilkinson—*J. A. M. A.*—Nov. 1948.

Peptic ulcer is a classic example of a somatic disease which is greatly influenced by and possibly precipitated by psychic factors. All physicians have been impressed by the close relationship between nervousness, anxiety, worry or psychic trauma and the acute exacerbations of ulcer but we are apt to forget the admonition of Jordan that there may be a somatopsychic as well as a psychosomatic interplay. The typical spring and fall exacerbations without obvious precipitating causes may result in worry, anxiety and nervous tension which in a sick person bring about family quarrels, business worries, fear of losing a job or other problems that are sure to aggravate any symptoms the unhappy victim may have.

The principal changes in the management of peptic ulcer in the last decade have not been primarily changes in diagnostic methods, but in the handling of the ulcer after the diagnosis is made. It is not the purpose of this paper to discuss the symptomatology or routine diagnostic methods that we all use, but rather to describe some of the problems in diagnosis and management.

To fail to find an ulcer when it is present deprives the patient of adequate treatment when he most needs it—in the early stages of the ulcer. Jordan has properly said, "Clinical experience tends to show that peptic ulcer is too infrequently diagnosed rather than too frequently diagnosed. On the other hand, it is not proper to diagnose a peptic ulcer on the basis of history alone; the presence of the ulcer should be carefully verified by every means at our disposal. Incorrectly calling a functional digestive disturbance an ulcer not only results in improper treatment, but it also wrongly labels the patient as having a disease that, later, may cause insurance companies or future employers to refuse to insure or to employ a person who is a good risk, to the serious detriment of the patient's economic status.

Not only should roentgenograms be employed in every case, but careful fluoroscopy

is even more important. A small ulcer on the lesser curvature high in the media of the stomach would often be missed without careful fluoroscopic observation after a swallow ingestion of thick barium. Often by fluoroscopy antral spasm can be differentiated from a prepyloric malignant condition. A tiny, but persistent, deformity in the base of the duodenal cap can be verified by fluoroscopy when it can only be suspected from the roentgenograms. Palpation during fluoroscopy may be the only means of identifying a persistent fleck in the jejunum, the site of a jejunal ulcer. Such an ulcer may be tender, and the patient is often able to put his finger exactly over it at the time of the examination. The same finger point tenderness may be found present over an ulcer penetrating the posterior wall of the stomach or the duodenum, but this is not often the case.

An ulcer in the first portion of the duodenum beyond the duodenal cap can be recognized on the roentgenogram by a narrowing with a definite dilatation of the duodenum distal to this narrowing. At one time these areas were said to indicate duodenal spasm, but they represent actual ulcers. In fact, this narrowing may be all that can be found in the otherwise obscure bleeding ulcer. Roentgenograms of many of these patients following hemorrhage in the upper part of the gastro-intestinal tract have been accompanied with a report of "normal stomach and duodenum," when the finding of the constriction might have given the clue to the actual location of the ulcer.

The laboratory data are helpful but never diagnostic. In particular too much reliance should not be placed on the presence or absence of gastric acid. While it is true that ulcer never occurs in the presence of true anacidity, it is also true that an occasional aspiration of gastric contents may fail to show acid even if an active ulcer is present. The old dictum that a malignant gastric contents may fail to show acid even if an active ulcer is present is not always correct. The old dictum that a malignant gastric condition produces achlorhydria is not always true. In 45 per cent of our cases of proved gastric

carcinoma free acid was present in the stomach; hyperchlorhydria was present in 12 per cent.

Gastroscopy is now time tested and proved as a valuable adjunct to diagnosis, but its limitations are well known. By its use, one can often determine that an ulcerating lesion in the stomach is benign or malignant. However, the borderline cases may be just as difficult to determine from their gastroscopic appearance as from the roentgen appearance. In addition there are a number of blind spots where a fairly large lesion might be completely invisible. At the Lahey Clinic, my associates and I have found there has been a singular paucity of cases of gastritis, both atrophic and hypertrophic, are obvious, but my associates and I believe that in many of the borderline cases gastritis is not present, but simply day to day variations in a normal stomach. Gastroscopy will often show a small, incompletely healed gastric ulcer after the niche has completely disappeared on the roentgenograms.

Management of Patients with ulcer. Modifications of the old Sippy diet have proved most satisfactory, and we still prefer hourly feedings of milk and cream during a three week period of hospitalization. Neutralization of gastric acid is a prerequisite of good treatment. Diet alone will not adequately control the pain or heal the ulcer. Sippy powders are not used routinely, preference being given to aluminum hydroxide. We have had little success with the use of magnesium products. All of them, in doses adequate to control the acid, cause enough irritability and spasm of the colon to prevent their continued use.

Synthetic resins in finely powdered form theoretically offer the advantages of aluminum hydroxide without its disadvantage of aggravating constipation. Actually in about half of our cases in which it was the only neutralizing agent used the patients said that they felt no better or felt that their pain was increased.

Protein hydrolysates and amino acids have a place in the management of ulcer, but they do not contribute directly to the healing of the ulcer. The debilitated patient, the patient who has been on a deficient diet, the starved patient will all

benefit from accessory feedings, including protein hydrolysates, just as they benefit from an extra allowance of vitamins. Many, and probably most, patients with ulcer, however, have been on adequate diets; they are not debilitated, and they have no protein deficiency. In this group accessory feedings of the protein hydrolysate type are costly, wasteful and unnecessary.

Enterogastrone is still in the experimental stage. Until a sufficient number of cases have been studied for a long enough time, it would be premature to try to judge or appraise its use in therapy. We have used enterogastrone in a small series, but are not yet ready to comment on our results. Bercovitz and his associates recently reported on a series of intractable duodenal ulcers treated with an extract of pregnant mare's urine. It seems certain that some new and valuable form of hormonal treatment will emanate from the many investigations now under way at the instigation of the Committee on Peptic Ulcer fostered by the American Gastroenterological Association.

Management of Patients with Gastric Ulcer.—The medical management of patients with gastric ulcer has become a touchy problem. Some of our surgical colleagues have stated that all gastric ulcers should be treated surgically. They base their arguments on the following premises: (1) It is impossible to distinguish a benign from a malignant ulcer, clinically, roentgenographically or surgically; (2) the mortality of resection in skilled hands is less than 2 per cent; (3) recurrence of gastric or gastrojejunal ulcer after resection for a gastric ulcer is rare and practically does not occur, whereas after resection for duodenal ulcer both gastric and jejunal ulcer not infrequently recur.

The following comments oppose the foregoing arguments; 1. It is possible in most cases to differentiate clinically and roentgenographically between benign and malignant lesions. The percentage of malignant ulcers occurring on the lesser curvature of the mediums of the stomach in a young person (under 35) is extremely low. To sacrifice most of the stomach and permanently to change the digestive physiology in this large group to remove the rare malignant ulcer is an over use of caution. The prepyloric ulcer in an older

person may justifiably be regarded as a surgical problem from the start. In the younger group, however, frequent roentgen, checkups, gastroscopy and careful checking of stools for occult blood will furnish satisfactory evidence that healing has taken place. If an ulcer fails to heal in three to four weeks, that should be considered sufficient evidence to justify operation. If the ulcer heals but recurs at any time in the future, operation should be performed immediately without further treatment. Every patient treated medically for ulcer should be followed carefully and checked by roentgenogram yearly or oftener for the rest of his life. 2. Even though the operative mortality rate in skilled hands is low, the morbidity rate after a subtotal gastric resection is still high: neither the mortality nor the morbidity rate is lower in less skilled hands and all physicians see patients who never feel entirely well or normal after such operations. Jordan and Smith have recently written that only in 3.2 per cent of their patients with ulcer selected for medical management did a malignant condition develop in a five year followup period.

Management of Patients with complications of ulcer—The most common complication of ulcer is obstruction. True obstruction is a surgical problem, but many ulcers produce a temporary blocking due to edema and spasm. The truly obstructing ulcer can be differentiated from the apparent one by a procedure of draining the stomach through a nasal tube. Malted milk, amino acids and antacids are introduced hourly. The tube is clamped for half the time and allowed to drain into a bottle below the bed for the other half. This procedure will decompress a dilated stomach, will relieve pain promptly, and, if the cause of the obstruction is not due to scarring, the pylorus will relax in twenty-four to forty-eight hours, allowing food to pass through freely. Those patients do not require surgical management, and if they are properly treated the obstruction will not recur. If the obstruction persists more than seventy-two hours, operation is indicated. The ulcer may seem better temporarily, but obstruction returns as soon as the patient is up and about.

Hemorrhage, the next most common

complication, is the easiest to diagnose and the most difficult to treat satisfactorily, either medically or surgically. The patient who has had two or more gross hemorrhages in our series has a small chance of dying but an unenviable chance of recurrent hemorrhage in spite of medical management (80 per cent.) and a greater than suspected chance of recurrence after subtotal resection (29 per cent.).

Intractability is given as a reason for operation on ulcer, but the definition of an intractable ulcer varies from group to group and even from physician to physician. We have tried to make a distinction between the intractable ulcer and the intractable patient. It is often the latter, who refuses to stop smoking, who makes only desultory efforts to follow a diet, who co-operates poorly with any form of treatment who helps to make up the large group of patients in whom treatment for ulcer has been a failure. This applies as well after operation as before.

Vagotomy versus subtotal resection—For years we have realized the shortcomings of subtotal resection as a treatment for ulcer. It does not guarantee freedom from recurrence; it is a major surgical procedure associated with some mortality and a larger morbidity; it is not always possible to remove the ulcer if it is duodenal one. The operation imposes a major physiologic readjustment, and if it is not well done various unpleasant consequences ensue. If the anastomotic stoma is too big, the dumping syndrome is disabling and impossible to treat. If the stoma is too small, the gastric stump, which has little peristaltic activity remaining, empties too slowly. The patient complains of fullness and discomfort long after a small meal. As a result of inadequate intake, he loses weight and quickly loses the psychologic "lift" which first developed with the knowledge that at last he was getting rid of his ulcer. Postoperatively small intestinal adhesions may occur and cause partial obstruction. If recurrent jejunal ulcer occurs it presents both the patient and the surgeon with the vexing question, "Now what?"

With the advent of vagotomy it was hoped that many of these difficult problems would be solved. Theoretically the patient was left with an intact stomach and a

desirable anacidity. Actually, the operation does relieve the pain of ulcer dramatically in 88 per cent. of cases. Unfortunately the hoped for anacidity is difficult to attain. Postoperatively the gastric motility is so seriously impaired that most large groups have abandoned transthoracic vagotomy in favour of subdiaphragmatic vagotomy combined with gastroenterostomy. It is the belief of some thoracic surgeons that the ramifications of the vagus nerve in the chest are so diverse that it is next to impossible to get all the fibers. Dissections of cadavers have shown that in many instances major bundles of the vagus nerve enter the stomach through the esophageal muscles. It is now known that peptic ulcer does recur or that it may fail to heal following vagotomy. There are reports that ulcers have progressed until perforation has occurred, being completely without pain up to the moment of perforation.

At the Lahey Clinic over 90 vagotomies have been performed, 8 of which were transthoracic and 82 the remainder, subdiaphragmatic. In the majority of the subdiaphragmatic group, we have combined vagus section with subtotal gastrectomy. It is too soon to evaluate final results, but a recent review of 62 of our cases of subtotal vagotomies combined with subtotal gastrectomy showed that the vagotomized patients had more complaints, more severe complaints, longer duration of complaints and just as many recurrent ulcers as those in a similar group who had undergone subtotal gastrectomy. It is for these reasons that we are skeptical of the permanent effects of vagotomy and are placing most of our reliance on subtotal gastrectomy. The one condition for which vagotomy alone might be considered is the recurrent jejunal ulcer following an adequately high subtotal gastric resection.

Postoperative management of the patient with ulcers—Operation, whether it be gastroenterostomy, subtotal resection or vagotomy, does not relieve the internist of his responsibility. If we have had any one fact firmly impressed on us, it is the necessity for meticulous and long-continued postoperative management of the patient with ulcer. The tendency of the patient who has followed a diet and has taken antacids more or less faithfully for a long

time and who at last undergoes an operation is to say to himself, "No more diets or medicine for me. My ulcer is gone and I can eat and drink what I like." Nothing could be more incorrect. If he is to prevent recurrent ulcer, it is the duty of the physician to impress on his patient the need for long-continued care and observation. The patient should be instructed that he must not smoke; that he must not drink, at least until it can be proved that he has permanent achlorhydria, and that he should follow a careful dietary regimen. If his investment of time, of money, of pain and discomfort to reach his present position is explained to him, he will usually cooperate intelligently and well. It is largely in the group who fail to take these lessons seriously that the recurrences will be found.

Summary and Conclusion—Peptic ulcer presents a diagnostic problem chiefly with regard to the detection of small or obscure duodenal lesions. The therapy of ulcer offers a challenge to the patience, the acumen and the ability of the practitioner and the surgeon alike. The preoperative preparation and the postoperative dietary management of patients with ulcer subjected to operation are equally important. It is not yet proper to speak of any patient who has had ulcer as cured.

* * * * *

NECK PAINS—E. E. N. T.—November 1948.

From time to time practitioners of the Otorhinolaryngological speciality are called upon to diagnose and treat a variety of disturbances in the neck or referred to the neck. Neck pains may occur in cervical arthritis, myositis of the neck muscles, psychoneurosis, and during a siege of hypertonicity of the neck muscles, to mention a few important conditions. Although injuries to the neck are common, most people are inclined to forget the incidence unless pain and stiffness persist. Months or years after an injury, soreness or stiffness of the neck may be the first indication of impending difficulties.

Some years ago the earliest human case of cervical arthritis was found to be in the cervical spine of Neanderthal man (40,000 B. C.) Today, it is believed that pain in the head, neck or shoulder, which

is aggravated by movement of the neck as a result of stretching, straining, sneezing or coughing is frequently due to arthritis of the cervical spine, especially in middle-aged people and in older groups of individuals. Some medical men maintain that about one-third of all early morning headaches attacking the lower part of the back of the head in these age groups are caused by spinal arthritis.

Headache from arthritis of the cervical spine almost invariably begins in the lower part of the back of the head, spreading to the temples as it increases in severity. Muscle stiffness, tenderness and soreness at the base of the skull are additional complaints. Although flexion and stretching of the neck aggravate pain, bending the head backward and stroking the neck often give relief. Cervical arthritis is usually associated with arthritic changes elsewhere in the body. X-rays of the cervical spine are helpful in confirming a diagnosis.

The successful treatment of cervical arthritis depends on the promptness and vigor with which it is instituted. Because there is no specific therapy, efforts are made to increase a patient's resistance and well being. Many patients with arthritis suffer from fatigue and for such individuals a few days in bed permits reserve energies to be assembled and directed into reconstructive channels. In occasional instances of over weight, reduction of weight should be instituted. The use of vitamins in the treatment of arthritis is purely empiric; some persons get a psychologic lift while taking vitamins, and in this event, vitamins have a limited function.

In general, drugs play a small but important part in the treatment of arthritis. For the control of pain, no drug appears to stand up as well, month in and month out, as salicylates. Although not without certain dangers, injection of gold salts has been found beneficial in select cases. Occasionally, a small drink of whisky or some other alcoholic beverage will brighten the end of the day and give relief from pain to a worn-out arthritic sufferer.

Physical therapy in the form of heat and massage increases circulation in the affected site and preserves the muscle tone as far as possible. Nearly all people

afflicted with arthritis find comfort in the use of heat applied to the affected parts. The results are sometimes most encouraging when heat is accompanied by massage skillfully applied. Otherwise it is quite possible to do more harm than good. As far as concerns heat, care must be taken not to burn the skin. As a general rule, massage should be administered by a trained masseur or technician. Massage should not be attempted on any person whose arthritis is in a highly painful stage. At this time forced motion of the neck is to be avoided. However, on other occasions light rubbing can sometimes be carried out advantageously by an intelligent member of the patient's family, especially after that individual has had competent instruction.

Although numerous persons have rigid, hypertonic neck muscles and never suffer from headaches, others acquire severe head pains upon the slightest exertion. The daily work of some individuals causes an accumulation of pain-producing substances in the muscles of the neck and back. Hypertonic neck muscles may refer pain to any region, but the pain is usually occipital, radiating as far as the frontal region and down between the shoulders. Patients frequently exhibit an exacerbation of pain in the late morning, which is relieved by lunch, and then another exacerbation of pain in the late afternoon, which again is relieved by the evening meal.

According to one student of the problem, emotional tension and adverse life situations of aggressive, frustrated, anxious people may lead to sustained contraction of the head and neck muscles. Pain due to sustained muscle contraction in combination with emotional duress is influenced only temporarily by sedation or pain-killing medicaments, as a threatening situation may persist for weeks, months or even years. Obviously, such pains soon become chronic. In these instances the physician's main therapeutic effort is directed at improving the relation of the patient to his environment, by allowing him free and repeated expression of his conflicts and resentments, and by explaining to him the nature of his dilemma and the basis of his head pains.

For most cases of rigid, hypertonic neck muscles, however, treatment consists of

heat and massage. A skillful masseur can frequently procure fine beneficial results by massage, heat and the promotion of relaxation. In chronic states, it may be necessary to employ other forms of therapy, including stretching exercises, counter traction through weights and pulleys, bed-rest or chair-rest, immobilization of the neck by means of a collar, salicylates, and the injection locally of procaine hydrochloride into the involved muscles.

A type of head pain known to sufferers for generations under one alias or another is currently spoken of in medical circles as "indurative" or "myalgic." In this condition, it is possible to detect tender nodules in the neck muscles of the patient. In such individuals chilling of the body or feet sometimes produces a painful episode. There may also be an inability to sleep in drafty rooms or in air-conditioned rooms and trains. The patient rarely attributes his head pains to the true cause which lies in the neck muscles.

Soreness or stiffness of the neck may be the first indication of impending trouble in individuals who have suffered a neck injury some time before. This is particularly true if the four upper vertebrae are involved. The vertebrae are always suspected when maintaining a certain position of the head for lengthy period of time or when movements of the head precipitate or aggravate existing headaches. For example—poor sleeping posture may produce pain sufficient to awaken the sleeper; fixing the neck while typing, knitting, sewing, reading or writing may initiate a bout of head pain. The same possibility is present when the driver of an automobile strains to see over the steering wheel. X-rays are often helpful in disclosing the causative factors.

Correcting faulty posture may effect a cure. If head pains develop while reading, the reading material should be held at eye level. Raising the auto seat or sitting on a pillow will frequently diminish the strain when driving an automobile. By altering the sleeping posture much can be accomplished in the way of relieving soreness or head distress.

Because so many vital nerves and blood vessels are crowded into the neck area,

this makes the structures very vulnerable to injuries. Distress is produced by a whiplash type of injury in which the head is forcibly thrown forward or backward with a recoil in the opposite direction. A fall directly on the head or a blow to the upper part of the body may do the same thing. Professional pugilists are well aware of the pain encountered under such circumstances. Various medicaments as well as the use of traction are available for painful neck injuries.

* * * * *

DRUGS IN COUNTRY PRACTICE—
Dr. W. N. Leak, M. D.—*The Practitioner*—
November, 1948.

In writing this short article I have decided not to make it a purely formal list of drugs and their uses, but rather to indulge in a ramble round the therapeutic countryside, which may perhaps be more suitable to the rural aspects of medicine. The drugs chosen should be those which have a wide application rather than being the ideal for any particular condition. Whilst this article deals mainly with emergency drugs, I have added a few notes on less urgent conditions, the fruit of 33 years practice, which may be of help to those practising in rural areas.

Drugs for the relief of pain—Pain is the most common affection requiring urgent treatment and it should certainly be relieved unless this will cloud a diagnosis, for pain by itself may jeopardize recovery, whilst the patient who begins to feel better a few minutes after his doctor has seen him will be rightly gratified. *Morphine*, hypodermically, or in many conditions morphine, hyoscine and atropine, is most generally useful for severe pain, although *Pethidine HCl* (100 mgm.) can often be used with benefit instead, especially in obstetric work and when pain is due to smooth muscle spasm. By the mouth, *Pethidine* tablets (25 mgm.), repeated as necessary, are usually much better than morphine, unless it is wished to check a diarrhoea, and they are one of the few pain-relieving drugs which can usefully be taken when the patient has been vomiting or has acute indigestion. Otherwise compound *codeine* tablets (B. P.) are satisfactory in milder cases of pain, but when there is myalgia or headache in febrile illnesses the old compound

aspirin tablet (N. H. I.—aspirin 6 grains 0.4 gm., phenacetin 2½ grains 0.16 gm., Dover's powder 2 grains 0.13 gm.) has not been equalled by more modern introductions for relieving aches and reducing temperature. Its mild constipating action is also helpful in many of the diarrhoeic conditions which are rather common at present. Finally, I would commend *compound phenacetin tablets* (B. P.) for the patients who cannot take aspirin or who have indigestion. These tablets are also most useful for infants and children; a quarter of a tablet every four hours for each year of age is often a godsend for febrile or painful conditions in these little patients.

This leads me to say that *syrup of chloral* is a valuable addition to most medicines for children who have to be kept in bed. It not only makes things much easier for their parents, but by preventing restlessness it conserves the patients strength and avoids many complications caused by throwing off the bed-clothes and so getting chilled. For small patients the practitioner should also carry tablets of *phenobarbitone soluble*, ¼ grain (16 mgm.) which can safely be given to a child of one year. They are useful as an occasional sedative, whilst being of particular benefit in convulsive conditions. Larger tablets, 1 grain (65 mgm.), are of course, useful for adults, although for inducing sleep soluble barbitone, 5 grains (0.32 gm.) or more, is usually better. In cases liable to need a stronger sedative I prefer *seconal sodium*.

Penicillin and the Sulphonamides—For infections, penicillin should certainly be available. In most cases, in contradistinction to urban and hospital practice, one daily injection of 100,000 or 200,000 units will usually give satisfactory results. Of the sulphonamides I think sulphamezathine is the most generally useful as no special dietary precautions are necessary, and its side-effects are so slight that it can be taken by patients who are ambulant or working. Children also tolerate it well. For septic skin conditions, such as impetigo, I have found nothing to equal an extremely fine suspension of sulphathiazole ("mikraform" sulphathiazole) and it is fortunately usually successful in the difficult and dangerous skin infections of early infancy.

Some emergencies—Remedies for *cardio-vascular emergencies* are all too few. Morphine is essential for coronary thrombosis. I have not found any marked benefit from nicotinic acid either in coronary or cerebral thrombosis, although fairly large doses of potassium citrate combined with caffeine do some good in the latter condition, even though the pharmacological basis for the use of potassium citrate is almost certainly wrong. For the acutely failing heart nothing equals cardiazol-ephedrine, which is also most valuable in asphyxia neonatorum, but it is only for emergency use until digitalis, caffeine, aminophylline or other requisite drug has begun to take effect. Capsules of amyl nitrite are needed for angina pectoris and tablets of trinitrin for slower but more persistent action. It is curious how many patients with hypertension feel more comfortable with a stomach mixture of the bismuth type, and not a few actually show some reduction of the blood pressure after a time.

Although bismuth is now officially discounted for *dyseptic conditions* it is, in practice, most valuable in *appendicular dyspepsia*, in which magnesium trisilicate usually fails entirely to relieve symptoms. If to such a mixture (bismuth carbonate, 10 to 15 grains (0.65 to 1.0 gm.), magnesium carbonate, sufficient to regulate the bowels, and equal parts of peppermint water and chloroform water) is added about 60 minims (3.5 c.cm.) of takadiastase solution, these patients will often be able to enjoy a reasonably full diet without restrictions and now that they can obtain better medicine in the country than they got in the towns (where pharmacological incompatibilities are perhaps more regarded). Incidentally, dyspeptic patients often do not do well on tonics but improve on a bismuth mixture long after they are able to do without it. When an acid tonic can be tolerated I find that the outmoded strychnine and acid phosphate mixture often gives better results than the mixture with hydrochloric acid. It is perhaps worth mentioning that practitioners often fail to get benefit from these mixtures because they use such small doses of strychnine solution. Therapeutic nihilism is usually the result of therapeutic timidity, and it must be remembered that most formularies inevitably have doses on the small side so as not to upset

the sensitive patient, often so small as to be unable to give the effect which a more accurate dosage for each patient would produce.

Every rural practitioner's bag should contain one or two glycerin suppositories—the children's size will suit most patients. Also, a few morphine and ipecacuanha lozenges for irritating cough, insulin, of course, should be at hand for diabetic emergencies.

Obstetric emergencies may need treatment. I have already mentioned pain-relieving drugs for labour, cardiazol-ephedrine for asphyxia, sulphonamide and sulphathiazole for sepsis, so there remain the essential ergometrine and pituitrin for hypodermic injection, and pituitrin reminds me that adrenaline should be available for dealing with *asthma* and other *allergic phenomena*. Ephedrine or, better still, proprietary preparations such as "asma-dyn" or "taumasthman" will often check a bad attack of asthma without the careful watching required for adrenaline, and without the danger of shock that it very occasionally produces. Adrenaline is also sometimes useful in dealing with haemorrhage from a tooth socket or for adding to a local anaesthetic. For dealing with *haemorrhage in the newborn* a vitamin K analogue, e.g. "kaphlon," should always be at hand as an emergency treatment.

Anaesthesia—Often in rural practice wounds have to be stitched, and injection round the wound edges of a local anaesthetic (novocaine is probably best) makes the process vastly easier both for patient and doctor. A surface anaesthetic is needed for the removal of foreign bodies from the eye. A solution of amethocaine (anethaine) has the advantages that it does not dry the cornea nor affect the pupil or accommodation. One of the modern imitations of the original sedonan is valuable for otitis media, but use of these drops requires more rather than less care and vigilance in rural practice. Indeed this caution applies to many of the remedies mentioned because, just on account of their efficiency, they can mislead the unwary with serious consequences, especially in the country where supervision is difficult.

Conclusion The face and the pace—of rural medicine is constantly changing.

My father always said that a catheter was the most useful thing he carried. My grandfather, who always rode on horseback, never left dental forces out of his saddlebag. To-day I seldom use either. The countryman is naturally conservative but shrewd. It is better to use few drugs and know them thoroughly than to rush after every novelty. Only so can one acquire knowledge by which to appraise the value of new introductions. Those I have mentioned have been tested on many occasions and they can be trusted to do their job. With ingenuity I can pack them, and many others, into a 12" attached case, together with hypodermic and serum syringes, ophthalmoscope, auroscope and Tycos sphygmomanometer. This case I carry everywhere, and with it most emergencies can be met.

* * * * *

SODIUM SALICYLATE IN RHEUMATIC FEVER—*The Practitioner*—September 1948.

As a result of his experience with 12 patients (9 adults and 3 children) with rheumatic fever, James Reid (*Quarterly Journal of Medicine*, April 1948,) concludes that his observations "strongly suggest that in addition to the well-known relief of symptoms, adequate oral administration of sodium salicylate can really cure the disease". The criterion of cure was the return of the erythrocyte sedimentation rate to normal. In all cases the salicylate was given four-hourly from 6 a.m. to 10 p.m. The adults received 2 gm. each time, and in seven of them this was combined with 2 gm. of sodium bicarbonate. Two of the children were given 1½ gm. each of sodium salicylate and sodium bicarbonate on each occasion, whilst the third only received the sodium salicylate (1½ gm.) "Cure" appeared to depend upon the maintenance of a high plasma salicylate level (i.e. 30 to 40 mgm. per 100 c.cm.). As there was considerable variation in this level, and in the speed of attaining it is recommended that, to be effective, salicylate administration should be controlled by frequent estimation of the plasma and urinary salicylate concentration. From the practical point of view, however, the urinary excretion of salicylate is probably a reliable enough guide, as it is a fairly reliable index of the plasma concentration,

and has the advantage of involving a simple technique. Attention is drawn to the fact that, in spite of continued oral administration, both plasma and urinary salicylate levels tend to fall after reaching an initial peak level, and it is suggested that the relapses which sometimes occur during the course of treatment of rheumatic fever with salicylates, are due to this fall in plasma salicylate. Oral administration is considered to be as satisfactory as intravenous administration provided an adequate plasma level is maintained, and it has the advantage of being less likely to produce toxic effects.

The toxic manifestations of sodium salicylate administration have been investigated by J. D. P. Graham and W. A. Parker (*Ibid.*, April 1948) in a group of 40 patients with "rheumatic diseases, acute and chronic" and 30 non-rheumatic convalescent patients. Toxic manifestations occurred in 58 of these, and it was found that "a plasma salicylate level of 35 mgm. per 100 c.cm. occurring in the first seven days of salicylate therapy appears to be the point above which the more alarming toxic symptoms appear." One case of fatal generalized hæmorrhage occurred in a forty-one year old woman with rheumatoid arthritis who received 10 gm. of sodium salicylate in litre of normal saline intravenously, daily for four days, followed by 10 gm. of sodium Salicylate and 10 gm. of sodium bicarbonate daily by mouth. Death occurred on the second day of oral administration. It was found that the occurrence of tinnitus, deafness, nausea and transient vomiting indicated that the plasma salicylates were approaching 35 mgm. per 100 c.cm. The vomiting induced by sodium salicylate is attributed to a central action, although a local irritant action on the stomach is probable. Hyperventilation, which is controlled by the simultaneous administration of sodium bicarbonate, is attributed to reflex stimulation of the respiratory centre through the afferent fibres of the vagus nerve.

* * * * *

DIABETIC COMA—Dr. R. H. Micks, M. D.—B. M. J.—July '48.

Dr. Micks outlines in detail the method of treating cases of diabetic coma practised very successfully by Dr. Root at the New

England Deaconess Hospital in America. Root treated 188 cases between 1-1-40 and 1-1-46 with only 6 deaths, and 55 cases with no deaths from 1-1-46 to 1-1-48.

It is possible to bring about striking improvement in from 3 to 6 hours by constant hard work and attention at the bedside. The main factor in bringing about the striking improvement is *Insulin*. Two other measures are also important—Gastric aspiration and intravenous administration of normal saline (without glucose.)

Four points are of fundamental importance:—1. It is the insulin that cures diabetic coma though other measures are necessary which are not however curative, 2. Insulin resistance increases so long as the coma remains inadequately treated, 3. the beneficial effect of an adequate dose is usually clinically manifest, as a rule, in 15 minutes; if a single dose of insulin fails to produce an obvious improvement in 15 minutes, the dose was obviously grossly inadequate. 4. If what may later prove to be a needlessly large dose be given, a lapse into hypoglycaemia is not to be feared until after the clinical improvement that is bound to follow a more than adequate dose, has taken place.

The required dose varies greatly. In an early case start with 100 units; if no improvement is obvious in half an hour give 100 units every half hour till improvement is obvious. If patient is unconscious start with 500 units and be ready to give more after an hour.

Note: These are no doubt heroic doses and the B. M. J. editorially comments on this point, but is not prepared to pass judgment on what has given eminently good results at the hands of a skilled and experienced physician. (Dr. Root)

If at the end of the first three hours a striking change for the better does not take place the sands are running out and the dosage of insulin must be condemned as grossly insufficient and very much more be given. At the end of 6 hours in nearly every case the patient is ready to eat and drink and is exultant in spirit.

In nearly every case of coma, the stomach is usually dilated and this condition must be promptly attended to, otherwise there is risk of life. As soon as the ini-

tial dose of insulin is given a stomach tube should be passed and at least half to one pint of the contents aspirated. These are black in severe coma, brown or pink in less severe cases, and may not be tinged with blood at all. If gastric aspiration is omitted the patient on regaining consciousness may become restless vomit a few ounces of black coffee-coloured liquid and within a few minutes marked dyspnoea and cyanosis supervene resulting in death. Post-mortem examination will show gastric contents in the respiratory passages.

Every case of moderately severe diabetic coma needs from 2 to 4 litres of normal saline in the first few hours. If the B. P. has fallen to a low level, 2 litres will quietly restore it. Root emphasises the need for intravenous saline until urinary excretion begins, in cases of complete anuria. The initial 2 litres should be given fast enough to be delivered in an hour.

Glucose-Saline must not be given instead of normal saline by the intravenous route. Glucose solution should not be given to drink as this increases the dilatation of the stomach.

T. N. S. R.

* * * * *

PENICILLIN—Adrenaline-oil emulsion—Schweiz—Med. Wochr—Apr. 1948.

Essellier *et al* report good results with the use of a new preparation "Intracillin" consisting of 300,000 units of Penicillin G with 0.3 mg. adrenaline in 1 cc. of sesame oil. The addition of adrenaline prolongs the action of penicillin. The injections are less painful (than Beeswax and arachis oil combinations) no special wide-bored needle is required and abscesses do not form. It is given in a single daily injection of 600,000 units until the temperature touches normal, when 300,000 units are given daily for 2 to 4 days. The effect

is comparable to 3 hourly injections of aqueous solution of penicillin. The injections of Intracillin must be given strictly intra-muscular into the *gluteal* region.

T. N. S. R.

* * * * *

A NEW ANTACID FOR PEPTIC ULCER—*Apst. World Medicine*—Sept. 1948.

Drs. Kraemer writing in Post-Graduate Medicine Dec. 1947, reports favourably on the use of a phenol form aldehyde condensation product "Amberlite A. R. IV" in preference to the commonly used antacids (which have the disadvantage of causing constipation or diarrhoea). He tried this resin on 90 patients with peptic ulcer and found it had a neutralizing power for gastric juice, less than that of calcium carbonate but greater than that of Aluminium hydroxide. The dose of the resin was 4.5 to 6 grms. per day in divided doses, and was given for 1 to 15 months; the usual ulcer treatment was also given. 85 per cent of the patients were kept symptom free on this regimen. The resin is non-toxic and has no unpleasant reaction.

T. N. S. R.

* * * * *

SULPHANOMIDE THERAPY—J. A. M. A. Sept. 1948.

The use of sodium bicarbonate in conjunction with sulphonamide compounds is strongly recommended in order to increase the solubility of the drug in the urine. The fluid intake in all patients who are taking sulpha drugs should be sufficient to produce an urinary output of *at least* 1500 to 1800 cc. (50 to 60 ounces) during a 24 hours period, when the urinary output is adequate and the reaction of the urine is alkaline, the risk of renal complications from the sulphonamide drug is greatly reduced.

T. N. S. R.

FOR SALE

British Encyclopaedia Medical Practice 12 Volumes with up to date cumulative supplement and annual surveys. Books in new condition and can be inspected at the office of the "Miscellany", Teppakulam Post, Trichinopoly. Price Rs. 300/- Original price Rs. 750/-

INDIAN MEDICAL COUNCIL ACT

As a sequence to the deputation that waited on the Hon'ble Rajkumari Amrit Kaur-Health Minister to the Dominion Government, at Delhi on 3-4-49, Dr. P. A. S. Raghavan, the President and Dr. D. V. Venkappa the Joint Secretary, South Indian Provincial Branch of the I. M. A. interviewed the Hon. Sri. A. B. Shetty, M. L. A., Minister for Public Health with the Government of Madras, on 30-4-48, at the Secretariate, Madras, and received the following elucidation to the questions raised by them.

1. The Government of Madras had previously recommended to the Central Government, that the Indian Medical Council Act might be so amended that there should be an All India Medical Register in which all qualified practitioners of the modern system of medicine i.e., graduates, licentiates, and others would be entered in the alphabetical order as in the Madras Medical Register and give due representation to the licentiates on the Indian Medical Council. The Madras Government would again reiterate their suggestions now.

2. The Government do not favour the idea of starting medical colleges themselves on the pattern of the Royal College of Physicians and Surgeons in England, but would prefer to have only University Colleges.

3. Adequate facilities would be given to Licentiates to take the condensed M. B. B. S., course till 1952.

4. Claims of Licentiates for appointment as Basic doctors in Primary Health Centers when started within a range of 5 miles where a Rural practitioner has settled down, will be considered.

5. The delay in giving effect to G. O. No. Ps. 2301 dated 7th July 1948 is due to the following of the usual procedure, but would be expedited.

6. The Government would favourably consider the question of promoting Asst. Surgeons Class II to Class I after 10 years of service. In the meanwhile out of about 100 vacancies of Asst. Surgeons Class I, except a few posts of specialists or teaching cadres, the rest will be filled by promotion of Asst. Surgeon Class II, immediately.

7. The issuing of vaccination certificates to emigrants by private practitioners and their countersignature by Government Health and Medical Officers, when necessary, will be considered by the Government and necessary action taken thereon.

The same evening the President and the Joint Secretary called on Sir A. Lakshmanaswamy Mudaliar, the Vice-Chancellor, University of Madras, and had a long discussion with him. He very kindly promised to forward his views to the Dominion Government on the amendment of the Indian Medical Council Act which were identical with the views of the Madras Government.

Sir A. L. Mudaliar also promised to provide adequate facilities for as many licentiates as possible to take the condensed M. B. course in the various Medical Colleges in the Presidency.

It is expected that licentiates desirous of taking this course would have been exhausted by 1952. The condensed M. B. course will be of 2 years duration for Licentiates and 18 months for Ex. army licentiates and the D.M.S. licentiates, and will commence in two sessions in a year, one in January and the other in July.

P. A. S. RAGHAVAN
D. V. VENKAPPA

GOVERNMENT OF MADRAS

PUBLIC WORKS (INFORMATION AND PUBLICITY) DEPARTMENT

PRESS RELEASE

Dated Fort St. George, the 3rd May 1949

[Practitioners of Indian Medicine]

[Orders on use of 'Doctor' Modified.]

The Government of Madras have directed, in modification of their order, dated March 29, 1949, that practitioners of indigenous systems of medicine, who have obtained the L.I.M. qualification, etc. and who have registered their names in class A of the Register of Practitioners of Indian medicine, be permitted to style themselves as 'Doctors' without the abbreviation 'Ind.' provided they affix their qualifications to their names, and indicate that they are Registered Practitioners of Indian Medicine. If the qualifications are not indicated, the abbreviation 'Ind.' should be used.

[Issued by the Director of Information and Publicity (in-charge.)]

MULTI-VITAMIN Deficiencies

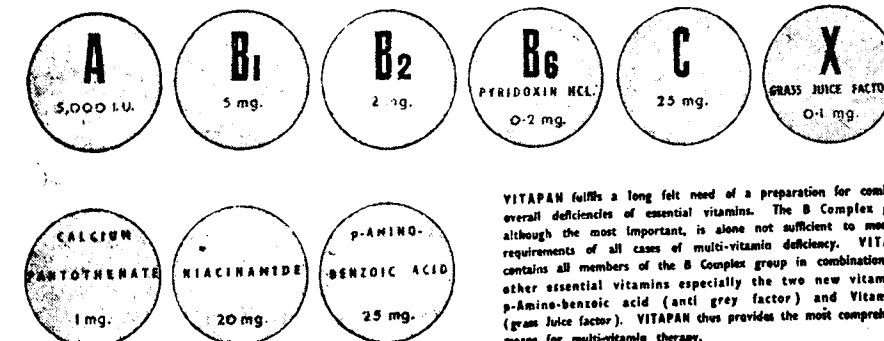


Vitapan

New Combination of more

ESSENTIAL VITAMINS than

'B' Complex alone



VITAPAN fulfills a long felt need of a preparation for combating overall deficiencies of essential vitamins. The B Complex group, although the most important, is alone not sufficient to meet the requirements of all cases of multi-vitamin deficiency. VITAPAN contains all members of the B Complex group in combination with other essential vitamins especially the two new vitamins—p-Amino-benzoic acid (anti grey factor) and Vitamin X (grass juice factor). VITAPAN thus provides the most comprehensive means for multi-vitamin therapy.

'CIPLA' REMEDIES OF SUPREME QUALITY

Detailed literature on request from
Cipla, Byculla, Bombay 8.

Agents for Madras Presidency:

The Medical & Chemical Coy. Ltd., 256, Thambu Chetty Street, G. T., Madras.



A general tonic containing proteolysed liver,
iron and vitamins of the B Group.

For treatment of nutritional deficiencies,
general debility and various types of anaemias.

detailed literature from the makers:



Sara

SARABHAI CHEMICALS
(Pharmaceutical Division)

Baroda
SHILPI

Ahmedabad
SC (Med) 6



A soothing preparation for general use in hyper-acidity of
the stomach and particularly for the relief of pain in
gastric and duodenal ulcers, Silma is available in the form
of tablets and powder.

Each tablet of Silma contains 12½ grains of Magnesium Trisilicate
Sara, 1½ grains of Magnesium Carbonate, 1 grain of Bismuth Carbo-
nate and small quantities of a few essential oils added as flavouring
agents. Silma powder also contains these ingredients in the same
proportion.

MODE OF ISSUE:

SILMA tablets are supplied in bottles containing 25 and 100 tablets.

SILMA powder is supplied in cartons containing 100 grams.

Magnesium Trisilicate Sara used in these preparations fully conforms
to the standard of U. S. P. and British Pharmacopeia Addendum
and is manufactured in India by Sarabhai Chemicals (Fine Chemicals
Division).

detailed literature from the makers:

SARABHAI CHEMICALS
(Pharmaceutical Division)



Sara

Baroda,
SC (Med) 10

Ahmedabad
SHILPI



Back Again in Full Supply

We are today sending to our dealers ample stocks of 'DEXTROSOL'—purest anhydrous dextrose B.P. Your patients should now have no difficulty in obtaining 'DEXTROSOL'. Whenever the indications are for treatment with dextrose, the physician knows that he can safely prescribe.

DEXTROSOL

*Purest Anhydrous Dextrose B. P.
(Pure d-glucose powder)*



CORN PRODUCTS CO. (INDIA) LTD., P. O. BOX 994, BOMBAY

ODDS & ENDS

A wooden leg is not inherited, but a wooden head is.

∴ ∴ ∴
The essential cause of Alopecia Areata is psychological. A patient was 'fed up' at living in his mother-in-law's house, but the acquisition of a house of his own cured his depression and his alopecia—*From The Practitioner*.

∴ ∴ ∴
Music is recommended as an adjunct to dental anaesthesia to reduce the amount of nitrous oxide intake and its attendant oxygen deprivation. It is also said to help smooth induction of anaesthesia, abolish retching and vomiting and facilitates recovery from the anaesthesia.

∴ ∴ ∴
About 95% of all the doctors in Norway are members of the Norwegian Medical Association, which is said to be "the strongest trade union in the country."

∴ ∴ ∴
In Adelaide, Australia, a bachelor has bequeathed Rs. 350,000 for a Maternity Home for young women who have erred for the first time—but not on any account for the second time.

∴ ∴ ∴
It is said sedentary work lessens a man's resistance. The more he sits, the less he can stand.

• ∴ ∴ ∴
This name board was seen in a New Delhi street, "Dr..... children specialist."

∴ ∴ ∴
Seen in a country newspaper: "Owing to the crowded condition of our columns, a number of births and deaths are unavoidably postponed until next month."

∴ ∴ ∴
Doctor: Don't be impatient my friend. I had the same disease myself and am alright now."

Patient: "Can you kindly give me the address of the doctor who cured you?"

∴ ∴ ∴
"I am anxious about the health of my son."

"Why, what has he got?"

"A motor-cycle."

RESO-CAL-VIT

(Calcium-Lacto-Gluconate with Vit. D.)

An assimilable Calcium preparation with Vit. D. suitably sweetened and put in the form of convenient tablets. Indicated in all cases of Calcium deficiency. Reso-Cal-Vit gives excellent results in Menstrual dysfunction, Pulmonary Tuberculosis, Bronchitis, Eczema, Pregnancy and Lactation, Rickets, Urticaria, etc.

Each Tablet Contains

Calcium-Lacto-Gluconate	5 grs.
Vitamin D. (Crystallin)	500 units.
Acid Tartaric	0.25 gr.
Acacia	0.20 gr.
Saccharin Purif.	0.06 gr.
Lactose to.....	10 grs.

RESOTONE

An excellent Nervine Tonic containing Iron, Glycerophosphates of Calcium, Potassium, Manganese, Caffein, Strychnine, and extracts of Dates, Figs, and Grapes and reinforced with Vit. B₁. In general debility and nervous break down RESTONE has given very good results. I taken continuously for some time Muscular and Mental Fatigue vanish and bring Vim, Vigour, and Vitality to the Individual.

Manufactured by :

SOUTHERN RESEARCH LABORATORY,
Manufacturing Chemists,
MADURA.

Sole Distributor :

SP. M. MEDICAL MART,
15, East Chitrai Street,
MADURA.



MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
INDIAN MEDICAL ASSOCIATION

Now Freely Available

'ASCABIOL'

EMULSION in the treatment of
SCABIES & PEDICULOSIS

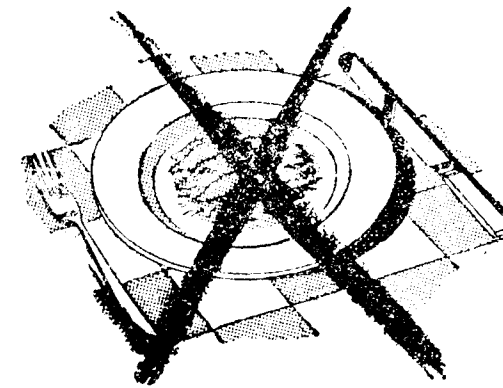
in its effectiveness, ease of application and short
duration of treatment, 'ASCABIOL' commends
itself to physician, nurse and patient.

SUPPLIES: In bottles of 4 fluid ounces and containers of 40 fluid ounces.

MAY &  BAKER

• TRADE MARK

BOMBAY • CALCUTTA • MADRAS • LUCKNOW • LAHORE • KARACHI • RANGOON



During Dietary Restrictions

When patients are to be sustained on liquid diet, the addition of Dextrosol supplies the energy so necessary during illness and convalescence. In all cases for treatment with Glucose, physicians can safely prescribe DEXTROSOL—purest anhydrous dextrose B.P.

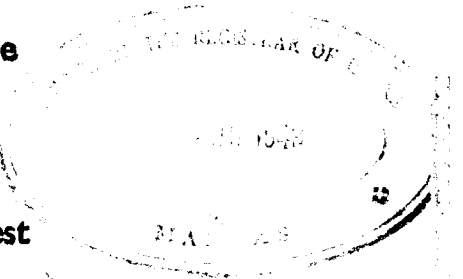
Dextrosol is easily obtainable at all chemists and dealers.



DEXTROSOL



**Glucose
at its
Purest
and Best**



CORN PRODUCTS CO.
(INDIA) LIMITED
P.O. BOX 994, BOMBAY

Distributors :

South India PARRY & Co. Ltd., MADRAS.
Calcutta, Delhi, Kanpur
M. G. SAHANI & COMPANY.

168198



★
**OUR
EXPERTS**

ARE

PIONEERS IN THE
PREPARATION OF
INJECTABLES AND
BIOLOGICAL
PRODUCTS
IN INDIA

**STANDARD
PHARMACEUTICAL WORKS LTD., CALCUTTA**

THE MAKERS OF
VINKOLA AND LIVERGEN

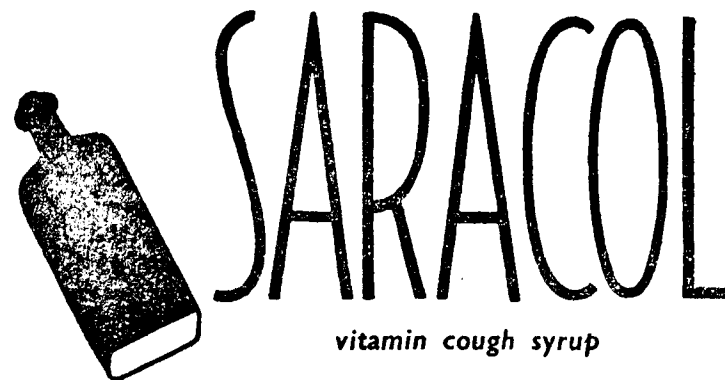
ARE ALSO

THE MANUFACTURERS OF
SERA: VACCINES
AND ALL INJECTABLE PRODUCTS

THEIR DEPENDABILITY RECOGNISED BY
THE GOVERNMENTS OF
INDIA, PAKISTAN, BURMA, SIAM, CEYLON AND EGYPT.

ADDRESS YOUR ENQUIRIES TO
STANDARD PRODUCTS LTD.

67, SURESH SARKAR ROAD, CALCUTTA.



Each fluid ounce of the preparation contains:

Pot. Guaiacol Sulphonate	..	5.0	grs.
Ephedrine Hydrochloride	..	1.0	..
Tehpin Hydrate	..	0.4	..
Ethylmorphine Hydrochloride	..	0.3	..
Sodium Benzoate	..	0.3	..
Chloroform	..	2.8	..
Glycerol	..	28.0	..
Vitamin C	..	1.5	..
Honey and flavouring		q.s.	

CALCIUM LEVULINATE-SARA adds to the curative value of the preparation since it influences many respiratory diseases, relaxing bronchial spasm and decreasing the secretion of mucosa of the respiratory tract.

INDICATIONS.

Bronchitis, pneumonia, influenza, coughs, colds, whooping cough, asthma and all diseases of the respiratory tract.

detailed literature from the makers:



Sara

SARABHAI CHEMICALS

(Pharmaceutical Division)

Baroda
SHILPI

Ahmedabad.
SC (Med) 7

THE MISCELLANY

MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
THE INDIAN MEDICAL ASSOCIATION

VOL. XV]

MAY 1949

[No. 11

SURGICAL ASPECTS OF CHEST PAIN

BY

DR. R. MAHADEVAN, M.S., F.R.C.S., (Eng.), F.R.C.S., (Edin.),
*Professor of Operative Surgery, Stanley Medical College &
Surgeon, Stanley Hospital, Royapuram, Madras.*

Introduction

In discussing this subject, my aim is to stress in particular the surgical aspects of Angina Pectoris. This disease has victimised many celebrated people. John Hunter died suddenly of an attack of angina pectoris at a medical meeting. Matthew Arnold, his father and grandfather were all victims to this disease. This condition is responsible for a fair degree of morbidity and a fairly heavy mortality. It particularly affects and carries off men in the prime of life, at a time when they are most useful to their families and to the society. Carefully planned surgery can do much to reduce this morbidity and mortality and as such it seems worth the while to discuss the condition in some detail.

The mechanism of pain (Parietal & visceral).

The mechanism of pain in a fractured rib or in pleurisy seems to be straightforward and easy to understand. At any rate, our knowledge of the mechanism of pain in diseased conditions of the parietes is fairly good, but regarding visceral pain it is far from satisfactory.

The parietal pleura receives its nerve supply through the intercostal nerves.

The mediastinal pleura and the central portion of the diaphragmatic pleura, both in its peritoneal and pleural aspects are supplied by the phrenic nerves. Pain sensations are conveyed through these. The pain referred to the shoulder tip in pathological conditions of the diaphragm and adjacent viscerae is too well known to require elaboration here.

The extreme periphery of the diaphragm about 2 or 3" from its insertion to the ribs is supplied by the lower six intercostal nerves. Consequently when these are irritated, pain is felt in the lower thorax, in the lumbar region or in the abdomen.

Experimental investigations show no pain sense in the visceral pleurae. When the parietal pleura is irritated, sharp pain is felt at the corresponding spot, due, supposedly to the rich nerve supply from the intercostal nerves. These sensory impressions are more easily located in the anterior and lateral aspects than in the posterior. (Graham and others, 1935). The vagus and the sympathetic take part in the innervation of visceral pleura. However as already stated, no pain sense can be detected in relation to the visceral pleura. The existence of the intrapulmonary nerve fibres carrying sense of pain is doubtful. Nevertheless the fact

remains that some patients do complain of pain deep within the chest, exactly describing where they feel it. At operation, pathological lesions are found remarkably accurately corresponding to the area described. It has been supposed that any such pain fibres that may be present come through the vagus or sympathetic or both. It must be stated however, that our knowledge regarding visceral pain in general and of thoracic viscera in particular is far from complete and several facts await solution. In terms of spinal segmental innervation, the bronchi and the lungs are related to the 5th to 8th dorsal segments.

The pain of Angina Pectoris

Much of what follows is from the writings of J. C. White and others and those interested in the subject must peruse their original articles. The heart, like the abdominal viscera, had first been thought to be devoid of pain sensations. Centuries ago William Harvey had made very interesting and important observations. In a patient under his care, who had survived a severe wound to the chest with the heart exposed, Harvey had noticed that touching, pricking or pinching the heart did not evoke the slightest sensation. Heat, cold and vibrations too are not perceived in the heart or visceral pericardium. In a patient of mine, now in the wards, in whom the heart is clearly seen through an opening in the chest wall, made for cautery pneumonectomy to drain a badly infected congenital cystic lung, the above statements have been verified in the main and found to tally with Harvey's findings. It is now known that electrical stimulation of the myocardium evokes sensations, only when it produces extra-systoles.

However, each viscera has a peculiar type of physiological stimulus to which it responds. Thus, in the case of a hollow viscera like the intestines, distension is the physiological stimulus.

In the case of the heart, myocardial anoxia and abnormal products of muscular fatigue cause pain. This is exactly analogous to the intermittent claudication of calf muscles in Buerger's disease or in other conditions where the blood supply to the muscles is compromised. This is what happens in the pain of angina pectoris, where there is a sudden substernal pain, radiating to the left arm, back, neck, (sometimes to the jaw), and sometimes to the right arm also. Of recent years, improved means of diagnosis and studies of post-mortem findings have demonstrated that in a large proportion of the cases labelled chronic myocarditis, there is evidence of coronary disease.

Fifty years ago Francois Frank, Professor of Physiology in Paris, suggested that sympathectomy could relieve the pain of angina pectoris. But even to-day some surgeons and physicians hesitate to put the idea to the test and cardiologists are reluctant to adopt it. This conservative attitude is mainly due to the unfortunate and mistaken views expressed by Sir James Mackenzie. He gave it as his considered view that the pain in angina pectoris is a protective phenomenon and that it acts as a salutary warning to the patient when he is overexerting himself. It thereby prevents an inadvertent overexertion. He also expressed, that it would be very unfortunate if some day a method of abolishing the pain was found. It is now known that these views are quite erroneous, but Sir James Mackenzie's prestige and position as a Cardiologist was so great that even to-day the fears expressed by him have not been completely dispelled. Consequently, operations for abolition of pain of Angina Pectoris, have not yet come to be adopted as frequently as they should be.

Pathways of painful sensation of heart and sensory denervation of the heart.

For brevity and clearness, the barest essentials are mentioned. The upper

thoracic para-vertebral ganglia or the corresponding posterior spinal roots carry the pain transmitting fibres from the heart. These areas constitute as it were a bottle-neck through which all pain conducting axons from the widely ramifying peripheral plexus are funnelled before entering the spinal cord (White & Bland, 1948). Consequently, all attempts at abolishing painful sensations from the heart aim at an attack on the above structures, in one of three ways, described below. If successfully accomplished, no pain could be induced, even by prolonged coronary occlusion. Thus the operation produces in effect, a sensory denervation of the heart. Mackenzie's fear that the removal of the warning signal of pain would permit the individual to damage the heart by over exertion has not been substantiated, *because with overexertion these patients develop a sense of constriction round the chest and dyspnoea which serve as effective warnings.*

The three methods of sensory denervation of the heart are:—

- (1) Chemical block.
- (2) Sympathetic Ganglionectomy.
- (3) Posterior Rhizotomy.

1. Chemical Block:—This is a very useful method and least dangerous of the three. *It is particularly useful in patients who have had frequent and recent attacks of coronary thrombosis and are consequently poor surgical risks, for anaesthesia and for any form of open surgical intervention.*

Technique of injection (White's technique):—Fig. 1.

Adequate preliminary sedation eg. $\frac{1}{4}$ grain omopon and $\frac{1}{150}$ grain hyoscine is very essential, as the fear of being hurt by the injections might in itself be sufficient to precipitate an attack. The aim is to inject the upper five dorsal ganglia on the painful side (which is usually the left). Five long needles are inserted (preferably under

fluoroscopic control to ensure accuracy of technique) 4 cm. from the midline

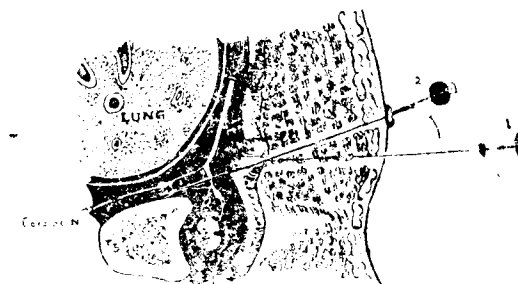


FIG. 1. Insertion of needle for injection of cardiac nerves.

1. Needle inserted 4 cm. to left of spinous process and tip in contact with transverse process of vertebra. Depth marker has been set at a point 3 cm. from the skin.

2. Shank of needle has been rotated outward and tip worked inward until at an additional depth of 3 cm. it lies in contact with the side of the vertebra and in close approximation with the ganglionated sympathetic chain. (From article by White & Bland in Medicine, February 1948).

so as to strike the inferior border of 1st, 2nd, 3rd, 4th and 5th ribs. The point of each needle is slipped just below the ribs, and the needle then inclined inwards and slightly downwards at the angle of 45 degrees to the surface, and pushed on for about 2 cms. till the point is close to or in contact with the vertebral body just anterior to the head of the corresponding rib. With the needle in this position 5 c.c. of 1% Novocaine are injected through each needle. After waiting ten minutes for anaesthesia to develop 5 c.c. of 80% alcohol is injected through each needle in turn. Development of Horner's syndrome signifies a successful injection.

Dangers like injection of alcohol into the spinal cord or into the arachnoid space etc. are minimised with careful technique and fluoroscopic control. 10% of patients develop an intercostal neuralgia but this passes off in the course of about two months.

Mastery of the technique of injection is well worth the trouble, because it enables so many otherwise hopeless

sufferers to obtain relief. Even if there is a gradual disappearance of the Horner's sign and a reduction of the initial vaso-motor and sudomotor paralysis, regeneration of the cardiac fibres is less likely to take place.

White says that the relief of suffering and the general improvement seen in so many of his patients have convinced him that the method has a valuable role in the treatment of later stages of coronary heart disease with intractable angina pectoris. *It enables so many otherwise hopeless sufferers to obtain relief from their pain.* They are also free from the constant dread that the pain may come on at any moment and this has not only a very great psychological value, but also *enables the patient to go on with his occupation may be with some care and guardedness.* They are able to lead happier and more active lives, and are no longer threatened with addiction to morphia, lack of sleep and worry which so often are factors accelerating termination of life by coronary occlusion.

2. Sympathetic Ganglionectomy (Fig. 2).

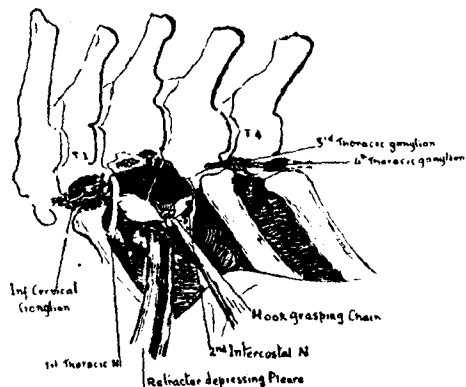


FIG. 2. Diagrammatic sketch of exposure of upper thoracic sympathetic ganglia after removal of central portion of second rib and retraction of pleura. (From article by White & Bland in Medicine, February 1948).

This consists in extra-pleural resection from the inferior cervical ganglion to a point well below the third thoracic

ganglion. *It is essential to follow the chain downwards to include the third thoracic ganglion.* (KUNTZ).

This operation is best performed through the posterior approach, with the resection of the central end of the 2nd rib and transverse process.

Posterior Rhizotomy (Fig. 3)

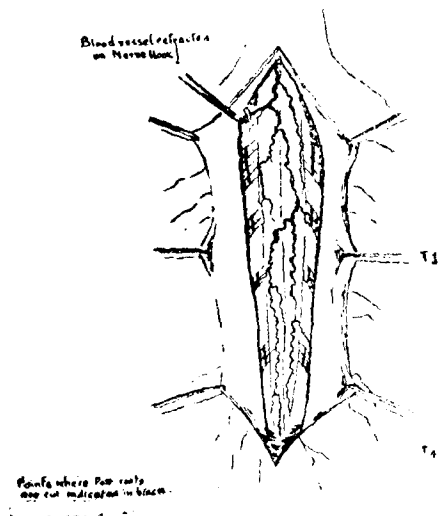


FIG. 3. Diagrammatic sketch of appearance of upper four posterior spinal nerve roots and their point of division for relief of cardiac pain. (From article by White & Bland in Medicine, February 1948).

The minimum number of posterior nerve roots which should be sectioned are the upper four thoracic on both sides. The advantage of this operation is that the cardiac afferent fibres can be cut on both sides at a single operation.

Selection of cases for surgical treatment and factors deciding the type of operation:—

Surgical treatment of angina pectoris should be reserved for the group of patients who after adequate observation, cannot be controlled effectively on a medical regime. In such cases *surgical intervention may actually prolong life by relief of pain and associated nervous tension, by tiding him over a critical period of coronary insufficiency, until there is a spontane-*

ous improvement in myocardial circulation by the slow development of collateral vessels. Such a development may be a slow process, but appears to have occurred in several recovered cases. In numerous instances *these patients have been ultimately able to return to work as their coronary circulation improved, with only mild restriction of activity and considerable reduction in their need for drugs.* As regards the choice of operation this may be epitomised thus:—

1. Patients with a fair cardiac reserve may be submitted to Laminectomy and roots section with reasonable safety. This operation is most logical when the reference to cardiac pain is bilateral.

2. For the more questionable risks thoracic ganglionectomy is performed, especially if the anginal pain is unilateral.

3. For the poorest risks, that is, those who have had repeated attacks of coronary infarction with large hearts, and great reduction in cardiac reserve, interruption of the nerves by para-vertebral alcohol block may be the only possible recourse.

Other possible methods for the relief of anginal pain:—like total thyroidectomy or Beck's method of turning a flap of intercostal or pectoral muscles to adhere to the myocardium, or denervation along the coronary arteries have not become popular for various reasons, and need not be further discussed. *O'Shaughnessy's suggestions of utilizing omental grafts seems to deserve a more—extended trial and is likely to become a more frequently adopted procedure.*

Perhaps it is not out of place to mention here that injections of testosterone propionate (25 mgms. twice weekly, about a dozen as a course in an average case) are said to have very considerable therapeutic value. Marked relief of symptoms and great

increase in exercise tolerance have been brought about by this treatment according to some reports. This aspect will no doubt be discussed by the physicians.

Now, let us pass on to a brief consideration of the various other causes of pain in the chest.

Malignant growths and pain in the chest:—

Statistics in countries where proper records are maintained, show an increasing incidence of malignant growths of the lung and indeed lung carcinoma seems to rank in frequency next only to cancer of the stomach or colon in man. In a review of a large series of cases, arranged according to the most prominent presenting symptoms, cough was the first in order and pain fifth. Thus in Oschner's series the order was as follows,

1. Cough	100%
2. Haemoptysis varying from a little staining to a brisk haemorrhage	87%
3. Dyspnoea	74%
4. Sputum (mucoid or frothy)	64%
5. Pain	60%

Records of other series also show a very close similarity in the order of frequency of symptoms. *Nevertheless the fact remains that pain has been complained of in about 60% of the cases.* Indeed, such a frequent occurrence of pain is uncommon in cancer of other organs, except in late cases with complications. There are two types of pain in association with carcinoma of lung which need to be distinguished. "Pain arising from intrabronchial neoplasm must be differentiated from pain due to direct invasion of contiguous structures. *Pain arising from the lung itself is not associated with respiratory cycle as is the pain of pleuritis.* It is most often described

as a constant dull ache deep in the chest. The frequency with which the actual position of the tumour as shown by Roentgenography, coincided with the location of pain in the chest wall, as indicated by the patient was surprising. In all probability pain does not arise within the tumour itself but is a result of pressure on the bronchial wall. *Persistent pain in the chest, in the absence of inflammatory disease or aspiration of a foreign body, should always lead to careful investigation of the respiratory tract.* Pain down the arm or in the chest wall, so characteristically found in the so called "Superior sulcus or Pancoast tumour" is, as a rule, due to direct invasion of the ribs or the brachial plexus or both. This distribution of pain is considered a very unfavourable symptom from the standpoint of operability. (Reinhoff—1947).

Pain in relation to pulmonary tuberculosis :—

Sometimes patients with pulmonary tuberculosis complain of aching pain or a senso of tightness in the chest. Such symptoms can be relieved in selected cases by phrenic crush or avulsion. To quote Morriston Davis, "The relief of such symptoms as pain, aching drag, tightness round the base of the lung, tachycardia when the pericardium is involved by basal adhesions, are amongst the most immediate results of hemi-diaphragmatic paralysis. It may have considerable influence, also on cough and sputum. That form of dry recurrent cough due to irritation of the diaphragm is completely abolished, the bringing up of sputum is facilitated by the expulsive force of the abdominal muscles acting directly on the lung and no longer damped by the semi-rigid tonically contracted muscles" (Morriston Davis—1930).

Pott's disease :—

It is important to realise that the degree of pain in Pott's disease may be surprisingly slight for a considerable

time. Patients have reported to hospital having carried on their strenuous work till a few days before seeking admission and yet examination may show unmistakable evidence of the disease. The moral is that the slightness of the pain and the fact that the patient is still working should not lead one to exclude Pott's disease. Indeed, some patients say they have no pain but only a vague discomfort, more intense at the end of the days work. A pain or a mere discomfort persistent over a long period, demands very careful investigation before Pott's disease is excluded.

Pott's disease of dorsal vertebrae may give rise to vague complaints of pain in the chest wall and in the early cases when there is no deformity and only an intercostal neuralgia (due to referred pain) is complained of, the condition may be altogether missed. Indeed, in these cases, pressure on the spinous processes may elicit no pain or tenderness and for this reason a suspicion of Pott's disease even if initially entertained may be excluded. But it is important to remember that *in such cases pressure over the transverse process of the suspected area, i. e., to one or the other side of the mid-line, by causing a rotatory movement may reveal pain and tenderness. These cases, even in the absence of skiagraphic evidences are best treated as Pott's disease.* Indeed in some of these cases, where the skiagram appears practically normal but clinical features are suggestive, examination of material aspirated from the suspected focus (under fluoroscopic guidance preferably) permits an accurate diagnosis of the nature of the infection. This is a procedure not unduly difficult and deserves to be much more frequently adopted than is being done now. Occasionally, organisms other than tubercle bacillus produce spinal lesions indistinguishable by symptoms and roentgenographic findings from Pott's disease. Aspiration of such foci gives early and accurate information of the

nature of the infection (Harris & Coulthard, 1941).

Other miscellaneous causes of chest pain.

While conditions like caries of the rib, tuberculosis or otherwise need no special elaboration, caries of rib and chest wall due to bacillus typhosus infection seem to deserve special mention. These cases come with an indolent swelling in the chest wall, more often in close relation to the sternum and resemble a cold abscess or a gumma. A history of previous enteric fever, (may be several years before, and in one of my cases the infection had occurred twenty years previously), and a negative W. R. will give the clue to the diagnosis. Culture of the pus in two such cases revealed a pure growth of typhoid bacillus.

Conditions like acute massive collapse of the lung, spontaneous pneumothorax, infarctions of the lung, aneurysms of the great vessels, syphilitic aortitis, pericarditis, spinal cord tumours, thyrotoxicosis, secondary deposits due to neoplasms elsewhere, cardiospasm, duodenal ulcer, diaphragmatic hernia, tabes, fibrositis effort syndrome etc. are too numerous to be individually discussed. But amoebic hepatitis, or abscess as a cause of pain in lower right chest (and occasionally in left chest also) is common and should not be missed. Indeed, it cannot be missed if the possibility is remembered. The only thing that I would like to stress is that too much reliance must not be placed on the absence of a previous history of dysentery or diarrhoea. The diagnosis should not be excluded on that score alone. Further, in every case of basal lung abscess the possibility of an underlying amoebic infection being the primary cause must always be remembered and even if the possibility is remote in a particular case it is wise to institute a course of anti-amoebic treatment before any operation is undertaken.

Infections of the gall bladder may sometimes be the underlying cause for precordial pain (simulating anginal attacks in some cases, the so called gall-bladder heart). In selected cases removal of the infected gall-bladder cures the cardiac disability. Again the relationship between cardiac disabilities and thyrotoxicosis is too well known to be discussed. All that need be mentioned is that by the operation of thyroidectomy in selected cases the relief of anginal pain and recovery of cardiac function is so gratifying that the possibility of a diseased thyroid being the underlying cause should never be forgotten.

Treatment of fractured ribs by novocaine injection.

The best way to treat fractured ribs is by novocaine infiltration into the painful area or by blocking the related intercostal nerves. A single injection, 5 to 10 c. c. of 2% novocaine often gives permanent relief though in some cases it has to be repeated once or twice at intervals. *This is a much better, simpler and more comfortable method than the time honoured one of strapping the chest well.* The rationale of the method is as follows. The pain in fractured ribs is not due to the rubbing together of the fractured ends, for if this were so the intensity of the pain must be maximal at the height of expiration. This however is not the case. It is well known that the pain increases during the inspiratory phase, and the inspiratory movement of the chest wall suddenly stops with a catch. This is due to spasm of the related intercostal muscles around the fractured area. This spasm is abolished by novocaine injection, and the relief of pain is not merely for a few hours, but for several days so that it practically amounts to a cure. If pain recurs early it is a simple matter to repeat the novocaine injection or if need be proctocaine may be injected, the effect of which lasts longer. It is sometimes

advised that alcohol may be injected, but this should never be done, as it may cause severe and intractable intercostal neuralgia. The time honoured method of strapping the chest wall should in my opinion be no longer adopted as a method of treating fractured ribs. Strapping the chest, if it has to be effective enough to immobilise the ribs, has to be applied with such great pressure and over so extensive an area that it is always uncomfortable. Indeed, in many cases even with proper strapping the relief obtained is not always complete. Further, particularly in old men it hinders coughing and expectoration and thereby favours lung complications. No more arguments are needed to show that the method is better abandoned and the simple procedure of novocaine injection adopted.

Conclusion.

1. Surgery has a very useful place in the treatment of angina pectoris and deserves to be much more frequently adopted than now. The indication and contra-indications and the methods available for surgery are briefly discussed.

2. The significance of pain in the chest in pulmonary neoplasms, and various other conditions are discussed.

3. Various other causes and aspects of chest pain and the therapeutic problems involved are mentioned.

4. Treatment of fractured ribs by strapping the chest wall must be abandoned. Novocaine injection of the intercostal muscles at the fractured area, or relevant intercostal nerves is the best. The rationale of the procedure and the technique are detailed.

References

1. Bland, Edward, F. & White James, C., "Relief of Angina Pectoris in young people with rheumatic heart disease with remarks on a typical anginal syndrome"—*New Engl. J. Med.* 1936. 215-136-143.
2. Graham E. A., Singer J. J., & Ballon H. C. "Surgical diseases of the chest". p. 115 (Publishers Henry Kimpton).
3. Harris, R. L., & Coulthard, H. S., "The early diagnosis of Pott's disease"—*Annals of Surgery* 1941, 114-931 to 955.
4. Kuntz, A. & Morihouse, A., "Thoracic sympathetic cardiac nerves in man. Their relation to cervical sympathetic ganglionectomy"—*Archives of Surgery*, 1930, 20: 607-613.
5. Moriston Davis, H., "Surgery of Pulmonary tuberculosis"—*B. M. J.* April 12, 1930.
6. White, James C., & White, Paul D.,—"Angina Pectoris—Treatment with para-vertebral alcohol injections"—*J. A. M. A.* 1928, 90: 1099-1103.
7. White, James C., "Para-vertebral alcohol injection. Methods and safeguards in its uses in the treatment of Angina Pectoris"—*Surg. Gynaec & Obst.* 1940, 71: 334-343.
8. White, James C., & others., "Radiographic control for paravertebral injection of alcohol in Angina Pectoris"—*Journal of Neurosurgery* 1944, 1: 40-44.
9. White, James C. & Bland, Edward, F. "MEDICINE" Feb. 1948.

May, 1949]

GYNAECOLOGICAL DISORDERS OF MICTURITION

BY

DR. MISS E. MADURAM M.B., F.R.C.S., M.R.C.O.G.,

Retd. Supdt. Govt. Victoria Caste & Gosha Hospital, Madras.

Introduction

The subject given to me to talk on to-day is so vast and the time allotted so short, that it is not possible for me to do full justice to it in the brief space of 20 minutes. I can do no more than merely mention the gynaecological lesions that have their repercussions on the bladder, urethra and other urinary organs, and adversely affect the function of micturition. I can certainly not be able to deal with all the academic details of these conditions, I shall only mention the practical points that arise in the handling of these lesions in the wards.

There is no organ in the female which is so intimately connected with the organs of reproduction as the bladder, and its entering and exit passages—the ureter and urethra. It is then but natural that the bladder should be subjected to a great deal of stress and strain during labour and in all the inflammatory and neoplastic lesions of the female generating organs. There is also no other group of organs in the whole of the human anatomy which produce such large and gross tumours. Therefore, I say again that it is but natural that these tumours often weighing 10, 20, 30 lbs. or more, should distort and deviate from their course, or compress considerably the bladder, ureters and the urethra and thereby bring about secondary changes in the kidneys as well. In most instances the function of the urinary organs is interfered with by their mechanical process, rather than by any pathological lesion in them.

Therefore, I find it convenient to classify the gynaecological conditions involving the urinary organs by classifying them in the 4 main groups of

disordered function of micturition, viz. :—

- I. Retention of urine.
- II. Suppression of urine.
- III. Irritability and frequency of micturition.
- IV. Incontinence of urine.

All four of these are most distressing conditions in gynaecological practice and the gynaecologist has to deal with one or other of these every day in the ward.

1. Retention of urine.

(i) The simplest cause of R of U is spasm of the sphincter muscles of the bladder and urethra which are extremely sensitive to painful lesions in the neighbourhood and often meets with the condition when there is much bruising of the vulva in and around the clitoris and the vagina in a primipara for 24-48 hours after labour even when there is no actual tear of the perineum and sutures. It may also occur with gross wounds such as caused by goring by a bull, rape, falling on sharp objects from ladders and chairs. Riding for hours also causes similar spasm of the sphincters. In all of these, very little treatment is indicated except rest, application of warmth, both to the hypogastrium in the form of hot water bottle, and to the injured parts; and, as the pain and soreness in these parts diminish, the spasm of the sphincter relaxes. Warmth to the parts may be applied in the form of hot water bottle or putting the patient on a bedbath and pouring warm sterile or dettol lotion over the parts. Anything that needs more treatment than this will be considered in the next group.

(ii) Presence of sutures in the neighbourhood is a very common condition preventing the patient from voiding urine, and is a little more difficult condition to deal with, as it is not found advisable to sit the patient up with recent sutures. This is most commonly met with after repair of a lacerated perineum particularly after an instrumental delivery with a great deal of bruising of the parts which are as much responsible for the spasm of the sphincter as the presence of the sutures. In the recent puerperal cases the urine can often be "expressed" by pressing on the hard, well-contracted uterus which usually sits above the umbilicus riding on the full bladder. Once the urethra is relaxed by the pressure from above and the urine starts flowing the patient is able to keep up the action. Retention of urine is also a great bug bear after operation for piles and fissures, and pelvic abdominal operations, even where the bladder has not been handled in anyway.

Many of these patients can be propped up a little without fear of damage to sutures but there are some who on account of abdominal sutures or ligature of large vessels cannot be made to sit up to pass urine and they need some aid to help micturition. As a rule this handicap is with the nervous type of patients, who need a great deal of encouragement from the doctors, even more from the nurses in attendance. They need assurance that there is nothing wrong to prevent them from voiding urine. If, in spite of it, drugs are needed to help there are a number of antispasmodic drugs to help, such as carbachol, doryl, prostigmine, trasentin and drugs such as pituitrin to give powerful stimulus to the plain muscle fibres of the bladder. I usually order one of these injections where the bladder is full, after the patient has had a hot water bottle to the hypogastrium for $\frac{1}{2}$ hour or so, and immediately after the injection the patient

is put on the bedpan and told to try hard. This is usually successful, if not on the first day, then on the second or third day when the soreness of the sutures has eased a bit. If still not successful, the patient is catheterised and given encouragement that it will be successful the next time. There is another little manoeuvre which I have found useful many a time and have used for a number of years now, with considerable success, and that is to run in after catheterisation, through the same rubber catheter, attaching it to a funnel, 1 oz. of acriflavine and glycerine. The patient usually asks for the bedpan within 2 or 3 hours of this procedure and passes urine spontaneously. I cannot tell you how it acts. I can only surmise that the glycerine causes a little irritation to the walls of the bladder and as soon as a little urine collects, it provides a powerful stimulus to the musculature of the bladder to contract and expel the urine. When once the patient has passed even a little urine by herself it restores her confidence wonderfully and all is well after that. Quite a number of obstinate cases also pass urine spontaneously after a hot soap and water enema on the 3rd day after operation. I do not know whether it is the warmth communicated to the sphincter of the bladder through the rectum and colon or that the patient just concentrates on expression of the enema water forgetting all about the function of the bladder. Whatever the explanation is it works.

(iii) Now, I pass on to a little more difficult cause of Retention of urine, and that is the post-operative group, where the operation, to a more or less extent, involved the bladder, urethra or ureters. Of this group, the most important is the anterior colporrhaphy operation or an operation like Fothergill's vaginal hysterectomy where resettling the sagging bladder into its normal place forms an integral part. Here as you are

aware, after dissecting up the anterior vaginal flaps, the sagging bladder has to be pushed up by blunt dissection, with gauze and thumb which causes a good deal of trauma to the bladder musculature. I need hardly emphasise the fact that the more gently this peeling and pushing is carried out the less the surgeon is likely to be bothered with post-operative retention of urine; use of fine catgut, less number of knots, neat suturing of the levator ani-muscle under the pushed up bladder, are all important factors in the sparing of trauma to the bladder. In this group of cases, it is not merely spasm of the sphincter but there is a certain amount of paresis of the walls of the bladder due to the trauma and most gynaecological surgeons are agreed that a continuous drainage of the bladder by an indwelling catheter for the first 48 hours helps the bladder a great deal in recovering its tone and expulsive power. This is said to be better than subjecting the patient to repeated catheterisation. If after removal of the catheter on the 3rd day the patient is not able to void urine with the usual means suggested in group 2 cases I have no hesitation in putting back a fresh catheter and keeping it in for another 2 days rather than allow the patient to get into a nervous and fretful condition by the fact of not being able to pass urine. Usually by the 5th day, the patient is very comfortable in the local operated area and I have hardly come across a patient who carried her inability to void urine beyond this period.

Curtis, the American Gynaecologist, recommends what he calls "Distension Treatment" for cases of persistent loss of bladder tone in cases where there has been considerable mobilisation or denudation of the bladder, with impairment of the nerve supply. He recommends a daily distension of the bladder with about 50 cc. of sterile water, with the intent of ironing out the folds and creases of the bladder. The same

observations also hold good for hysterectomy by the abdominal route, where both in subtotal and total hysterectomy the bladder has to be pushed off its attachment to the cervix and the lower uterine segment with a swab on a sponge holder. This being a normal attachment and there being a layer of loose cellular tissue the peeling process is much more easy than it is in an anterior colpo-perineorrhaphy operation. Even here gentleness of handling the bladder is very essential and if one occasionally meets with a patient who cannot pass urine the first day or two, it is due to spasm caused by the abdominal wall sutures than due to any paresis of the bladder due to trauma.

In this group, it is hardly necessary to talk about the complications of micturition caused by injury to the ureters for it takes the form of suppression of urine.

IV. Next comes the group in which retention of urine is caused by mechanical compression of some part of the urinary passage.

(a) The worst offender in this group in the cervical fibroids unlike fibroids growing from the body of the uterus which naturally tend to rise up, above the pelvis into the abdomen. Cervical tumours on account of their site tend to remain imprisoned in the pelvis. Restrained by the attachment of the cervix to the pelvic cellular tissue, they tend to grow circumferentially, until in the case of large growths they press laterally against the pelvic walls, and the lower pole projects further and further downwards into the pelvic floor. The obvious result of this type of growth is the pressure effect on one or both ureters, the neck of the bladder and the urethra leading to retention of urine. Often there is a history of several minor attacks of inability to pass urine caused by a temporary sudden increase in the size of the tumour caused by congestion just before a menstrual

period, or a long journey etc. A few months ago, a cinema star was admitted into the hospital with retention of urine after an all-night dancing for the shooting of a picture. On examination it was found that she had a fairly large cervical fibroid of which she was quite unaware. Apart from sterility this was the first abnormality that led to the discovery of the tumour. Rest and warmth relieved the congestion and after 24-36 hours in bed, the patient was able to pass urine.

Large retroperitoneal fibroids growing into the broad ligament, stripping up the peritoneum, often cause distortion of and pressure on the ureter on that side.

(b) Even a fibroid growing from the body of the uterus especially one on the posterior wall of the uterus if impacted in the pelvis may cause retention of urine by compression of the neck of bladder or the urethra. Large cervical and uterine fibroid polypi the latter often with inversion of the uterus are sometimes the cause of retention of urine. These polypi are often as large as a foetal head distending the vagina and just as in the case of prolonged II stage of labour, it is easy to conceive large hard tumours compressing the urethra against the symphysis pubis.

(c) Large ovarian cysts and tumours rise into the abdomen and so there is very little pressure effect except a little irritability of the bladder with frequency of micturition in the early stages, but an ovarian cyst incarcerated in the pelvis either as a result of adhesions or impaction, will give rise to compression of the neck of the bladder or the urethra. Of the cyst groups the

(d) Parovarian cysts being retroperitoneal and tending to strip up the peritoneum of the 2 layers of the broad ligament are the worst offenders in bringing about pressure symptoms on the urinary passages, and, according as to whether they compress the urethra

or the ureters they cause either retention or suppression of urine. In the former case bladder becomes so distended as to form a cystic abdominal tumour complicating the very condition that you have been called upon to diagnose. As a rule, distended bladder is tender on palpation and gives a more superficial feeling of fluctuation than a cyst. Also, I need hardly emphasise the fact that attempt should never be made to diagnose a pelvic tumour in general or pelvic cyst in particular without passing a catheter first and emptying the bladder.

(e) II and III degree prolapse uterus is not an uncommon cause of retention of urine, the large hypertrophied cervix protruding outside the vulva is the compressing factor. Sudden increase in size by congestion and oedema is often a determining factor. It is usually preceded by a history of increasing difficulty in passing urine because the urethral orifice is at a higher level than the whole of the bladder which has sagged and the patient often gives a history of having to lift and push up the prolapse to be able to start the act of micturition. Rest in bed, with the foot of bed raised, application of hot compresses or of acriflavine and glycerine to the cervix, drains off the oedematous fluid and the patient is able to pass urine after 24 or 48 hours in bed. (I have often experienced considerable difficulty in even getting a catheter into the bladder when nurses cannot catheterise the patient. In such cases, I leave the catheter in for a day or two.)

(f) Large pelvic haematocoeles that are met with in ruptured or slowly leaking ectopic gestation is a very consistent cause of retention of urine by mechanical compression of the urethra and the neck of the bladder. In fact, it is such a constant sign that the general practitioner and the gynaecologist should always pay special attention to it when they are called upon to see a woman of early pregnancy who is not only seized with acute

abdominal pain and signs and symptoms of shock, but is also suddenly unable to pass urine. I have observed it so often that I have come to look upon it as one of the confirmatory signs of a ruptured or leaking ectopic gestation with or without formation of a haematocoele. When you open the abdomen, you not only find the collection of clots in Douglas' pouch, but also in the utero-vesical pouch, so that the neck of the bladder is surrounded by an annular collection of clots. One is also struck by the ease with which the patient passes urine after these clots have been cleared during operation.

(g) When there is a large Haematocolpos and haematometra resulting from imperforate hymen and retention of viscid menstrual fluid the bladder is pushed up, urethra is stretched and pressed upon by the abnormally distended vagina causing inability to pass urine. Often when the monthly and the growing tumour in the abdomen has not been taken notice of the patient first comes under observation for acute retention of urine. Patient passes urine with ease when the hymen has been incised and the viscid, chocolate coloured fluid evacuated.

Treatment

In all of these mechanical causes of compression I need hardly emphasise the fact that there is very little organic change in the urinary passages beyond distension and lifting up of the bladder stretching and elongation of the urethra and so thinning out of its walls, capable of easy compression between the tumour or blood clots and the hard S. Pubis. There are also varying degrees of compression, tortuosity and dilatation of the ureters. Later on cystitis and renal changes are met with, if the obstruction has been long standing. In the majority of cases, retention of urine being absolute patient cannot go on for long, therefore all that is necessary in the form of treatment, is to surgically deal with the cause of the obstruction, after

a few days of rest in bed catheterisation 8th hourly if necessary, or, if the bladder is very much distended, by slow decompression by an indwelling catheter. In many cases, these few days of waiting causes the congestion of a fibroid to subside, a hypertrophied and oedematous prolapsed cervix to shrink, an ulcer to heal before radical surgical treatment can be directed to the cause of the obstruction. On the otherhand, there are a few cases where nothing can be gained by delay as in Cryptamenorrhoea or where the delay of even a few hours can even be positively dangerous as in Ectopic gestation. Therefore each case should be considered on its own merits. In the cases where a few day's delay is considered desirable urinary antiseptics and washing out of the bladder may be resorted to, if necessary to bring the bladder into a healthy condition.

A catalogue of the causes of retention of urine caused by compression of the female urinary passage cannot be complete without mention of 2 important obstetric conditions (I am sure you will not consider it irrelevant to the subject although the subject announced is "Gynaecological" disorders of micturition.) These 2 conditions are:

- i. Retention of urine caused by retroverted gravid uterus and
- ii. Retention of urine met within the II stage of labour.

i. Retention due to backward displacement of gravid uterus. The earliest and most characteristic symptom of this condition is dysuria, commencing about the 12th-14th week, which if the displacement is not corrected, becomes more and more pronounced until there is complete retention, with or without an "overflow incontinence." The retention is believed to be caused by the mechanical compression of the urethra and neck of the bladder by the cervix which is directed towards and forwards against the symphysis pubis. But that is not the whole explanation

of what happens, for apart from cystitis which sets, and in most of these cases, one meets with an acute form of sloughing of the mucous membrane of the bladder over the entire mucous coat of the bladder which may be separated and passed as a slough per urethrum. This can only occur as a result of an acute compression of the blood vessels and that is a more serious effect of the compression by the displaced cervix. The veins radiating from the neck of the bladder are pressed upon and the sloughing and an acute form of septic cystitis invariably follow.

ii. Inability to pass urine due to an abnormal and prolonged pressure of the presenting part during the II stage of labour and the consequent enormous distention of the bladder, upto the umbilicus or even higher is a well known phenomenon to all medical practitioners. The bladder becomes a completely abdominal organ and the urethra becomes so elongated that the female catheter is of no use to reach the bladder, therefore the male catheter has to be used. It is often a feat to catheterise such a patient when the head is absolutely jammed in the pelvis and it baffles a junior medical officer prior to the application of forceps. If the distended bladder is not emptied before delivery it is liable to be injured in a number of ways, which will be dealt with in the subject of fistulae.

I am not dealing with the subject of obstruction to the urinary passage itself, such as stone in the bladder, urethra etc. for strictly speaking it belongs to the realm of the general surgeon. Besides, stricture of the female urethra, stone in the urethra etc. are very rare conditions. But I would like, in passing, to say a few words about a small lesion in the urethral orifice of the female which causes disturbances of micturition out of all proportion to its size, particularly in women after the menopause and that is a urethral caruncle. It is a very painful condition,

occurring as a bright red capillary excrecence at the urethral orifice, either diffuse or as a circumscribed polypus arising from the posterior wall of the urethra. It is tender to touch, bleeds readily, causes dyspareunia, and most important of all, dysuria at first, later varying degrees of obstruction to the flow of urine with all its attendant effects such as chronic cystitis. I won't go into its detailed pathology, but will only mention the treatment. If pedunculated and circumscribed, excision and cauterisation of the base, with electricity or A.C. No. 3 pencil, or else it tends to recur. Recurring caruncles should always be examined for malignancy. If diffuse, it may be necessary to excise a ring of mucous membrane (easier said than done.)

II. Suppression of urine due to gynaecological and obstetric conditions is much rarer than retention, apart from toxæmia of pregnancy, eclampsia etc. Of these I cannot deal with in a sketchy paper of this sort.

(i) Theoretically, large ovarian and parovarian tumours and particularly those incarcerated in the pelvis, should cause considerable pressure on the ureters and bring about hydronephrosis and in course of time atrophy of the renal substance. But in practice, one seldom meets with total suppression of urine even in cases of large tumours. One often see one or both ureters very much displaced from their normal position sometimes lifted up and coursing over a tumour at other times even tunnelling between 2 loculi of a tumour. Although somewhat dilated and tortuous they accommodate themselves remarkably as the pressure is brought about very gradually and only a mild form of hydronephrosis is noticed in these cases. If one ureter alone is affected, the other kidney takes on compensatory hypertrophy and patient shows very little clinical signs of renal damage.

(ii) But the tumours which quickly involve the ureters and bring about

total suppression of urine and rapid death are malignant tumours—carcinoma of the cervix involving the parametrium and base of the bladder, sarcoma and adenocarcinoma of the ovaries, retroperitoneal sarcoma etc. These quickly infiltrate the ureters and surrounding cellular tissues and completely block them.

(iii) Post-operative suppression of urine is a grave condition and should be distinguished from retention of urine. It takes 2 forms—(a) where the suppression of urine results from ligation of one or both ureters, an accident which may occur in such extensive operations as Wertheim's operation, total hysterectomy etc. because the ureter crosses from the lateral pelvic wall to the bladder close to the uterine artery; in vaginal hysterectomy for very large procidentia where the bladder has completely prolapsed below the pelvic floor unless very great care is exercised to isolate the ureters, and in the removal of very large pelvic tumours such as cervical fibroids or parovarian cysts, burrowing into or intimately adherent to the cellular tissue of the parametrium and lateral pelvic walls. In these cases there is absolute suppression of urine from the very beginning. In (b) post-operative suppression it comes on more gradually, due to prolonged operation and anaesthesia, the condition is referred to as "Renal shock."

Recovery very rarely occurs with complete suppression of urine, although it occasionally occurs, if the patient lasts a week or more without uræmia, with the formation of pelvic cellulitis with abscess formation and the bursting of a collection of pus and urine through the vaginal vault and the establishment of a uretero-vaginal fistula. In most cases, it ends fatally. But in the case of renal shock, a response of the kidneys may be obtained by intravenous infusions of glucose saline, or a 4.25% solution of sodium sulphate, run

in slowly by the drip method at the same time trying other measures to stimulate the kidneys to secrete and the skin to sweat so as to relieve the strain of elimination by the kidneys linseed poultices to the loins, hot packs etc. These measures are successful only in the mild cases of suppression of urine. Decapsulation of the kidneys has been recommended, but seldom done with success. Operative injuries to the bladder in plastic vaginal operations, shall deal with in continence of urine.

III. Irritability of bladder with frequency of micturition. This is the condition which we call Dysuria-painful and frequent micturition (a) it is mostly met with in pathological lesions of the bladder and kidneys such as cystitis, stones in the bladder or kidney T. B. of bladder or kidney new growths etc. (b) It is met with in the female in all pelvic inflammations such as salpingitis pelvic cellulitis etc. Dysuria is also met with in the preliminary stage in almost all the cases of retention of urine caused by gynaecological lesions that we have already catalogued. It is only very rarely that complete stoppage occurs suddenly without a period of painful and frequent micturition.

(d) while on the subject of irritability of the bladder I must say a few words about frequency of micturition without any pain. Here again I will exclude conditions such as Diabetes Mellitis, Diabetes insipidus etc. The painless gynaecological frequency of micturition is the result of the reduction in the capacity of the bladder to hold water so that the patient has to void urine frequently (i) this occurs as a physiological symptom in early pregnancy till the 12th week until the uterus begins to rise above the S. pubis by the pressure of the gravid uterus on the fundus of the bladder. Again during the last few weeks of gestation, the same thing is repeated by the pressure of the presenting part as it descends into the

pelvis, (ii) pressure of pelvic tumours such as fibro-myomata, ovarian tumours etc. also have the same effect (iii) a third example is the frequency met with in cases of cystocele, where the sagging bladder is unable to hold the usual amount of urine.

IV. Incontinence of urine Can be classified as true and false. The main feature which distinguishes the false from the true is that in false, urine is retained in the bladder and the incontinence only occurs when the bladder is full, while in the true bladder is completely empty.

(i) **False or Partial incontinence.** There are many examples (a) The nocturnal enuresis of young girls when the urine is partially voided during sleep may be due to simple causes such as thread worms, rickets or may be psychopathic.

(b) It is very common during early puerperium due to retention of urine and dribbling from overflow. It particularly happens in nervous patients, those with sutures or much bruising of the parts, due to instrumental delivery. Incomplete emptying of the bladder is common in these cases, due to (physiological) atony of the bladder muscle and spasm of the urethral sphincter with the result that the residual urine goes on collecting and by the 3rd or 4th day, bladder becomes overdistended and then the dribbling starts. When the nurse has been reporting the patient as having passed urine, suddenly notices and reports dribbling about the latter half of the first week, the condition simulates a case of V. V. F. At this stage the doctor makes a careful examination and finds the distended bladder. It should not be considered as a mild affair, for not only does it, in a puerperal patient lead to acute cystitis, but also the puerperal uterus whose involution has been retarded by the distended bladder, falls an early prey to infection from the neighbouring septic

bladder and a very serious form of puerperal sepsis may result. Expressing the urine by pressure and catheterising a few times to empty the bladder where residual urine is suspected and all the other measures already enumerated to encourage the patient to pass urine may be resorted to.

(c) **Stress incontinence** The most common injury to the urinary tract resulting from parturition is overstretching and tearing of the sphincter of the bladder. This injury causes a partial incontinence of urine, patient complaining of involuntary escape of urine on sneezing, coughing, laughing or straining of any sort. During the night while she is at rest in bed there is no leakage of urine. This condition often develops during the first few weeks of puerperium and is known as stress incontinence. It may also develop gradually as the anterior vaginal wall and the floor of the urethra begin to sag more and more developing into the protrusions known as cystocele and urethrocele. The cause of the incontinence is laxity of the sphincter at the base of the bladder due to relaxation of the pelvic fascia which attaches the sphincter of the neck of the bladder to the back of the symphysis pubis in front and to the anterior wall of the vagina posteriorly. The stretching of this fascia and the sphincter is specially prone to follow forceps delivery, without taking care to emptying the bladder fully beforehand, or, if any portion of the anterior vaginal wall is dragged down in front of the presenting part and not pushed up above the head during extraction with forceps. Even in a spontaneous delivery this injury may occur, if the lower section of the anterior vaginal wall is allowed to be pushed down in front of the head, instead of being drawn up as the head descends.

Treatment of stress incontinence. The condition is very difficult to eradicate even by operative means. Various

forms of plastic operations have been devised to tighten up the sphincter muscle. The simplest is to dissect off a diamond shaped area roughly one inch wide from the vaginal mucous membrane at the junction of the urethra and bladder and then with fine catgut sutures to pull the stretched fibromuscular tissue from either side and suturing it in the middle line. The edges of the mucous membrane are then united. The procedure also forms a part of all plastic operation of anterior colporrhaphy, the apex of the wedge shaped flap excised should always include the pouch of urethrocele, and the muscle-fascial layer of suture which is introduced to keep the bladder pushed up, should be continued forwards under the urethra, so as to form a tight septum between the urethra and the vaginal wall.

True or complete incontinence of urine is present in the following cases:-

(i) Congenital Ectopia vesicae.

(ii) The various forms of urinary fistulae.

(1) *Vesical* (a) Vesico-vaginal—the commonest.

(b) Vesico-cervical (also called cervicovaginal fistula because urine dribbles from the bladder through the cervix and escapes by way of the vagina)

(2) *Urethra* Urethro-vaginal.

(3) *Ureteral* (a) Uretero-vaginal
(b) Uretero-cervical.

Causation may be divided into straight (i) Obstetric injuries. (ii) Injuries during operation (iii) Ulcerations (a) Simple ulceration-stone in the bladder or forgotten pessary (b) Malignant ulceration—carcinoma as or bladder (c) Specific ulceration-lympho granuloma inguinale, tertiary syphilis and etc.

(i) Obstetric trauma to the urinary passages:—If the distended bladder is

not emptied before delivery, especially in forceps delivery, it may be injured in a number of ways. Bladder may be torn directly or a deep tear of the anterior vaginal wall may involve the base of the bladder, or a tear of the bladder near the trigone may lead to tearing of the ureter, resulting in either vesico-vaginal or uretero-vaginal fistulae. Such injuries are particularly liable to happen if an attempt is made to rotate the head in a case of occipito-posterior with the aid of forceps. That is why manual rotation of the head with subsequent application of forceps is considered a very safe procedure.

In all the above injuries, or where the use of a sharp instrument such as a perforator or a breech hook has perforated the bladder, urine starts dribbling immediately after the delivery and is discovered within a few hours. A much more frequent form of injury to the bladder wall is the ischaemic necrosis of the anterior vaginal wall and the adjacent bladder wall brought about by the prolonged nipping of these soft parts between the hard head and the symphysis pubis which occurs in cases of obstructed labour. One is very familiar with the phenomenon of the patient commencing to dribble urine from 5 to 10 days after delivery, when the sloughs begin to separate.

(ii) As regards urinary fistulae that occur after gynaecological operations I have already mentioned injuries to the ureter where occasionally patient may survive with the formation of a uretero vaginal fistula. Injuries to the bladder may occur in a number of ways. Occasionally the junior nurse sending the patient to the theatre may have forgotten to empty the bladder, or the organ may fill up with a lot of urine even in the few minutes of waiting outside the theatre. Therefore, in all pelvic operations where the abdomen has to be opened below the umbilicus it is wise to keep a catheter in during the operation. Or even the normal

bladder may be opened into above the S. pubis—also in cases of large pelvic tumours bladder may be lifted abnormally high. In addition to keeping a catheter in at the commencement of the operation, another precautionary measure is to incise the peritoneum nearer the umbilicus and then extend it downwards. (Free oozing of blood in the suprapubic region not the haemorrhage from a cut vessel, but a general oozing—ought to warn the surgeon that she is close to the bladder.)

Bladder may also be easily injured unless you are very careful, during the raising of the vaginal flap or in the pushing up of the bladder by blunt dissection during the operation of colporrhaphy performed either as the sole operation or as a part of Forthriggs operation or of vaginal hysterectomy. One has to be very careful of the direction of the point of the blunt pointed scissors. Bladder may also be injured as mentioned already when it is pushed off the lower segment of the uterus and the cervix during the operation of hysterectomy by the abdominal route; if the pushing is done roughly of it may be accidentally opened into while removing very burrowing and adherent tumours. In both abdominal and vaginal injuries the rent in the bladder may be easily repaired by 2 layers of sutures a catheter should be kept in for a few days as in V.V.F. operations. Only very seldom does a fistula occur, either suprapubic or vaginal.

Treatment—For all of these various forms of fistulae there are a variety of operative procedures, by far the best being plastic repair. There are several ingenious methods of repair, the simplest and the most popular being the raising of vaginal flaps from the neighbourhood of the fistula separating the vaginal wall from the bladder over as wide an area as possible, suturing the fistulous orifice by invaginating the

bladder wall and building up many layers of the submucous tissues as possible, all without tension, before closing the pared edges of the vaginal flap. An indwelling catheter and keeping up the spirits of the patient, the foot of whose bed is raised a foot high are the important points in the after treatment. For those cases that have very little pliable tissue in the neighbourhood of the fistula, flaps may be raised from far and near, from the labia and even from the thigh and abdominal wall. Then, there are certain ingenious ways of closing either a portion of the vagina so as to convert the fistula bearing portion of the vaginal into a cul-de-sac of the bladder or even of complete closure of the vagina, partial or complete colpo-cleisis. For the latter, there must be an R.V.F. as well. There are also methods of repairing the fistula through the suprapubic route. Last of all a few years of comfort and dryness may be provided for these unfortunate sufferers by transplantation of the ureters into the colon provided there is no R. V. F. or a complete perineal tear, converting the rectum into a combined receptacle for urine and faeces.

(iii) Urinary fistulae are common as a result of ulceration simple, malignant and specific.

(a) Best examples of fistulae formation as a result of simple ulceration are met with stones ulcerating through the bladder and vaginal walls and ulcerations caused by forgotten pessaries which are embedded into the vaults of the vagina and ulcerate into the bladder. Seldom are wood apples seen nowadays. Prognosis is fair in this type of fistula. The foreign body or stone is removed, a few days are given to get the bladder into a clean condition and plastic repair of fistula is carried out.

(b) Various forms of venereal ulceration have a tendency to destroy the floor and sphincter of the urethra

the worst offender being the very chronic form of ulceration that is met with in lymphogranuloma inguinale. Anorectal syndrome; even the operation of transplantation cannot be performed for these unfortunate people as the sphincters of the annus are also destroyed and there is no sphincteric grip. Tertiary syphilitic ulceration is a less common phenomenon. Of these the specialist on venereal diseases will speak in detail. Therefore I need not say more.

I shall close now by saying a few words regarding the fistulae formation that may be met with in advanced

stages of carcinoma of the cervix when the base of the bladder and anterior vaginal wall have been involved by the growth, primary carcinoma of the bladder may also ulcerate through the vagina although it is much more rare, for the patient seldom lasts long enough for this distressing condition to develop. In carcinoma of cervix, fistula of the bladder may also be brought about as a result of application of radium due to insufficient screening between the needles and the anterior vaginal wall. I need hardly say that there is absolutely no hope of curing these malignant urinary fistulae.

Paper read at the 3rd South Indian Provincial Conference Madras, October 1948.



Chicken Essence!

A most concentrated form of readily assimilable food tonic prepared from specially selected healthy chicken.

HIGHLY VALUABLE IN CASES OF MALNUTRITION and WASTING DISEASES.

Available in 10 c. c. ampoules for oral use only.

ANDHRA PHARMACEUTICAL WORKS LIMITED
BEZ WADA

AP 690

ASSOCIATION NOTES

SOUTH INDIAN PROVINCIAL BRANCH

Proceedings of the meeting of the Council of the South Indian Provincial Branch of the Indian Medical Association, held at the Municipal Hall, Kodaikanal at 2 P.M. on Sunday the 22nd May 1949.

Dr. P. A. S. Raghavan, Z.M.R.E., President, presided.

1. The following condolence resolutions were moved from the Chair all standing.

This Council places on record its deep sense of sorrow at the passing away of Her Excellency Mrs. Sarojini Devi, Governor of United Provinces, Dr. S. K. Sundaram, M.D., Physician, General Hospital, Madras and Dr. K. Sambasivam, Mylapore, Madras.

The Secretary will communicate the above resolution to the members of the bereaved family.

2. The Secretary, Dr. A. K. Rajagopalan, read the minutes of the previous meeting of the Council held on 19th February 1949 at the Boat House, Chettinad and the same was adopted. The Secretary placed on the table the action taken in furtherance of the resolutions passed at the last meeting and it was recorded.

3. The President, as per resolution No. 11 of the previous meeting submitted the following rules for the Working Committee and they were accepted unanimously.

(i) The Working Committee shall consist of the President, the Secretary, Joint Secretary, Treasurer and 8 other members elected at the annual meeting of the Provincial council. The President shall have power to co-opt one member from the district where the Working Committee meets.

(ii) The Working Committee shall ordinarily meet every quarter of a year or oftener when necessary in different districts.

(iii) The Working Committee shall deal with all administrative and other matters of the Provincial Council.

(iv) The quorum for a meeting of the Working Committee shall be 5.

(v) The members of the Working Committee shall be paid Class II Railway fare with sleeper accommodation when attending the meetings of the Working Committee.

N.B.—The suggestion of the Naga-patam Branch that all Branch Secretaries shall be ex-officio members of the Working Committee was not approved.

4. The Secretary's report of his visits to Erode where a Branch will be formed soon, and of his visits to Tinnevely and Pudukottah where the branches have been revived, was recorded.

5. Dr. P. V. Sundaram, Treasurer, presented a statement of account for three months upto the end of March 1949 and the same was passed. Traveling allowance and other bills were passed.

6. The report of the President on the deputation that waited on the Health Minister, Central Govt. at New Delhi on 3-4-49 and the interview with the Minister for Public Health Govt. of Madras on 30-4-49 and the Vice-Chancellor to the University of Madras, Sir A. Lakshmanaswami Mudaliar was recorded.

7. Regarding resolution of Coimbatore Branch about the "Miscellany", the Secretary made a statement on the position of the 'Miscellany' and the

Council resolved that Dr. P. A. S. Raghavan shall continue to conduct the 'Miscellany' till the end of 1950 and that members of the Association do render all help to Dr. Raghavan.

8. Letter of the Central Office to the Provincial Secretary was considered and the council is of opinion that the Provincial Branch cannot be held responsible for arrears from members of the branches. The Council would do its best to see the branches do not have arrears, but if in spite of this there are bad debts, they should be written off by the Centre as hitherto. Otherwise, it is likely that many branches will disaffiliate themselves from the I.M.A.

9. The Council notes with regret that there are many complaints from members of non-receipt of the Journal of the Indian Medical Association and if this state of affairs continue membership will go down.

10. Regarding the Chopra Committee's report on the Indigenous systems of Medicine, the Council is of opinion that integration of the various systems is not desirable, but there can be Research Institutes in different systems of medicine. Practitioners of other systems of medicine possessing qualifications to study the modern systems of medicines can do so, and vice-versa.

11. The questionnaire of the University commission on the medium of instruction in the Medical Colleges was considered and the council is of emphatic opinion that the medium of instruction should be only ENGLISH.

12. The following resolutions were moved by Lt. Col. T. S. Shastry, and seconded by Dr. B. S. Viswanathan were passed unanimously.

(i) This Council urges on the Government of Madras that admissions to Medical Colleges should be only on the basis of merit of the candidates as

per marks obtained by them in their University examinations, as otherwise well qualified candidates cannot enter the Medical profession and service the suffering humanity.

(ii) This Council urges the Govt. of Madras to reserve at least 25% of the seats in the Medical Colleges for the children of medical men as is obtained in Hyderabad State and Bombay Province since children of medical men will have more aptitude for medicine. Moreover large investments made by medical men in starting Nursing Homes, Laboratories and X-Ray Institutes etc., which relieve the Government to some extent will otherwise go to waste. Such preference is given to employees of Police, Railway and other departments, of the Government.

(iii) This Council points to the Government that candidates possessing B. Sc., Pharmacy degree should be priority in the matter of admission to Medical Colleges as it is the best qualification for M.B.B.S., course.

(iv) This Council requests the Govt. of Madras to nominate at least one representative each from the South Indian and Andhra Provincial Branches on the selection Board for admission to the Medical Colleges.

13. This Council is of opinion that the Indian Medical Council Act should be so amended as to have a common register in which graduates and licentiates should be entered in alphabetical order as in the Madras Medical Register and that the licentiates be given due representation in the Indian Medical Council.

14. Dr. A. K. Rajagopalan appealed to the members of the Council and Secretaries of the Branches to try their utmost and collect as much as possible for the Dr. Venkappa Fund and forward it either to Dr. U. Krishna Rao of Madras or to the Provincial Secretary.

MADURA BRANCH

President: Dr. P. Vadamalayan
Vice-President: Dr. K. Balakrishnan
Secretary: Dr. K. G. Ramabhadran
Treasurer: Dr. A. S. Annamalai

The monthly meeting of the Association was held at 5.15 p.m. on Saturday the 19th March 1949 in the Erskine Hospital, Madura. About 75 doctors attended. After a sumptuous Tea provided by Messrs. Shankar & Co. Chemists and Druggists the meeting began with Dr. P. Vadamalayan in the Chair. The minutes of the 21st Annual Conference were read by the Hony. Secretary and adopted. The new members were then introduced. The Hony. Secretary announced that 7 more journals have already been subscribed for, Mr. A. P. Kesavan contributing Rs. 135/- towards part of the cost. He also announced that arrangements were being made to hold a zonal meeting at Kodaikanal in May.

Dr. K. Ramachandran, M. S. then delivered a very instructive lecture on some Common Surgical Emergencies in Children. During the immediate neo-natal period he mentioned the following conditions. He enumerated the various types of Imperforate Anus and described the surgical procedures to be adopted in each of these types. He also described a recent case in the hospital, which was suspected to be suffering from Intestinal Occlusion or Artresia. He described the signs and symptoms of Congenital Hypertrophic Pyloric Stenosis and said that Ramstead's operation was the only cure for the condition. In congenital malformations, Meningocele with a very thin covering formed an immediate Surgical Emergency. In cases of Club-foot, even though the life of the child was not in danger, the treatment should be started very early to afford good results. He preferred local anaesthesia for many of the surgical

procedures to be adopted in infants. In early infancy he described the signs and symptoms and differential diagnosis of Intussusception and mentioned in particular about the conservative treatment which should be tried before the operative treatment is undertaken. He said that he preferred Spinal Anaesthesia for this operation. Strangulated External Hernia was another emergency. Describing the treatment of Prolapse Rectum he said that the prolapse should be reduced under anaesthesia, the precipitating cause should be treated, and the recurrence prevented by stitching a big-sized drainage tube and plicating the sphincter for a period of 3 or 4 days. He also mentioned about foreign bodies in the Trachea and Oesophagus, and preferred removing them under direct vision. The necessity of performing Tracheotomy in Laryngeal Diphtheria at the optimum moment was discussed. Lastly he enumerated the causes of retention of urine in children and their treatment.

Dr. K. Raman Menon, F.R.C.S. supplementing the lecturer spoke about the value of the Sten's compound used by the dentists, for moulding the club-foot in tender children.

Drs. K. S. Krishnan, K. S. Narayanan, S. K. Nathan and many others took part in the discussion that followed. The president in his concluding remarks mentioned about his experiences of the good results of conservative treatment in a few cases of Congenital Hypertrophic Pyloric Stenosis. He also supplemented the lecturer from experience of cases in his practice.

After a vote of thanks by the Hony. Secretary the members adjourned to

the adjacent lawn, where the film "Poliodiagnosis and management" lent by the kind courtesy of the British Information Services, was shown. The film was very much appreciated by the audience which also included the nurses of the Erskine Hospital.

* * * * *

Proceedings of the meeting held on 23-4-1949

The monthly meeting along with a General body meeting to consider certain resolutions recommended by the Governing body were held at 5.15 p. m. in the Erskine Hospital, Mathurai, 75 doctors attended.

After a sumptuous tea provided by Messrs. Chemo-Pharma Laboratories Ltd., Bombay, the meeting began with the president, Dr. P. Vadamalayan in the chair.

The minutes of the previous monthly meeting held on 19-3-'49 were read by the Hony. Secretary and adopted.

The new members were then introduced.

The Hony. Secretary gave out the details regarding the programme of lectures and other arrangements made regarding the conduct of the Kodaikanal Conference.

The first two resolutions given notice of were then taken up together. Dr. Shama Rau raised a point of order that this was not a properly constituted general body meeting. The President ruled that in view of the General body meeting being included in the agenda and adequate notice having been given to the members regarding the resolutions, this was a properly constituted general body meeting. Dr. A. K. Rajagopalan moved an amendment to the effect that the rules regarding the life membership subscription as contained in page 6 C of the rules of the Madura Medical Association need not be altered. The amendment fell through for want of a seconder. Then the following resolutions were passed.

1. That the life membership subscription be raised from Rs. 100 to Rs. 250 forthwith and to Rs. 500 with effect from 1st October 1949 in conformity with the rules of the I.M.A.

2. That in the case of the existing Life-members they may be given the choice to subscribe Rs. 75 each to enable them to continue as Life members of the I.M.A.

The above two resolutions were put to vote and passed by an overwhelming majority only two dissenting.

3. That in the case of Dr. A. Narayana Menon, Life member, the central fund contribution be paid by the association in view of the fact that he had paid a donation of Rs. 1000, passed unanimously.

4. That the uncollectable arrears of the donations to the annual conference in the year 1948 amounting to Rs. 35 be written off. Passed unanimously.

Dr. C. B. Gopalakrishnan then gave a lecture on "A few laboratory aids in the diagnosis and prognosis of diseases." He condemned the common practice of diagnosing any disease without proper Pathological examination of blood smear or urine etc. etc. He explained how examination of blood smear would give many valuable clues to both the diagnosis as well as prognosis. He enumerated the value of sedimentation rate and how it could easily be performed by any practitioner.

Speaking of blood sugar, he explained the various types of glycosuria and the blood sugar curves that would be obtained in each of them. The usefulness of examining the urine in various diseases was mentioned. He also explained the Swiple kidney efficiency tests, the water elimination test the urea clearance test and the blood urea estimation. The usefulness of examining microscopically the cerebrospinal fluid in the diagnosis of various diseases of the central nervous system was discussed. He averred that Kahn

With a vote of thanks to the Lecturer by the Hony. Secretary, the members adjourned to the adjacent lawn when the following sound films were shown.

1. Blood transfusion
 2. Surgery in Chest diseases.
 3. Experiments in the revival of organisms.
- by the kind courtesy of the British Information Services, Madras.
- by the kind courtesy of Messrs. Chemo-Pharma Labs. Ltd. Bombay.

The films were much appreciated by the audience which included the nurses of the Erskine Hospital and the American Mission Hospital.

The meeting terminated at 8-45 p. m.

BOOKS FOR SALE

- | | | |
|---|-----|----------|
| 1. Ophthalmic Surgery & Sight Testing II Ed. 1944. 65 Illus. | ... | Rs. 6/- |
| 2. Atlas of First Aids Treatment Cr. Oct. 64 pp. 83 Illus.
2 Colour Plates | ... | Re. 1/- |
| 3. The Expectant Mother and her child II Ed. 1949 Cr. Oct.
250 pp. 32 Illus. | ... | Rs. 4/- |
| 4. Hinduism and Modern Science; with a foreward by Prof.
C. Kunhan Raja of the Madras University | ... | Rs. 4/8 |
| 5. The Sandhyavandan of the Hindus. Introduction and English
Translation. Text in Roman Script and Kannada
Cr. Oct. 88 pp. | ... | Rs. 1/8 |
| 6. Pharmacology & Therapeutics with special reference to
Tropical Diseases B. P. 1948. Official and nonofficial
II Ed. with 200 prescriptions. Cr. Oct. 460 pp. | ... | Rs. 7/8 |
| 7. Medical Jurisprudence—V Ed. Demi Oct. 460 pp. 1948 | ... | Rs. 10/- |
| 8. Healthy Parentage—a Handbook of Eugenics. 14 Illus. 1947 | ... | Rs. 3/- |

Copies and descriptive literature from:

THE AUTHOR, DR. M. A. KAMATH, M.B.C.M. *Planters' Lane, Mangalore*

(Watch for reviews in this journal)

May, 1949]

New M. D's.

P. Kesley (Medicine)
K. Ramachandran "
C. R. Ramachandran Pillai "
N. Sankari (Midwifery)
Balasubramaniyan M. (Pathology)

Jagannatha Reddy	(Pathology)
Ramdas A.	(General Surgery)
Bail Venkatesh	(Pharmacy)
Srinivasa Rao V.	"
Subramanyam S.	"

List of New Doctors (Passed M.B.B.S., in April 1949)

Madras Medical College

Narayana Nambudriapad K.
Philip P. E.
Ranganatha Rao K.
Alagamuthu Ramalingam K.
Asha J. D.
Augusties S. B.
Chandrasenan T. K.
Dench B. C.
Devaraj A. A.
Ekambaram V.
Gopal C.
Govindarajulu R.
Harper T. A.
Henry Turler
Hussain Ahmed
Jayasheela Punja N.
John Bhavan Doss
John Kikpatrick N.
Joseph Alaysino T.
Kochunni A.
Krishnamoorthy V. V.
Krishna Raja Prasad D.
Mandappa J. N.
Mathew Tharian
Mohanlal Gupta
Mukundan M. G.

Ramachandran P. R.
Raman Nayar R.
Ramaswamy S.
Reddy K. N.
Sankarankutty Nayar C.
Sethumadhavan T. G.
Shaik Jafar
Shortland J.
Somasundaram O.
Sukumaran M.
Miss Akhthar Baig
„ Ambika S.
„ Joseph Radel
„ Krishna Bai G.
„ Lakshmi K. M.
„ Minakshi M. N.
„ Miranda Grace
„ Pattammal S.
„ Savithri P. C.
„ Tapsall Cynthia
„ Vaz Winfred M.
„ Verghese Mary
„ Viswasam Evelyn R. C.
„ Dharmambal A.
Appa Rao J.
Lisnel Rajasekharan D.

Stanley Medical College

Dhalpath Rai Varman
Gopala Krishnamoorthy D.
Madhavan Kutty K.
Mohamad M.
Narayanan B. V.
Natarajan I.
Peter Ambrose
Sridar Rao U.
Miss Lucy Padamadam
„ Kunhinani A. V.
„ Stella Ratnaswamy
„ Sarala P.
Ramamoorthy M. S.
Manuel A. B.
Chandra Paul P. K.
Desakavalan D. S.
Gopalakrishnan M.
Hanumantha Rao P.
Jayasimham G.
Kesavan V. S.
Hamid Bin Mohamad
Monshurato E. J.

Banuui K. P.
Palaniswamy S.
Radhakrishna Naidu M. S.
Raghavan K.
Ramamoorthy V.
Ramankutty Nair P.
Samuel Sundaraj J.
Sankaranarayanan C. S.
Subbukrishnan P. V.
Subramaniam R.
Vijayaraghavan R.
Vijayaraghavan S.
Viswanathan C. S.
Yuvachandra David D.
Miss Ambrose Ludis Mary
„ Kunipaul P. Ruby
„ Lakshmama B.
„ Meenakshi Ammal G.
„ Nagamani D.
„ Sushila K.
„ Elizabeth Thomas

Christian Medical College

Miss Isaac Doris W.
 „ Kalidas Rosy Nathan
 „ Koshy Achyamma
 „ Mary K. T.
 „ Masilamani R. Sarojini
 „ Mathai V. Elizabeth

Miss Simon A.
 „ Solomon Moti
 „ Stephens Angeline
 „ Susheela K. K.
 „ Andrews Evelyn

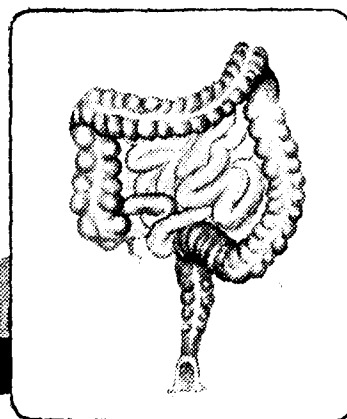
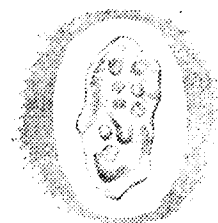
} Condensed
 M. B.
 Course.

Andhra Medical College

Balakrishna Reddi K.
 Ethiraja Gupta P.
 Kanakaratnam (Woman)
 Krishna Popli (Woman)
 Lakshmana Reddi G.
 Lakshminarasimha Rao P.
 Lakshmiaperumallu T.
 Lazar Teresa Mary (Woman)
 Nagabhushanam P.
 Rama Rao A. V. S. S.

Seshagiri Rao P.
 Seshagiri Rao V.
 Sitaramanjaneyulu M.
 Sitaramayya M.
 Someswara Rao I.
 Sowbhagyavalli M. (Woman)
 Suryanarayana Raju P.
 Suryaprakasa Rao T.
 Susila Bai T. (Woman)
 Venkatasubbayya N.

Amœbiasis

*The Amebicide of Choice**R***DIDODOXYLIN**

Diodoxylin 'Cipla' is a very active amebicide possessing high therapeutic value in the treatment of amoebic and ciliate dysenteries. Diodoxylin is issued in tablet form containing 210 mg. equal to 3.2 gr. of Di-iodohydroxyquinoline. This substance is a tasteless, yellowish-brown powder containing 63.9% of iodine as against 28.9% and 40% iodine present in the other two compounds. Consequently it has a much higher therapeutic value in the treatment of amoebic and ciliate dysenteries.

Issued in bottles containing 25 & 100 tablets.

**CIPLA REMEDIES OF SUPREME QUALITY**

Detailed literature on request from Cipla, Byculla, Bombay 8.

ADMISSION TO MEDICAL COLLEGES

Dr. P. A. S. Raghavan, President, Lt. Col. T. S. Shastry, Vice-President, Dr. D. V. Venkappa, Jt. Secretary and Drs. K. L. Narayana Rao, M. R. Bail, C. Nathamuni Naidu members of the Council of the South Indian Provincial Branch met the Hon'ble Sri P. S. Kumaraswamy Raja, Premier, with a copy of the resolutions passed at the last meeting of the Provincial Council regarding the admission of students into Medical Colleges for reserving atleast 20% on merit and 25% of the seats to children of medical men.

The President impressed on the Premier that if admissions into Medical Colleges were made only on communal grounds without a time limit, there be now incentive for the members of such communities to improve themselves, and in the interest of the communities themselves, a time limit should be fixed on such reservation and suggested that admissions on communal representations should gradually disappear in the course of a few years. He also pointed out that the Constituent Assembly had fixed a time limit of 10 years only for the scheduled caste alone.

The Premier agreeing with this view said that standard and quality will deteriorate if the merit was not considered at all.

The President informed the Premier that unless atleast 25% of the seats in Medical Colleges are reserved for the children of medical men, the investments made by medical men on Nursing Homes Eye clinics, X-ray institutes and Laboratories which supplemented Govt. measures of medical relief, would otherwise go to waste.

He also pointed out that medical men's children develop attitude for medicine just as the children of other professions such as Law, Engineering etc., had aptitude for those professions. The Central Government give preference to children of Ry. men for employment in Ry. Service. The Provincial Govt. also give preference to the children of Police Force for entry into that service. In the Bombay Presidency and the Hyderabad State, seats in medical colleges are reserved for children of medical men.

The Premier promised to consider the matter sympathetically and do the needful.

Condensed M. B. Course

Dr. P. A. S. Raghavan, Dr. D. V. Venkappa and Dr. C. Nathamuni Naidu met Sir A. Lakshmanaswamy Mudaliar, Vice-Chancellor on 31-5-49 on the eve of his departure to Europe and America, to ascertain the arrangements that have been made for admitting the Licentiates in the condensed M. B. Course.

The Vice-Chancellor informed them that the Principals of Medical Colleges had been instructed to reserve the usual 20 seats for being filled up by Licentiates taking the condensed M. B. course.

The Supreme Products of
THE BENGAL MODERN DRUG HOUSE LTD.

❖ **INOPEPSIN** ❖
 The Digestive Corrective
 of Choice

MONOLECITHIN

↓ The Unequalled Nervine Tonic

Agents :

B. J. NATHAN & Co., Nowroji Road, Madras 10.

ODDS & ENDS

Caloiferol has enormously improved the prognosis in Lupus.

.. ..

Over-prescribing can be as bad as under-prescribing.

.. ..

Ford-Anglia B. H. P. cars are specially designed for ex-servicemen. Many of them have clutch, accelerator and brake controls beneath the steering wheel. The front seat can be slid back to allow easy entry and exit for drivers with artificial limbs.

.. ..

About 95% of all the doctors in Norway are members of the Medical Association, which is said to be "the strongest trade union in the country."

.. ..

Salaries per year offered in U. S. A. for:

Doctors: \$ 4479—6255

Chemists, Astronomers, etc. \$ 7432

Agricultural Scientists upto \$ 8509

Geographer: \$ 10,305

.. ..

Sick Sailor: Nurse, I love you; I don't want to get well.

Nurse: Don't worry, you won't. The doctor saw you kiss me this morning and he loves me too—*From J. A. M. A.*

.. ..

The mother was boiling the plates used by the father who had Typhoid. "Why are you boiling them, mummy?" asked their small son.

"Daddy is full of germs" the mother tried to explain, "and we must kill the germs on his plates."

"Then, why don't you boil daddy?" was the innocent question.

.. ..

Doctor: Here goes the woman I love.

Friend: Why don't you marry her?

Doctor: Can't afford it, sir, Her father is my best paying client.

.. ..

Why are you tearing off those pages, Sir?" shouted the astonished book-seller.

"I am so sorry," said the absent-minded surgeon. "I saw the word appendix and I thought I should remove it at once."

.. ..

"I was so cold last night I couldn't sleep. I just lay there and shivered,"

"Did your teeth clatter?"

"I don't know—we don't sleep together."

RESO-CAL-VIT

(Calcium-Lacto-Gluconate with Vit. D.)

An assimilable Calcium preparation with Vit. D. suitably sweetened and put in the form of convenient tablets. Indicated in all cases of Calcium deficiency. Reso-Cal-Vit gives excellent results in Menstrual dysfunction, Pulmonary Tuberculosis, Bronchitis, Eczema, Pregnancy and Lactation, Rickets, Urticaria, etc.

Each Tablet Contains

Calcium-Lacto-Gluconate	5 grs.
Vitamin D. (Crystallin)	500 units.
Acid Tartaric	0.25 gr.
Acacia	0.20 gr.
- Saccharin Purif.	0.06 gr.
Lactose to.....	10 grs.

RESOTONE

An excellent Nervine Tonic containing Iron, Glycerophosphates of Calcium, Potassium, Manganese, Caffeine, Strychnine, and extracts of Dates, Figs, and Grapes and reinforced with Vit. B₁. In general debility and nervous break down RESTONE has given very good results. If taken continuously for some time Muscular and Mental Fatigue vanish and bring Vim, Vigour, and Vitality to the Individual.

Manufactured by :

SOUTHERN RESEARCH LABORATORY,

Manufacturing Chemists,
MADURA.

Sole Distributor :

SP. M. MEDICAL MART,

15, East Chitrai Street,
MADURA.



सर्वजनाः सुखिनो भवन्तु

MISCELLANY

Managing Editor: Dr. P. A. S. RAGHAVAN

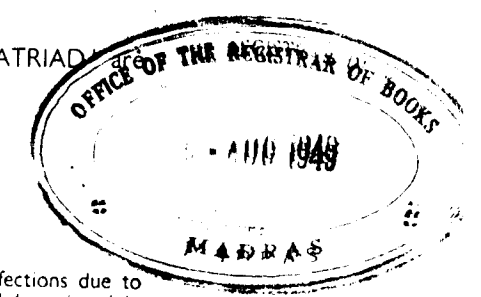
MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
INDIAN MEDICAL ASSOCIATION

TRADE MARK 'SULPHATRIAD' BRAND

compound sulphonamide tablets

We are pleased to announce that supplies of 'SULPHATRIAD' are now available through the usual channels

'SULPHATRIAD' contains, in each tablet:
sulphathiazole . . . 0.185 gramme
sulphadiazine . . . 0.185 gramme
sulphamerazine . . . 0.130 gramme



'SULPHATRIAD' is suggested in the treatment of acute infections due to pneumococci, meningococci, β -haemolytic streptococci, *Bact.coli.*, *H.ducreyi* and in gas gangrene. It may also be used as an adjuvant to penicillin therapy in grave *S.aureus* infections and in the treatment of localised staphylococcal infections such as boils, carbuncles and whitlows.

Since the solubility in the urine of each of the constituents of 'SULPHATRIAD' is not affected by the presence of the other two, the risk of renal complications such as crystalluria during treatment with this combination of sulphonamides is greatly reduced. Such a combination may also have certain advantages from the point of view of therapeutic activity.

Supplies: containers of 25 and 500 tablets.

MAY &  BAKER

BOMBAY • CALCUTTA • MADRAS • LUCKNOW • LAHORE • KARACHI • RANGOON



★
**OUR
EXPERTS**

ARE
PIONEERS IN THE
PREPARATION OF
INJECTABLES AND
BIOLOGICAL
PRODUCTS
IN INDIA

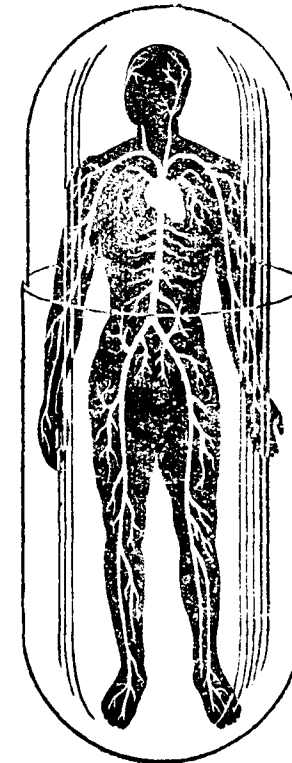
**STANDARD
PHARMACEUTICAL WORKS LTD., CALCUTTA**

THE MAKERS OF
VINKOLA AND LIVERGEN

ARE ALSO
THE MANUFACTURERS OF
SERA: VACCINES
AND ALL INJECTABLE PRODUCTS
THEIR DEPENDABILITY RECOGNISED BY
THE GOVERNMENTS OF
INDIA, PAKISTAN, BURMA, SIAM, CEYLON AND EGYPT.

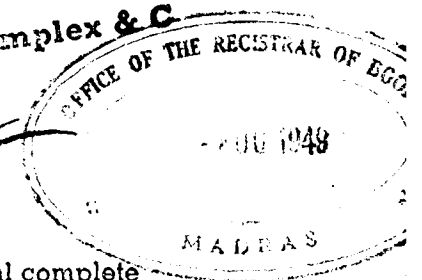
ADDRESS YOUR ENQUIRIES TO
STANDARD PRODUCTS LTD.

67, SURESH SARKAR ROAD, CALCUTTA.



Livules

Capsules Containing
Proteolysed Liver & Stomach
Powder
With
Iron, Vitamin B Complex & C



LIVULES represent an ideal complete
anti-anaemic preparation to combat
diverse types of ANAEMIAS, by pro-
viding multiple factors essential for the
process of haemopoiesis.

The haematologic response with LIVULES is prompt and definite,
and the clinical results are uniformly good. Also useful as
a general tonic in debility, underweight, malnutrition, con-
valescence, pregnancy and lactation.

Bottles of 21, 42 and 84 capsules

ALEMBIC CHEMICAL WORKS COMPANY LIMITED, BARODA

AL 642

168198



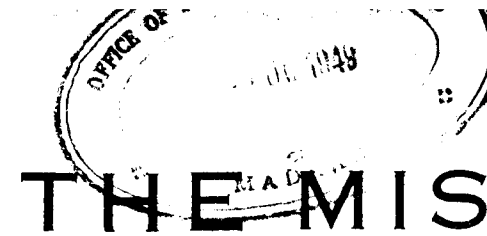
TCF

CALCIUM PANTOTHENATE

Calcium Pantothenate, a component of Vitamin B-Complex. Each ampoule of 2 cc. contains 50 mgms. Specific in 'Burning Feet Syndrome'. Available in boxes of 6, 50 and 100 ampoules of 2 cc.

A PRODUCT OF:
TEDDINGTON CHEMICAL FACTORY LTD.

Sole Distributors: W.T. SURÉN & CO., LTD., P.O. Box 229 Bombay, 1.
Branches: CALCUTTA: P. O. Box 672. MADRAS: P. O. Box 1286.



(FOR CIRCULATION AMONGST MEMBERS ONLY)

THE MISCELLANY

MONTHLY JOURNAL OF THE SOUTH INDIAN BRANCH
THE INDIAN MEDICAL ASSOCIATION

VOL. XV]

JUNE 1949

[No. 12

ANTIHISTAMINE DRUGS AND THEIR VALUE IN GENERAL PRACTICE

BY

DR. S. SANKARARAMAN, M.B.B.S., *Cuddalore.*

For over half a century prophylactic pollen treatment was the treatment of choice in allergic conditions and after finding that such a treatment does not reach the basic cause of allergy, scientists have been searching for a newer and surer remedy for the same. The similarity of symptoms in Anaphylactic shock and Allergy lead to the discovery that the release of histamine and histamine-like substances are the cause of allergy. When an antigen enters the body of a sensitive person, 'Reagins' are produced, and the combined action of antigen and the specific Reagin in the tissues or blood stream release the histamine which produces the symptoms observed in the shock. Histamine causes contraction of the most plain muscle, but if a high concentration is maintained, the contraction is not maintained and the muscle relaxes though still in contact with histamine, thus showing that histamine has the power of de-sensitizing tissues to its own action. Histamine has a powerful action on the capillaries which dilate, as evidence by the production of urticarial rash when injected into the skin. When large doses of histamine are injected intravenously in cats, the capillaries dilate so much that the blood pressure falls very low, the plasma leaks out, and the blood becomes very concentrated, thus caus-

ing a form of shock which has much in common with shocks due to other causes. Hence the necessity arose to find a drug which will neutralise histamine.

It has long been known that many of the pharmacological effects of adrenaline are opposed to those of histamine. The injection of histamine releases adrenaline and vice versa. Stauh in 1946 found that when 0.2 mg. of adrenaline was injected intravenously in man, in nine minutes the plasma histamine rose from 10 to 150 mg. per litre.

Other substances as Formaldehyde, Nitrites etc. destroy the histamines. Kendall, in 1927, destroyed histamine in vitro by formaldehyde. Garan, in 1938, reported that CO₂ destroys the histamine by forming a carbamino compound. Gaddum and Schild in 1934 destroyed histamines in vitro by nitrites. But there is no evidence that they do this in vivo. The enzyme histaminase is the main factor which destroys the histamine in the body, but it is ineffective when injected and Feinberg in 1946 stated that it has no effect when administered by the mouth.

To counteract the action of histamine, hypo-sensitisation with small and frequent doses of it was tried and found of doubtful value.

Histamine was linked to Azo-proteins like Casein, horse serum globulin etc. and the possibility of immunisation against histamine by injections thus prepared would have revolutionised the treatment but for the discovery of the drugs which act as competitive antagonists.

The first competitive antagonist to be thought of is histamine itself. Histidine, amino-acids as Arginine and Cysteine had effects only in high concentration. Hence these drugs were not of much clinical use.

Bovet and his co-workers in the Pasteur Institute, Paris, found that the introduction of oxygen between the benzene ring and the side chain together with the attachment of alkyl groups to the amino-nitrogen, converted drugs which acted like adrenaline into those which opposed adrenaline. Bovet and Stauh discovered that some of these drugs acted against histamine and the result of their researches was .929 F or Thymoxy-ethyl-di-ethylamine. Later modifications replaced the Oxygen in 929 F by NC_2H_5 and the ehymol by phenol and called it 1571 F. This was also toxic and hence later on the NC_2H_5 was replaced by $\text{NCH}_2\text{C}_6\text{H}_5$ and the di-ethylamine group replaced by di-methylamine and 'Antergan' was the result. Large doses of this Antergan excited convulsions and this drug did not act well in cases of Asthma. Later the benzene ring was replaced by pyridine and 'Neo-Antergan' was the result. This drug is also known as 'Anthisan.'

Other drugs synthesised as 'Anti-histamines' are Benadryl (B-dimethylaminoethylbenzohydryl) — Ether Hydrochloride (P. D. & Co.) "Antistine" which has a formula of 2 phenyl-dienzyl-amino methylimidozyl line hydrochloride (Ciba), Hetramine; Pyribenzamine which has the same molecular formula as 'Neo-Antergan' except for the absence of the methoxyl group; Theophorin; Chlorothen; R. P. 3277

(Dimethyl amino-2-pyrophylthio-diphenylamine) etc.

Pharmacological action. These drugs act by competition i.e. by blocking up the sites of action of histamines. They inhibit the whealing, urticaria etc. and dry up the mucous membranes. But they do not affect the mucous membrane of the respiratory tract. Pruritis and secondary reactions of anaphylaxis are relieved. They produce mild muscular spasm. In the stomach the gastric secretion is reduced by about 40% in its acidity.

These drugs have no action on the blood or urinary system. These are powerful antagonists for acetylcholine and have a local anaesthetic effect; depress the Central Nervous system in man but excite it in most animals.

It has been a problem to prove that these drugs act by competition since the molecules of anti-histamines are so different from those of histamines and from one another that they could not be expected to combine with the same groups in tissues. But it has been concluded from the study of pyridyl-ethylamines that the essential pharmacodynamic group of histamine is the skeleton in the formula and the skeleton is separated from the side chain by a nitrogen atom attached to other groups, and is comparable with the similar separation in the molecules of the synthetic anti-adrenalines. This is the only possible explanation to prove the theory of competitive antagonism.

Therapeutics. The uses of Anti-Histamines are either as (1) Anti-allergic or (2) Antispasmodic. Anti-allergic conditions in which it is useful are (1) Urticaria; (2) Contact dermatitis, (3) Eczematous condition with oedema, (4) Hay Fever, (5) Vasomotor Rhinitis, (6) Lichen Obtusus corneus, (7) Lichen Planus, (8) Leprosy reaction, (9) Serum sickness, and (10) Allergic type of Filariasis.

The drugs afford symptomatic relief only. In other skin conditions these

have no effect, and their use is not desirable due to the toxic effects overshadowing any transitory feeling of improvement. They do not correct the allergic state and do not replace the more lasting benefits obtained from desensitization. The improvement in urticaria is noted within 24 hours. The pruritus and other symptoms disappear and remain so only so long as the drug is continued. When the drug is discontinued, all the symptoms reappear. In contact dermatitis suffering from mercury and cement contact, both oral administration and local application respond very readily. These drugs have no action on exzematous conditions except to relieve to a slight extent the itching. It is reported that vaso-motor rhinitis and Hay fever benefit very considerably and excellent cures are reported. In one case of leprosy reaction in which I tried Antistine, the itching and the eruptions disappeared after five days' treatment. In all my ten cases of Urticaria, they afforded only symptomatic relief. In planial allergy, its results are not encouraging.

Antispasmodic conditions are (1) Food sensitisation. (2) Asthma. (3) Angioneurotic oedema. In spastic colitis, dysmenorrhoea, migraine and tinnitus this drug is not useful. I tried Antistine and Benadryl in 21 cases of seasonal asthmatics and 5 cases of perennial asthmatics. The periodicity is not prevented and the established attack is not relieved, though it responds to adrenaline. The very large number of initially encouraging reports on their usefulness in Asthma are not substantiated and it is now almost definitely known that the benefits conferred are next to nothing and practitioners must not raise high hopes in the long suffering asthmatics who clutch at every new remedy that is offered.

Ref.:—B. M. J. 1948 (Paper read at S. I. P. Medical Conference, Madras Oct. '48).

Toxicity. Sensation of drowsiness, nausea and palpitation are the toxic effects. Hence it is inadvisable to use these drugs while the patients are employed in work requiring mental alertness and precision as motor drivers, machine operators etc.

Dosage.

Neo-antergan:—50 mg. per dose, four times a day.

Thephorin } 50 mg. doses four times
Thenylene } a day.
Benadryl }

Antistine:—0.1 gm. 1 tablet 3 times a day upto 6 tablets a day.

Antistine local application:—0.5% solution to eyes and 5 to 10% solution for skin and nasal conditions.

Antistine injections:—0.1 gm. in 2 c.c. three times a day.

Antidote:—Amphetamine Sulphate 5 to 10 gm. doses.

The realisation that the release of histamines plays a part in various pathological conditions has stimulated the search to counteract its effects, and the resultant anti-histamine drugs proved valuable in anaphylactic conditions, and they were tried in allergic conditions also. They are useful in allergic urticaria in so far as they reduce the itching in dermatological conditions, of good effect in Hay Fever and other forms of spasmodic Rhinitis, and of nil effect in asthmatic conditions. Hence these antihistamine drugs are only symptomatic remedies and may be totally abandoned as numerous other remedies in the past which raised high hopes at the time of their discovery but failed to sustain those hopes. Probably further researches may give us a remedy which is both anti-anaphylactic and anti-allergic without serious drawbacks.

HYPERTENSION AND ITS MANAGEMENT

BY

DR. R. SUBRAMANIAM, B. Sc., M.D., M.R.C.P.(Lond.)
Govt. General Hospital, Madras.

Hypertension or high arterial tension is seen increasingly due to the stress and strain of modern life. Hypertension is met with in a variety of conditions:

1. Racial: Particularly in Jews.
2. Repletion or excessive intake of food.
3. Renal causes:
 - (a) Glomerulo-nephritis.
 - (b) Chronic Pyelo-nephritis.
 - (c) Periarthritis Nodosa.
 - (d) Renal Amyloidosis.
 - (e) Polycystic Kidney.
 - (f) Compression of renal vessels by tumours.
 - (g) Renal calculus.
4. Focal sepsis particularly very chronic ones like alveolar abscess.
5. Endocrine disturbances: Practically every endocrine in the body may contribute to hypertension, for instance, basophilism of pituitary, hyperthyroidism of the thyroid, diabetes mellitus of the islet cells of Langerhans, the cortical tumours of the adrenal and finally the hypertension met with in the climacteric or the gonadal hypertension. This is seen more commonly in women at the time of menopause.
6. Cardio-vascular diseases like coarctation of the aorta and aortic regurgitation.
7. Intracranial conditions like intracranial tumours.
8. Increased blood volume.
9. Increased blood viscosity, e.g. Polycythemia Vera.

10. Pressor factors: These are of two groups:

- (a) Exogenous factors like lead, arsenic, mercury and excessive sodium ions.
- (b) The endogenous factors: Failure to eliminate urea and end products of protein metabolism.

11. Essential hypertension or hypertension due to unknown cause or causes: In a given case, all the possible factors should be eliminated and if no cause is found, then the case is diagnosed as essential hypertension. This constitutes by far the large majority of cases of hypertension. Essential hypertension is met with after the age of 40, though a few cases may be recorded in the younger age group. As age advances, the incidence of the disease also increases. The disease does not run the same course in every patient. While in one patient, it may completely be silent without any symptoms, under identical conditions in another case, the symptoms may dominate to the extent of making the patient a cripple and an invalid. Many persons live a useful life for a number of years in spite of very high pressure. I recently had a case in a man aged 45, the blood pressure was 180/120 nearly eleven years ago. He first came under observation for giddiness. He has been under observation all these eleven years. Pressure has ranged from 180/120 to 160/100. Now, i.e. after a lapse of eleven years, pressure is 190/120. Fundus examination at the commencement showed arteriosclerotic change. Now there is arterial kinking. This shows the long duration for which the patient can go on without symptoms and lead a normal life. In this case

June, 1949]

HYPERTENSION AND ITS MANAGEMENT

5

hypertension was noticed when he was 35. This case was fully investigated. Renal concentration was normal: urea clearance was also normal.

Established hypertension does not regress, but with care and proper management, their usefulness can be prolonged and the complications avoided. The disease is insidious in onset. It is usually progressive in character and the symptomatology depends upon the particular tissue which is more susceptible in a given case.

The normal arterial tension: The normal blood pressure is taken for practical purposes as 100 plus half the age to 100 plus age for systolic pressures, and 70 to 80 for the diastolic pressures. 90 mms. of mercury is taken as the permissible upper diastolic limit. While this normal range may be alright as a rough rule, it should not be taken too rigidly. Due allowance must be made for the physical capacity of the patient. The pressure is always higher with a better build and also it is always higher in a person with mental strain.

Mechanism of hypertension: Hypertension depends on the force with which the heart propels the blood and the peripheral resistance that is offered to the propulsive force of the heart.

Pathogenesis of hypertension: Due to some cause or other, the vasomotor mechanism is stimulated resulting in arteriolar contraction. This arteriolar contraction increases the peripheral resistance. To overcome this peripheral resistance, the propulsive force of the heart has to increase. When the propulsive force is increased, the blood vessels have to bear an increased pressure from an increased intra-arterial tension. This protective function results in hypertrophy of the muscles of the media. If treatment is undertaken at this stage, reversal back to normal conditions can be expected. But, if left untreated, the arteriolar constriction

predominates resulting in medial muscular exhaustion and replacement of the same by fibrosis resulting in arteriosclerosis. Once arteriosclerosis is established, the process is irreversible.

The pathogenesis of hypertension has been worked out in experimental animals by Goldblatt and others. Goldblatt has shown that ischemia of the renal arteries without interfering with the functions of the kidneys, raises the blood pressure. They have also proved that this phenomenon does not depend upon any nerve supply, for hypertension can be produced even when the kidneys are completely denervated. While this may be so in the experimental animals, to quote Goldblatt, "the possibility that in the human, essential hypertension stimuli from the Central Nervous System may play an accessory or in some cases even a primary part in elevating blood pressure."

The humoral theory of hypertension: It is believed that a humoral agent called Renin is elaborated by the kidney which, acting upon the peripheral arterioles, causes increased resistance to blood flow and hypertension. It is now believed Renin alone is not a vaso-constrictor, but combines with an activator to form a substance called angiotonin, which is thought to be the true vaso-constrictor. It appears, besides Renin and angiotonin, body manufactures anti-pressor substances. These anti-pressor substances inactivate the pressor mechanism. The pressor action of Renin unlike that of adrenalin and pituitrin occurs without a fall of skin temperature. In essential hypertension also cutaneous temperatures are not decreased. Hence the pressor substance in essential hypertension must be a substance like Renin.

Effects of hypertension: In the earlier phases, hypertension is usually asymptomatic. The rise of pressure has occurred so insidiously and over such a long period that its presence is not felt till one of the vital organs is affected. The early

effects are: Diminished functional capacity of the heart and kidneys. This diminished functional capacity is brought out only under stress. Symptoms when present may be cardiac, neurologic or renal.

Cardiac symptoms: The myocardium shares with the rest of the body in the tissue anoxia. To start with, the myocardium compensates the extra load. It is slightly hypertrophied. But sooner or later, the myocardium fails to keep pace with the increased load. Dyspnoea occurs with less and less exertion. Patient notices he gets exhausted towards the end of the day or he is short of wind with very moderate exercise. Attacks of "indigestion" are frequent. From this to the symptoms of frank decompensation is only a question of time. Frank decompensation may be manifested as cardiac asthma, angina-pectoris, or myocardial infarction.

Neurological symptoms: The symptoms are very much like those of the neurological symptoms of senility. Insomnia, impairment of memory particularly for recent events and dull morning headache are the outstanding symptoms. At times, headache may be the most outstanding symptom. Cerebral palsies like monoplegia and hemiplegia may occur. The visual disturbances consist of transient amblyopia or blurring of vision. The hypertensive encephalopathic manifestations are very variable. They may simulate cerebral haemorrhage, local or generalised convulsions and transient paralysis.

Renal changes: In the earlier phases, the renal symptoms may completely be lacking. But as the disease advances, the concentrating capacity of the tubules of the kidney are severely affected.

The Renal Concentration Test: The patient receives no fluids or food after 8 p.m. Next morning at 7 a.m., he voids the urine. This specimen of urine

is discarded. At 8 a.m., 9 a.m. and 10 a.m., separate specimens of urine are collected. The specific gravity of these specimens are recorded. Normal range of concentration is 1025-1035. At least one of the specimens should record 1025 or more; otherwise it is taken that kidney is damaged.

Diagnosis: Diagnosis of hypertension, though suggested by some of the clinical symptoms like vertigo, headache and such other symptoms, in the large majority of cases, may not be productive of symptoms. It is the experience of everyone of us to come across high blood pressure in the course of a routine medical examination for insurance or physical fitness. Sir Thomas Lewis advocates that the clinician should learn to recognise hypertension by palpation. I personally feel a sphygmomanometer should be used in diagnosing hypertension. It may be alright for very experienced physicians to rely on their palpation, but the general practitioner would do well to rely on a pressure meter. I have seen several times cases suggestive of hypertension and palpating the pulse which failed to be confirmed on using the pressure meter and vice versa. Pressures higher than 100 diastolic and 160 systolic should be considered as cases of hypertension. Clinically hypertension may be suspected when the aortic second sound is ringing in character. A loud second aortic sound may be met with apart from hypertension in syphilitic aortitis and atheroma of the aorta. This is not an infallible sign. Here again cases of hypertension are met with without the characteristic alteration of the second aortic sound. So the presence of an accentuated second aortic sound is characteristic of hypertension, but the absence does not negative hypertension.

X-rays: Radiological changes may or may not be present. Hypertension may last for years without interfering with the cardiac silhouette, but where

radiological changes are present, they are characterised by enlargement of the left ventricle with prominence of the aortic arch. Hence radiological diagnosis is not a very reliable one.

Electro-cardiographic change: Like the radiological features, this also may essentially be normal in cases of established hypertension. If changes are noticed, it is suggestive of the left ventricular preponderance.

Hence the most certain way of diagnosing hypertension is by using the pressure meter.

Treatment: Treatment depends upon the causative factor. But certain general measures are applicable to all types and to essential hypertension in particular. It should clearly be understood that essential hypertension is not affected considerably by medical treatment. The patient has got to be reassured and an alarmistic attitude to be avoided. It is not advisable to tell the patient the exact pressure readings and make him a neurotic. Though it is advisable to warn a patient to lead a restricted life and tell him that his pressure is a little more than normal, it is totally undesirable to take the pressure readings daily and to inform the patient of the same day after day.

Medical treatment: If there are no symptoms, no treatment is indicated. By this I mean hypertension recognised in the course of a routine medical examination. If there are symptoms, rest is indicated; rest both physical and mental.

Sedatives have a great place in the treatment of hypertension. Drugs like Phenobarbitone or Bromides are valuable. The patent preparations like Theogardinal Tablets (M. & B.) consist of Theobromine 5 grains and Phenobarbitone $\frac{1}{2}$ grain per tablet, or Chemotensyl compound which contains in addition mannitol hexanitrate are useful. I have used particularly Theogardinal

extensively. While the pressure itself does not fall down appreciably, the feeling of well-being is achieved. Another drug which has been claimed very useful is Potassium Thiocyanate. The effect is transitory. Dose is .6-9 grains a day to begin with. After 5 or 6 days, the dose can be halved. The effective blood level is 10 mgm. per 100 c.c. Above 15 mgms. per 100 c.c., it is toxic. Rates of absorption and excretion vary widely. As little as 3 mgms. suffice in some. Strongest indication is severe intractable headache. The toxic effects are fatigue, headache, mental confusion and giddiness. Rash and jaundice may also occur. Pressure rises again when the drug is discontinued. I have used this drug in about six consecutive cases, though in every-one of them the pressure fell down; the drug had to be discontinued in some on account of the toxic symptoms. As soon as the drug was discontinued, symptoms due to hypertension were noticed.

I have tried a few cases of hypertension with Vitamin A concentrate capsules, 25,000 units per capsule, given thrice a day after food. I have tried it in about 8 cases. The pressure gradually falls down where the drug exerts the beneficial effect. The treatment is without any drawbacks and can safely be tried for all age groups and for all types of hypertension. But it does not have beneficial effect in all persons. While it acts very well in some, it fails to exert any effect on others. I feel cases which show Vitamin A deficiency changes as Ichthyosis changes of the skin, do better than others.

Recently, the American workers have introduced what is called 'Rice Diet' for hypertension. This consists mainly of boiled rice with very little addition of protein food. Since a large majority of Indians who are already on similar diet suffer from hypertension, I feel this diet may not be of great help to

the average Indian patient whose diet is already made up mainly of rice. This line of treatment may be alright in the case of persons who have been on a very rich protein diet and develop hypertension.

Operative treatment: In view of the poor results with medical treatment, surgical resection of the sympathetics is being undertaken. The hypothesis is that by interrupting the vaso-constrictor nerves to the splanchnic area, Vaso-dilatation would be produced in a large area resulting in a fall of blood pressure. By interrupting the nerves of the adrenals, the adrenalin output is also reduced. By interrupting the nerves of the renal vessels, vaso-dilatation of the renal vessels occurs.

Selection of patients for operation: Certain criteria should be fulfilled for patients to be submitted for operative interference.

(1) Age of the patient: Patient should not be over 40 years of age.

(2) Cardio-vascular system: Diastolic blood pressure should be labile, i.e. not fixed. This could be found by taking the blood pressure at rest and during sleep or by giving sedatives, for example, 3 grains of amytol are given hourly for 3 doses and blood pressure recorded half-hourly from second to fifth hour. When blood pressure is labile, fall in blood pressure is noted, particularly a fall in diastolic is favourable. An arbitrary standard is 100 mms. of diastolic or below. A fall in diastolic blood pressure below 100 does not necessarily mean a satisfactory result after operation. Previous history of cardiac failure or history of anginal attacks are definite contra-indications.

(3) Encephalopathies: If residual symptoms are not present, these are not contra-indications.

On ophthalmoscopic examination, hypertension cases are divisible into four

groups: Group (i) Arteriolar constrictions only, whereas in group (ii) there is tortuosity and kinking of veins at crossings. In Group (iii) more marked arteriolar changes and have in addition associated retinitis which is evidenced by haemorrhage or exudate or both. In group (iv), Papilloedema with haemorrhages and exudates,—so called malignant hypertension. Groups (i) to (iii) are favourable for operation.

(4) Renal function: High blood urea is absolute contra-indication. The specific gravity of the urine should be over 1010. Renal concentration test has already been described.

Operation: The operation should be confined to one side at a sitting. The interval between operation should be 10 days. During convalescence abdominal binder should be used to prevent fall of systolic pressure and consequent fainting. In man, the operation may lead to sterility but not to impotency.

Results of Operation: About 25% of patients are benefitted. It may take as long as 2 months for the blood pressure to fall. In 70 to 80% of patients symptomatic relief occurs. In some, improvement both objective and subjective is noted. Objective—Reduction in heart size, retrogression of the fundus changes and improvement of renal output. The only case which I have seen being operated, was operated only on one side and the pressure fell down from 180 and 130 to 120 and 90. The other side was not operated.

In conclusion, opinion with regard to the mode of treatment is unsettled. While everybody is agreed that the treatment is very unsatisfactory, the mode of treatment and the particular line of operation is still to be evolved. Success in the treatment depends upon many details. Individualisation in the management is very essential. Each patient should be treated with his or her psychological background being kept in view.

A few questions were asked at the end of the paper:

(1) Role of iodine in hypertension:

Iodine is of very little value in controlling hypertension.

(2) Role of excessive protein intake on hypertension:

Excess of anything is bad; more so of protein, since the end products of protein metabolism are likely to elevate the pressure.

(3) Effects of sepal on blood pressure:

Sepal reduces the blood pressure, while the active ingredient is present. But to my knowledge, the products on the market are not well-standardized.

(4) What is the explanation for the cardiac asthma persisting, even after blood pressure has fallen:

Probably, in this case, it is arteriosclerotic changes in the pulmonary vessels that is responsible for the dyspnoea rather than the hypertension.

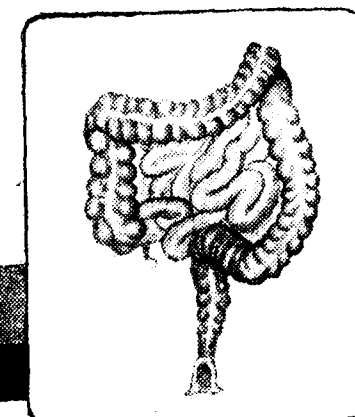
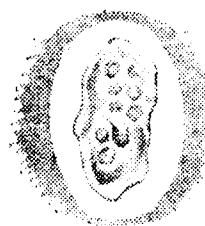
Address delivered at the Indian Medical Association, Trichinopoly, on 6-3-49 and slightly modified for publication.

Amœbiasis

The Amebicide of Choice



DIODOXYLIN



Diodoxylin 'Cipla' is a very active amoebicide possessing high therapeutic value in the treatment of amoebic and ciliate dysenteries. Diodoxylin is issued in tablet form containing 210 mg. equal to 3.2 gr. of Di-iodohydroxyquinoline. This substance is a tasteless, yellowish-brown powder containing 63.9% of iodine as against 28.9% and 40% iodine present in the other two compounds. Consequently it has a much higher therapeutic value in the treatment of amoebic and ciliate dysenteries. Issued in bottles containing 25 & 100 tablets.



'CIPLA' REMEDIES OF SUPREME QUALITY

Detailed literature on request from Cipla, Byculla, Bombay 8.

Agents for Madras Presidency:

The Medical & Chemical Coy., Ltd., 256, Thambu Chetty Street, G. T., Madras.

ABSTRACTS FROM THE CURRENT MEDICAL LITERATURE

THE STORY OF "SNUFFS"—E. E. N. T.—Dec. 1948.

Although "snuffs" or powders sniffed into the nose, are not as popular as they once were with an older generation of medical practitioners, there are signs of a revival in a modified form. Pharmacologists have long toyed with the possibility of obtaining systemic effects from absorption through the nasal mucous membrane; indeed, there are some agents that produce systemic effects following absorption through the nasal mucosa, for example, penicillin dust and posterior pituitary powder. In general, it is quite likely that modern medicine may see the reinstatement of "snuffs" on an expanding scale if absorption of drugs can be accomplished with safety.

Some four hundred years ago—in the 1540's—snuff and tobacco in other forms were once endorsed widely for their medicinal properties. It was a Girolamo Benazoni of Milan who wrote that whole or powdered tobacco was good for "headaches, lockjaw, coughs, toothache, asthma, stomach-ache, obstructions, kidney troubles, diseases of the heart, rheumatism, the poisoning from arrows, carbuncles, and consumption." But by the middle of the seventeenth century, as church and state alike viewed with dismay the large sums of money being spent on snuff, there began in Europe a widespread anti-snuff movement. Czar Michael of Russia ordered the noses of snuff-takers to be cut off, and in England at the instigation of King James I, the English court poet, Joshua Sylvester, wrote that tobacco was a "hell dust, England's shame, a madness, a frenzy, that by the Devil's agency has been brought.....to England."

Most people think of snuff in connection with seventeenth and eighteenth century gentlemen bedecked in knee breeches and perukes, but the facts of the matter are that snuff and the snuffbox were common in China and other parts of the Orient at the same time. The once almost universal practice of inhaling snuff began a slow decline late in the seventeenth century when the aristocracy gradually abandoned this form of tobacco to the lower echelons

of society which took to snuff chewing and "dipping", a procedure involving the use of a wellchewed twig, dipped in snuff and placed in the mouth.

Early in the sixteenth century snuff was introduced to Europe from the Western Hemisphere when early explorers, impressed by the aborigines' uses of tobacco, took samples of the weed home with them. Ramon Pane, a Spanish monk who accompanied Columbus on his second voyage, wrote in *De Insularium Ritibus* as follows: "Snuffing is through a tube, one end laced over the powdered leaf and the other in the nose, and so drawn up, which purges them (presumably, the natives of San Domingo) very much."

It is conceivable, however, that the natives turned to the use of snuff in a search for something less violent than tobacco smoke. Gonzalo Fernandez de Oviedo Y Valdes, who is sometimes credited with the introduction of tobacco to Europe (1519), in his *Historia de las Indias* wrote of the Indians of San Domingo in this way; "They inhale the smoke one, two and three times, and as often more as they can, until they fall senseless and lie for a long time upon the earth, unconscious, drunk and wrapped in profound slumber." According to contemporary accounts, a snuff made from mimosa pods, cassava flour and lime was used by the Otomacs, a South American tribe, which when inhaled "intoxicates them by the nostrils, deprives them of reason, and renders them furious in battle." North American Indians also took snuff, but apparently of a less explosive mixture.

Although the word snuff brings to mind the act of snuffing or sniffing, today only about 2 per cent of snuff produced is inhaled from a pinch held in thumb and forefinger. Most snuff users today merely hold it in the cheek, whether the snuff be the sweet, strong, fine, coarse, moist or dry variety, or be it scented with lavender, attar of roses, musk, essence of bergamot, Tonka beans, cloves, orange flowers or jasmine. Despite such scents, snuff has never regained its seventeenth century popularity.

Physiologic Relief Versus Reigned Relief—Nasal vasoconstrictors are among

the most important drugs available to rhinologists. The sympathomimetic amines afford symptomatic relief only and are not curative. Even temporary relief from the discomfort of nasal obstruction is a boon to the individual so afflicted and a number of physiologic nasal vasoconstrictors have come to assume a legitimate place in the therapeutic armamentarium.

Excessive use leads to physiologic abuse and, like all excesses, can produce toxic reactions; however, it is difficult to challenge seriously the concept of physiologic relief which attends the elimination of nasal congestion for varying periods of time, which promotes comfort and improves nasal ventilation and which establishes the promotion of adequate drainage from infected sinuses by the opening of obstructed ostia. Physiologic relief can be accomplished with a reasonable measure of success by an intelligent choice of nasal medication. Liquid nasal medicaments which function on a rational, physiologic basis are compatible with ciliary activity, do not vary greatly in the pH (5.5 to 6.5) from that of normal nasal secretions, are isotonic, and are noninjurious and non-toxic.

In recent years various nasal vasoconstrictors in combination with various sulfonamides and antibiotics have been introduced to the medical profession and the general public. Despite the eagerness of a few rhinologists to scamper into publication with the latest brand-new "cure" in terms of clinical evaluation it is extremely difficult for sober observers to enthuse over the alleged benefits to be gained consistently by patients receiving a form of combined intranasal liquid medication. When a nasal vasoconstrictor is combined with any of the currently established sulfonamides or antibiotics, one feature is certain physiologic relief is obtained primarily by the shrinking component. The sulfonamide or antibiotic addition serves often as a "talking" or "selling" point.

This is not to imply that combined forms of nasal medication are completely without value; occasionally, one does encounter patients who swear by, rather than at, the latest vogue in nasal medication. Nor should one be skeptical as to what the future may bring. Actually, there is a crying need for new physiologic nasal

vasoconstrictors—alone or in combination with newer, more effective antibiotics—for use in the effective treatment of nasal and sinus infections. Indeed, the problem of producing new sympathomimetic amines is of great importance and deserve more attention in the pharmaceutical world.

Nowhere in the field of nasal medication is there a more convincing demonstration of the absence of physiologic principles than is found in certain nasal inhalers. The drug counters are crowded with nasal inhalers which do not serve any recognizable purpose other than lighten the public purse. A common belief is that preparations containing significant amounts of menthol possess the property of opening the nasal passages.

As long ago as 1885 it was demonstrated that menthol is a topical anesthetic to the nasal mucous membranes; hence, menthol used alone gives the subjective impression of reduction in nasal obstruction. Inhaled air feels cool and the subject associates cool air with increased air flow and obtains the false impression of reduced nasal congestion. In reality, menthol causes a narrowing of the nasal passages and increases the resistance to the stream of air passing through the nasal cavity. The obvious truth is that nasal preparations leaning heavily on menthol are consistently guilty of providing feigned relief.

THE ^{*}^{*}^{*}DIETETIC^{*}^{*}^{*} TREATMENT OF OBESITY—Jan. A. Anderson The Practitioner—Jan. 1949.

Despite a considerable volume of research on the subject, the pathogenesis of obesity is still somewhat of a mystery. It cannot be denied that, in the final analysis, obesity of any sort is the result of an intake of energy that has exceeded the output. It is now well established that in the vast majority of obese patients the total metabolism is at least as great as that of normal persons, so that the positive energy balance that produces the obesity must be due to overeating. Just what impels the candidate for obesity to eat more than his energy expenditure demands is still a matter of controversy. Conscious gluttony explains only a small minority of cases, but some hold that the obese differ from normal persons only in that

faulty training in childhood, bad habits in the selection of food or some effect of emotion on appetite have led to overeating. A few investigators, whilst admitting that the obese must have overeaten to become fat, consider that they have been impelled to do so owing to an abnormal tendency of their subcutaneous tissue to store fat and resist its subsequent mobilization, which causes undue diversion of food fat to the fat depots.

Overeating and obesity can be produced in laboratory animals by experimental lesions in the hypothalamic region of the brain. The possible significance of this finding in the causation of obesity in man cannot be overlooked, although so far no evidence has been adduced that obesity is due to removal of the inhibitory control that the hypothalamus seems to exert on the hunger mechanism.

The pathogenesis of obesity cannot be dismissed without a brief reference to the vexed question of "endocrine", obesity. This once popular diagnosis is now realized to rest on very slender foundations, and it is generally agreed that endocrine influences are on the distribution rather than on the total amount of body fat. It is true that a certain small proportion of cases of obesity may show clinical manifestations suggesting disordered endocrine function, but when recognizable endocrine disease is associated with obesity such disease should be considered as an additional diagnosis, not as the causal factor of the obesity.

Regulation of Metabolism—With no clue yet revealed as to the pathogenesis of obesity, reliance must still be placed on the time-honoured method of treatment, namely the imposition of a negative energy balance, to counteract which the body must draw on its fat stores. Theoretically, there are two ways of securing this negative energy balance—by reducing the energy intake and by increasing the energy expenditure. In practice, the latter is much the less important and can be dismissed briefly. Physical exercise has obvious limitations in the obese, especially in the presence of the locomotor disabilities, such as arthritis, flat foot and varicose veins, that are such common complications of obesity. Besides, the amount of energy expended

in mild physical exertion is less than is often believed.

Thyroid hormone has long been used in the treatment of obesity for its stimulating effect on energy metabolism. Modern opinion is against its indiscriminate use for this purpose. It is now known that the energy expenditure of obese patients is at least as great as that of normal persons, so that any increase induced by thyroid hormone is in the nature of a toxic effect. Administration of thyroid hormone in obesity should be limited to two groups of cases:—

1. The very small minority of patients who show clinical manifestations of hypothyroidism and have a significantly lowered basal metabolic rate.

2. Obese patients who have lost weight on a reducing diet for some time, but have then reached a plateau of weight still well above normal in spite of strict adherence to diet. This phenomenon is due to a lowering of basal metabolism from undernutrition so that the reducing diet is no longer an effectively submaintenance one. Small doses of thyroid at this stage may tip the balance in favour of weight loss again.

Principles of Dietary Restriction—All the emphasis in the treatment of obesity must therefore be placed on the consumption by the patient of a reducing diet. This diet must conform to the following criteria.

1. Its energy content must be sufficiently less than the patient's energy expenditure to produce a progressive loss of weight, but at a rate that does not leave the patient exhausted and weakened.

2. Nitrogenous equilibrium must be preserved by the inclusion of an adequate amount of protein ideally at least 1 g. per kg. of ideal body weight.

3. The diet must contain sufficient bulk to satisfy the patient physically, so far as possible, and so prevent undue suffering. It must be admitted, and the patient should be warned accordingly that successful weight reduction always entails some discomfort in the way of unsatisfied appetite, and that resolution on his part

in keeping to the prescribed diet is an essential factor in successful treatment.

4. The diet should be constructed so as to meet the mineral and vitamin requirements, as it must be continued over a period of at least some months.

Before attempting to lay down a dietary regime a searching inquiry must be made into the patient's previous food habits. This may bring to light some abnormal method of eating, such as the over-indigestion of a particularly energy rich food or indulgence in between-meal snacks. Correction of such indiscretions may be sufficient to effect improvement in mild cases of obesity. But in a case of any severity it will be necessary to prescribe a rigid diet.

The precise level of caloric intake that should be allowed will vary somewhat according to the degree of obesity and the age and physical activity of the patient. It is generally agreed that better results are obtained by a moderate reduction in calories restriction that they can only be continued for a few weeks, during which the patient has to be kept in bed. The usual practice is to reduce the energy intake to about 50 per cent. of the maintenance caloric requirement at the patient's "ideal" weight. In general, this means a diet of about 1200 calories for a man and 1000 calories for a woman.

The rate of weight loss to be aimed at is about two pounds (1 kg.) per week. In the rare instances when this rate is exceeded for any length of time the diet should be increased by 100 calories every two weeks until the desired rate of weight loss has been achieved. It is much more common to find that the weight does not fall at the expected rate and may even show no decrease over the first week or two. If it can be proved that the patient is in fact keeping to the prescribed diet, the failure to lose weight is to be ascribed to temporary water retention in the tissues, a phenomenon seen in normal, as well as in obese persons, when subjected to a diet of inadequate energy value. This excess fluid will be eliminated ultimately, but water and salt restriction (i.e. not more than two pints (1 litre) of fluid as such in the day, no salt to be added to food at table and no very salty food such as preserved meat included

in the diet) is advantageous, especially in the first few weeks of treatment. It minimizes the marking effect of water retention on the actual loss of body substances, which discourages a patient who may be observing meticulously the dietary restrictions imposed on him.

Translation of the principles enumerated above into a practical diet calls for a relatively large meat or fish intake to preserve nitrogenous equilibrium and promote satiety, and a generous ration of fruit and vegetables to give bulk with minimal energy intake. The present difficulties with regard to both these demands needs no emphasis, and the provision of a practicable reducing diet is a sore tax on the ingenuity of the dietitian in these days of scarcity.

Dietary Regime—The specimen 1000 calorie diet given at the end of this article is a compromise designed to meet present-day conditions by keeping within the allowances of rationed food and yet, it is hoped, providing sufficient alternatives to allow a patient to follow it without undue difficulty.

The diet contains about 60 g. of protein—not as much as would be desirable but certainly enough to maintain nitrogenous equilibrium. The mineral and vitamin contents should be adequate, with the possible exception of the vitamin B2 complex. This deficiency in what is to be long-term diet should be made good with some of the proprietary preparations containing the B2 complex e.g. "benerva" compound (Roche), one tablet per day; "beplex" capsules (Wyeth), three tablets per day. If a diet of more than 1000 calories is to be prescribed, this can be done by adding the required number of 100 calorie portions of foodstuffs given in note. Bread and potatoes are preferable to butter, bacon or jam on account of the relatively high energy value and lack of bulk of the latter. But the inclusion of bacon or jam on one or two days in the week helps to vary the monotony of the diet and so aids the patient's resolution to keep to it.

The patient should be made to weigh all the restricted articles of food in the early weeks of treatment. This emphasizes the paramount importance of diet in his treatment, and he should only be allowed to

measure his rations by the eye when he has served a considerable apprenticeship at the weighing scales. The patient himself should not be weighed more often than once a week—more frequent weighings tend only to discourage him.

Drugs—A comparatively recent adjunct to the dietary treatment obesity is the use of drugs of the amphetamine series—"Benzedrine" (amphetamine sulphate) or more recently "dexedrine" (dextro-amphetamine sulphate)—to depress the appetite. It is claimed for these drugs that besides depressing appetite, their stimulant effect on the central nervous system eliminates the sense of depression and irritability that often accompanies adherence to a strict low calorie diet. Dexedrine is preferable to benzedrine in its comparative lack of peripheral side-effects and, provided that it is not given to patients with hyper-sensitivity to ephedrine-like compounds, anxiety states, or cardiovascular disease including hypertension, it is worthy of trial in patients who find difficulty in adhering to their diet or who suffer depression or irritability owing to the caloric restriction. It recommended that the drug should be given in small doses initially, say, 2.5 mg. thrice daily i.e., before breakfast, before lunch and not later than 4 p.m. (to avoid insomnia). If this does is ineffective it should be increased up to a maximum of 5 mg. thrice daily.

Many favourable reports have been published on the use of the amphetamine drugs in the treatment of obesity. But a somewhat pessimistic note has been sounded in others, where it is suggested that appetite reducing drugs are effective only in patients who have sufficient resolution anyway to restrict their diet, and that patients who cannot resist the drive of appetite are also resistant to the action of these drugs.

Late Results of Treatment—Most physicians will admit that the end-results of the treatment of obesity are often disappointing—a not unexpected outcome when it is remembered that weight reduction by diet is not attacking the underlying factor, whatever it is, that drove the obese patient to overeat. Therefore even when a successful degree of weight reduction has been achieved, continued supervision of the patient's eating habits is necessary if a relapse is to be avoided. He should be

placed on a diet that supplies about the maintenance caloric requirement at his "ideal" weight, which, roughly speaking, is about 2500 calories for the average man and about 2000 calories for a woman, or a little more if much physical exercise is being undertaken. Space forbids the inclusion of a separate maintenance diet, but addition of the following items will increase the energy value of the 1000 calorie diet to about 2000 calories.

Only by continued attention to his diet will the obese patient who has undergone a successful reduction cure overcome the underlying drive to overeating and so prevent a relapse to his former obese state.

* * * * *

THE DIAGNOSIS AND TREATMENT OF RECTAL CANCER—*The Clinical Journal*—Jan. Feb. 1949.

Rectal cancer, always a common condition, would appear to be increasing in frequency. Its diagnosis should be easy, but it is remarkable how often it is overlooked. In the last 20 cases seen, 6 had been under observation by their doctors for 4 months or more before a diagnosis was made or another opinion sought. There may be some excuse for this when the growth is above the peritoneal reflection in the upper third of the rectum where it is not easily palpable, but there is none when the growth lies below this level and is readily felt from the rectum. Eighty-five per cent. of rectal neoplasms are palpable from the rectum, and to omit this simple examination is indefensible. The salient features may briefly be discussed under separate headings:

Alteration in the bowel habit. In the adult any alteration in the bowel rhythm calls for investigation. In rectal cancer the earliest change is a slight increase in the frequency of going to stool. On rising, the patient feels an urge to stool and evacuates a small, soft motion. Within half to one hour, often immediately after breakfast, another small stool or only flatus is passed. This may be the only abnormality for quite a time, but as the case progresses the frequency of desire to stool increases, though little but flatus or brownish fluid and mucus is passed.

The alternate constipation and diarrhoea of the surgical text-books is a late mani-

festation, and occurs in high annular growth. The "explosive stool", where a small quantity of faeculent blood and mucus is forced out, is pathognomonic of low advanced growth. The stool is soft and small in amount, usually containing a little blood and mucus. It is quite different from the fluid, offensive stool of ulcerative colitis. There are few, if any, cases of rectal carcinoma in which blood and mucus do not occur at some time in the early course of the disease. It is attributed by the patient to piles, which is the laity's only concept of rectal disease; but blood from the rectum, as from any other orifice of the body, calls for further investigation.

Associated symptoms. In early stages these are entirely absent. The general health does not suffer, nor the weight fall. Pain is entirely absent, though there may be a feeling of vague discomfort, or fullness, referred to the lower rectal region or the perineum. Irritative bladder symptoms occur very late even when the growth is on the anterior wall, because the rectal fascial sheath resists invasion for a long time even after the muscular coats have been penetrated by the malignant cells. The same holds for posterior growths, so that the tumour is very advanced before sacral nerve pressure results.

Abdominal examination. It is unusual, even in advanced high growths, to be able to feel any tumour from the abdomen, since it lies snugly and deeply in the sacral curve. Where the growth is of an obstructing type some degree of fullness or faecal impaction in the iliac colon is significant. The groin glands and the liver call for routine palpation. Liver metastases are sometimes associated with quite small primary growths, and this early spread to the liver must be regarded as fortuitous, the growth cells having eroded into a vein at an early stage so that embolic spread through the portal system occurs. This is not the usual course; which is a much slower permeation through the lymphatic pathway.

Rectal examination. The examination of any case, apart from a minor or a self-evident ailment, is incomplete unless a digital examination of the rectum has been made. How often it is omitted, either from

forgetfulness, feelings of delicacy or sometimes downright neglect. All cancers of the lower and middle third can be detected by careful palpation, and the majority of those of the upper third, particularly if a bimanual method is used to press down the high growth. The extent of the growth, its fixity and type, and the state of its lumen are all points of importance regarding the operability or otherwise of the case.

Proctoscopy is advisable even with a palpable growth, and in the high growth it is essential. The short sigmoidoscope is the instrument of choice, and through it portions of tissue can be removed for microscopy if necessary.

The barium enema. This is superfluous in growths of the lower and middle thirds, and rarely necessary even in high growths. It is occasionally useful when sigmoidoscopy is difficult or impossible, but it is by no means free from danger since it may precipitate obstruction.

Diagnostic errors. A record has been kept of malignant cases seen and verified in which a faulty diagnosis had been made, and it is of interest in showing the following usual sources of error:

Ulcerative colitis. This was the most frequent source of error. The characteristic naked-eye and microscopic appearance of the stool, the absence of any tumour and the sigmoidoscopic picture should prevent this mistakes.

Diverticulitis. A local segmental involvement of the lower sigmoid with much fibrosis is uncommon, but when it occurs it gives almost identical symptoms to the slow-growing annular carcinoma of the upper rectum. Bleeding is rare and the sigmoidoscope reveals no ulceration, while the tissue removed shows chronic inflammatory changes only. In any case, a laparotomy is required for the relief of the condition.

Haemorrhoids. The diagnosis from growth is simple, and never in doubt if a proper examination is made. One complication sometimes gives rise to difficulty, and receives no mention in the text-books. This is an indurated, sometimes granular plaque that occasionally results after injection of haemorrhoids. The writer has

seen 3 such cases, where, after injections given 2 to 4 months previously, slight tenesmus and the passage of blood-stained mucus has occurred. On palpation a thickened indurated plaque can be felt in the rectal wall, which bleeds slightly when touched, but which lacks the hard feeling of the carcinomatous ulcer and infiltration.

Proctoscopy reveals a granular area with no active ulceration, or, more rarely, a small indolent ulcer. Biopsy reveals inflammatory changes only. The condition is due to a slow aseptic chemical necrosis with hyperplastic reaction, and results from an overdose of an oil injection mass.

Rectal polypus. The small pedunculated polypus can readily be diagnosed by digital and sigmoidoscopic examination. Where the polypus is sessile, or more particularly when several are present, the possibility of multiple polyposis of the upper rectum and colon must be borne in mind, since this is potentially a malignant condition. The large sessile papilloma of the rectum seen in elderly people is locally malignant, and its treatment calls for as radical excision as practicable.

Radium ulcer of the rectum. On 4 occasions cases have been seen in which a confident diagnosis of rectal cancer has been made in women who had previously undergone irradiation for carcinoma of the cervix. Recently, with more careful screening and dosage, no cases have been seen. The symptoms are those of rectal cancer with very marked tenesmus. An excavating ulcer is present in the anterior wall of the mid-rectum; it is usually shallow and lacking the clear-cut definition of the malignant ulcer, and it is not so indurated. Biopsy reveals a chronic inflammatory change with some necrosis. It may occur 12 months or even longer after irradiation has been given, and not infrequently progresses to recto-vaginal fistula.

Treatment. The radical treatment of rectal cancer remains essentially surgical, but palliative measures, if operation is refused, or if the growth is inoperable, have a wide field of value.

Assessment of operability. Age itself is no bar in the absence of serious organic disease; indeed, the elderly tolerate it quite

well if careful preoperative care is undertaken. The local condition is of much importance. The papillomatous proliferative type of growth which grows freely into the lumen and produces marked symptoms is the most benign, whilst the deep excavating ulcer is the most unfavourable, since it tends to erode deeply. The annular type is most common, and lies midway between the above as regards its power of spread to adjacent organs. The important factor is not so much the extent or mass of the growth as its fixity, particularly if this is anteriorly and to the bladder and prostatic region. The degree of fixation can best be assessed by careful local and bimanual palpation. As one's experience of the disease widens, the number of cases operated on increases; cases that in one's earlier judgment were inoperable, more mature reflections showed to be just within the limit of operability. In the series of cases considered here, and coming from a large industrial area, 63 per cent. were operable in hospital practice, with a slightly higher figure of 67 per cent. for private practice.

Type of operation. Local excision even of a very early growth has never, in the writer's hands, proved worth while; and the same can be said of resections in which attempts are made to preserve the anal sphincter.

Sacral excision. This is only suitable for cases in the lower or middle third, in which the more radical operation is contraindicated on general grounds. It is, admittedly, an imperfect procedure, since the lymphatic field is only partially cleared. A preliminary colostomy is essential, for attempts to establish continuity of the bowel or to form a perineal anus hardly ever succeed and lead to many complications.

Abdominal resection. This has a limited but very useful application in high rectal growths at, or only just below, the peritoneal reflection. A full removal of the area of lymphatic drainage can be effected, and the procedure results in very little shock and has a low mortality rate.

Abdomino-perineal resection. This is the operation of choice, since it completely removes the diseased rectum and the whole of its field of lymphatic drainage. Indeed,

in no other organ, not excepting the breast, can so complete an extirpation be carried out. With careful preoperative management it can be performed in quite frail individuals. With a practised operating team, using a special table and two surgeons, the excision can be comfortably undertaken in an average of 50 minutes. The simultaneous dissection of the perineum and the recto-sigmoid from above facilitates, especially, the closure of the new pelvic floor. With the aid of penicillin and sulphonamide power, it is quite common to get the huge perineal wound clean and healed within 3 weeks and the patient up and about.

Radio-Therapy. Rectal cancers, like all columnar-celled carcinomata, are entirely resistant to irradiation. On only one occasion has the writer seen complete recession of a rectal growth following the application of radium. Implantation or cavital application or both have been tried, usually after the establishment of a colostomy, with little benefit and, not infrequently, an increase in the severity of the symptoms. Deep X-ray therapy, when given in sufficient dosage, does seem to lessen the discomfort and shrink the growth a little, but is never completely effective. It is a drastic method of treatment, which always requires a preliminary colostomy and entails a severe drain on the patient's general stamina. The symptoms are rarely ameliorated for any length of time, and a troublesome irritative cystitis is often added to the patient's other troubles.

Results. An analysis of cases operated upon by the abdomino-perineal method for the years 1936-1942 gives a 5 year survival rate of 54 per cent; perineal excisions giving a much lower survival rate of 30 per cent. at the end of 5 years. Abdominal resection, carried out only in a small number of cases, gives a 5 year survival rate of 100 per cent. The immediate mortality rate, i.e. cases dying within 3 weeks of operation for radical excision, is 20 per cent. In the period 1942-1946, 87 radical operations have been performed, but the mortality rate has remained constant, since greater operative risk have been undertaken. No age limit has been imposed, and many cases had very advanced growths and sometimes myocardial or pulmonary defects.

Palliation. A colostomy adds to the comfort of the inoperable case by removing the obstructive element when present and lessening, to some degree, the tenesmus and discharge. When the growth is left in situ the colostomy is never as manageable or so great a relief as when the growth is removed. It is, therefore, often justifiable, if the growth is removable but small secondaries are present elsewhere, to proceed to a palliative abdomino-perineal resection, in the sure knowledge that the patient will be more comfortable than with a colostomy alone. In colostomy alone the lower loop should be kept free of debris by gentle lavage once or twice a week, and the colostomy treated in other respects along the lines suggested below. Morphine and belladonna suppositories control pain and tenesmus, and should be used sparingly at first, but more freely as the case progresses.

Pre-sacral neurectomy, performed at the same time as the palliative colostomy, has a definite value, and recent inquiries indicate that it should be done more often than it is.

The colostomy life. The rectal surgeon cannot help gaining much insight into the intimate details of the life of the colostomy patient. Much depends on the mental calibre, but on the whole the condition is nothing like as great a drawback as might be expected. Many live very active lives, and often engage freely in some sports such as cricket and swimming.

The main consideration is to ensure a regular and complete action of the bowel once a day, preferably in the morning. This being accomplished, the patient is free for the day. About 60 per cent. of cases achieve this by care with the diet, and the judicious use of mild laxatives. Liquid paraffin seeps through unchanged and is very annoying. The remainder require a colon stimulant, given as a wash-out at the same hour each day to excite peristalsis and so empty the colon. The washout is introduced through a catheter while the patient reclines in bed, and after the introduction of the fluid the patient straps on his belt carrying a colostomy horn and proceeds with his shaving, etc., during which time, in most cases, the colon will completely empty itself. In some

cases the time taken is longer, and the ritual need to be protracted to over three-quarters or an hour's time. The vast majority prefer to carry out the procedure for themselves, and it is surprising how readily the whole routine is accomplished. The patient rapidly finds out that certain articles of diet (green vegetables in particular) cannot be taken without causing overaction of the colostomy, and he soon adjusts his diet accordingly.

The colostomy belt is very important matter, and many on the market are very unsatisfactory, especially those of the bag type, which in a properly managed case are never necessary. The best type is a stout, well-fitting canvas belt lined in the region of the colostomy itself with a detachable square of thin rubber tissue. Over the colostomy itself if fixed a light aluminium disc, hollowed out to a maximum depth of $\frac{1}{2}$ in. at the centre. In the shallow disc a small thin piece of cotton-wool is placed, and over the bowel opening itself a little gauze lightly spread with vaseline. At night an ordinary flannel binder is worn. The shallow aluminium disc gives support to the colon, so that prolapse and oedema of the orifice cannot occur and friction is reduced to a minimum. The belt itself the rubber sheet and the cup can all be cleansed readily by washing and boiling; it is clean and odourless. Obviously a great deal must depend on the morale of the patient, and this is always higher when the growth has been successfully removed than with a palliative colostomy alone. Usually men with their greater variety of outside interests face the future in a more sanguine fashion than women.

THE USE AND ABUSE OF ASPIRIN

—K. O. Rawlings M. D. M. R. C. P.—*The Practitioner*—November 1948.

Aspirin is probably the most widely used drug at present on the market (2,296 tons were used in the U. S. A. in 1937); it is therefore important to bear in mind its pharmacological actions and toxic effects. Sensitivity to small doses is an occasional occurrence, variously reported as 1:1000 and 1:10,000, and may be alarming to patient and practitioner but is rarely fatal. A more precise knowledge of the fate and actions of aspirin in the body is of particular importance in view of the recent

work on the treatment of rheumatic fever with massive doses of salicylates.

Fate of Aspirin in the body—Gastros-copic study has shown that on coming into contact with the gastric mucosa, aspirin, either in tablet or powder form, causes a local irritation which may be intense enough to produce pin-point haemorrhages, and even haematemesis has occurred, though rarely; this effect is much less noticeable with calcium aspirin.

Aspirin passes through the stomach, and a small proportion is absorbed from the bowel unchanged and exerts its well-known antipyretic and analgesic actions; the remainder is decomposed by the alkaline intestinal juices to acetate and salicylate. The latter is more slowly absorbed and exerts an analgesic effect which is about one-third to one-half that of aspirin. Sodium bicarbonate administered with aspirin speeds up the absorption and may lessen the tendency to gastric irritation, but it also hastens the excretion of the drug *via* the kidneys and its effect is therefore curtailed.

Approximately 60 per cent. of aspirin ingested is excreted in the urine as salicyluric acid which reduces Fehling's solution and gives a positive test with ferric chloride—a bluish violet colour if present in large amounts (e. g. in attempted suicides) and a reddish-brown colour as with acetoacetic acid if present in smaller amounts. It is not uncommon for patients to bring their specimens of urine in aspirin bottles, and the discerning physician will exclude the presence of acetoacetic acid by finding a positive ferric chloride test persisting after boiling the urine.

When administered with alkalis such as sodium citrate, in which aspirin is soluble, decomposition occurs quickly, so the solution must be freshly made 10 to 15 per cent. of the aspirin is dissociated in 24 hours and 100 per cent. in one week.

Actions of Aspirin—Aspirin has a non-specific analgesic effect and is used in a multitude of conditions, including migraine, arthritis, dysmenorrhoea, the neuralgias and the myalgias; doses varying from 10 to 30 grains (0.65 to 2 gm.) daily are usually adequate. Apart from its analgesic and antipyretic actions there are certain

less well-known effects which may occur and which deserve emphasis:—

Sensitivity—This is probably an example of drug allergy wherein the drug combines with a body protein to act as an antigen; antibodies then develop in the cells of many organs and further administration leads to a union of antigen and antibody with release of histamine. Sensitivity is more common with aspirin than with the other salicyl compounds and tends to occur in allergic individuals, although many of the latter can take aspirin with impunity. Oedema of the face and eyes, fever, skin eruptions, asthma and vasomotor rhinitis may occur; the urticarial elements respond well to antihistamine drugs such as anthisan and benadryl, and the asthma to adrenaline.

Emetic action—Vomiting is a common occurrence when massive doses are given but may also occur with more moderate doses. This is probably largely due to central stimulation and in small part only to local gastric irritation.

Hyperphoea—This only occurs with a high plasma salicylate level, e. g. 30 to 40 mgm. per cent., and recent experiments have shown that this is due to direct action on the respiratory mechanism and may result in alkalosis. It can be prevented by giving sodium bicarbonate with the aspirin, which also increases the urinary excretion and lowers the plasma salicylate level.

Hypoprothrombinoemia—This usually occurs only with more intense aspirin therapy; there is a fall in prothrombin, sufficient on occasions to lead to haemorrhagic manifestations such as haematemesis, and a fatal case of haemorrhagic encephalitis has been recorded. Vitamin K (menaphthone), 1 mgm. is sufficient to counteract 1 mgm. (15 grains) of aspirin.

Aspirin poisoning—Approximately 50 people commit suicide annually by taking aspirin, and a much larger number makes unsuccessful attempts. The outcome largely depends upon the amount taken and the time that elapses before treatment is instituted. Death has resulted after 200 grains (13.3 gm.) in a debilitated patient, and survival is recorded after taking 1,250 grains (81 gm.); 500 grains (32.5 gm.) will be fatal in most cases if no treatment is given.

The onset of *symptoms* after ingestion of such a dose is usually delayed for a few hours and the diagnosis depends upon (a) the mental state, which progresses from nausea and tinnitus to deafness and mental wandering, restlessness and disorientation, and finally to stupor and cerebral irritation; (b) the presence of severe perspiration; (c) the respiratory changes which may show an increase in rate with shallow or deep respiration, and (d) the finding of salicyluric acid in the urine.

Treatment—briefly, consists in:—(a) Gastric lavage with several pints of dilute sodium bicarbonate solution; (b) fluid replacement with glucose in water by mouth, or intravenous glucosesaline if the patient cannot swallow, for dehydration is a marked feature; (c) lumbar puncture; salicylate is present in the cerebrospinal fluid, and removal of up to 30 c. cm. once or twice usually produces marked improvement.

Uses of Aspirin The number of conditions for which aspirin is used is enormous, and in a high proportion of these conditions it is probable that its effect is psychological rather than pharmacological. In combination with such drugs as phenacetin, caffeine and codeine it forms a good example of synergism in drug therapy; the greater part of the annual consumption of 8 cwt. of aspirin at a big London teaching hospital is used in combination with phenacetin and codeine.

In *gout*, aspirin has been shown to have a specific effect on the excretion of uric acid, sometimes augmenting the excretion by as much as 100 per cent. when used in combination with colchicum, and in consequence lowering the level of the blood uric acid.

In *infancy*, half a tablet crushed and administered in a teaspoonful of milk to a fretful child can be as soothing to the harassed parents as to the owner of the irritating gums.

Aspirin is often used in suspension in water as a *gargle* in sore throat, and in particular following tonsillectomy. There is usually rapid relief from pain, although the exact mechanism is obscure as aspirin has no local analgesic effect; it is possible that there is rapid absorption through the pharyngeal mucosa.

It is important to remember that aspirin is hydrolysed in a moist atmosphere to acetic and salicylic acids, and aspirin tablets kept in cardboard containers in bathroom cabinets soon lose their efficacy. They should always be stored in screw-capped bottles in a dry place.

Aspirin in Acute Rheumatism. Aspirin appears to be as efficacious as sodium salicylate in the treatment of acute rheumatic fever and is preferred by some practitioners. It is used as such or as the calcium salt, which is more soluble and less irritating to the gastric mucosa.

Dosage. The effective dose of aspirin in rheumatic fever is roughly two-thirds that of sodium salicylate. A guide to dosage is to give 1 grain (65 mgm.) per pound body weight per day, divided into equal doses and given at three to four hourly intervals until the fever subsides, the joint pains disappear, and the sedimentation rate returns to normal. During the past five years attention has been focused on the treatment of acute rheumatism with massive doses of aspirin or salicylates, sometimes up to 200 grains (13.3 gm.) daily. A maintained plasma salicylate level of 30 to 40 mgm. per cent. is considered essential, and frequent plasma salicylate estimations are required in the early stages, as the rates of excretion vary from time to time in any one patient.

The criterion of progress and cure is the reduction of the sedimentation rate to normal, and in several cases so treated it is claimed that the disease has been cured in so far as subsequent cardiac complications have been negligible. But the sedimentation rate is related to the plasma fibrinogen content, and in a series of cases of conditions other than rheumatic fever associated with a raised sedimentation rate treated with salicylates the sedimentation rate has been reduced to normal; it is probably that there is a specific depressant effect of salicylate on the manufacture of fibrinogen by the liver.

Observation of cases over a five year period is probably insufficient to justify a claim of "cure" of acute rheumatism, as so often cardiac lesions are not detectable until ten years have passed since the acute infection. The exact relationship between salicylates and rheumatic

fever still remains a mystery, and until this has been established the therapeutic test of aspirin or salicylates in doubtful cases of joint pains must remain as valuable as ever.

* * * * *

ANTISTIN IN DERMATOLOGY—Dr. J. Overton—B. M. J. May '48.

The results of the administration of Antistin in 87 cases (by the oral route in most cases occasionally supplemented by intramuscular injections) of various skin conditions show that it affords symptomatic relief in urticaria, and angio-neurotic oedema, in eczematous eruptions with oedema, and occasionally in other itching dermatoses. Sometimes it acted well in cases where Benadryl had failed. Undesirable side effects were noted in 14 out of the 87 patients and consisted mainly of dizziness and light headedness. These occurred either in early childhood or in the very old. In view of the somnolent and depressing effect produced by Nenadryl, Dr. Overton prefers *Antistin*, particularly in the case of motor drivers, skilled mechanics and operators and others whose duties require a high degree of mental alertness and co-ordination.

T. N. S. R.

* * * * *

TREATMENT OF INFECTIOUS ENDOCARDITIS—Jl. de Medicine de Lyon 5-12-47—Abstract in J. A. M. A. 1-5-48.

Muller and Marandon treated 14 patients with infectious endocarditis, with large doses of penicillin (480,000 to one million units daily for over a month) under careful supervision obtained very favourable results in ten of them. They consider that this treatment with enormous doses of penicillin constitutes a veritable revolution in the treatment of infectious endocarditis, due to strepto and staphylococci and other organisms. The authors were able to ascertain the late results in 9 of their 10 surveying cases. The favourable results had persisted for more than four months, in some for over a year.

T. N. S. R.

* * * * *

CURE FOR FILARIASIS—(Hetrazan)

Mansons, demonstration of the remarkable nocturnal periodicity of *wuchereria*

bancrofti the microfilariae being numerous in the blood at night but absent during the day—caused sceptics to enquire whether these organisms carried watches in their pockets to guide their migrations. Interest was roused in the condition during the second world war. A large body of American troops was stationed in Samoa, which was a heavily infected filarial centre. Culbertson and Rose experimented with antimony preparations first using the cotton rates, as experimental animals. These destroyed the adult worms of *W. bancrofti*, both in rats and men, though the number of microfilariae was not reduced for several months; but the dose required was to near the toxic level for this treatment to be used with safety. A much more hopeful drug has been discovered by Hewitt and his 5 co-workers including Dr. Y. Subba Row, in 'Hetrazan' (1-diethylcarbonyl-4 methylpiperazine hydrochloride) clinical trials with this drug have been carried out in the West Indies (J. A. M. A. 1947) where 26 persons harbouring microfilariae of *W. bancrofti* were given the drug by mouth in doses of from 0.5 mg. to 2 mg. per Kg. of body weight, thrice daily for 3 to 22 days. On the second day of treatment the number of microfilariae was greatly reduced in every case and in 13 they were entirely absent in 8 to 83 days after treatment. No severe toxic symptoms were observed. The patients have all remained free from microfilariae for over four months and may be "considered as probably cured." In a few patients there was fever, tachycardia leucocytosis with eosinophilia. These are interpreted as allergic reactions to liberation of proteins from dead worms.

T. N. S. R.

* * * * *

ASPHYXIA NEONATORUM—W.A.B. Campbell, M.D., D.C.H.—The Practitioner—April 1949.

Asphyxia neonatorum may be defined as failure to establish normal respiration after birth, and includes foetal anoxia, primary respiratory failure, persistent atelectasis and respiratory obstruction in the newborn. Its exact incidence can be estimated only approximately, but it is a major cause of foetal and neonatal mortality, especially in premature infants, accounting for some 30 per cent. of stillbirths and early neonatal deaths. Even if the infant survives, per-

manent brain damage may result from severe prolonged anoxia.

For normal extra-uterine respiration to occur, it is necessary that the respiratory centre of the foetus shall be capable of reacting to the physiological stimuli arising when the placental circulation is interrupted, that there shall be no obstruction to the entry of air into the lungs, and that the respiratory muscles shall be capable of effective movement.

Casual Factors—The respiratory centre may be depressed by general maternal diseases, such as anaemia, which reduce the amount of oxygen reaching the placenta; by toxæmia of pregnancy causing inefficiency of the placenta itself; or by foetal disease, such as haemolytic disease, reducing the transport of oxygen in the foetal blood. Analgesics and anaesthetics crossing the placenta and entering the foetal circulation may also depress the centre; in general, however, the effect of such drugs depends more upon the skill with which they are administered than upon the actual drug used, with the general proviso that morphine derivatives are especially dangerous to the foetus, particularly when given within a few hours of delivery. In prolonged labour, especially with early rupture of the membranes, uterine contractions may reduce the placental blood flow, either depressing the centre or stimulating it to premature activity according to the degree of anoxia produced. In the latter case there may be aspiration of sufficient liquor amnii to produce respiratory obstruction after birth. Cerebral haemorrhage, or more commonly cerebral oedema, has a direct action on the cardiac and respiratory centres, and may result from difficult or prolonged labour.

Obstruction of the air passages is almost always due to excessive liquor amnii, vernix, mucus or blood. If this material penetrates to the finer bronchioles or alveoli, the resulting vernix membrane may give rise to asphyxial symptoms some days after birth. Infection is particularly liable to occur in these cases, with the production of broncho-pneumonia. A major factor in premature infants is weakness of the muscles of respiration, and this, with the immaturity of the respiratory centre, accounts for the greatly increased risk of asphyxia in these infants.

Prevention and Treatment—It is obvious that the main preventive measures are obsteric. A reduction in the death rate from neonatal asphyxia should be sought by improvement in the nutrition and general health of the mothers, early diagnosis and treatment of toxæmia and, when possible, the avoidance of prolonged labour.

The classical division into asphyxia livida and asphyxia pallida is convenient, and emphasizes the greater severity of the latter, which is, however, merely a severe degree of asphyxia with circulatory failure and general collapse. Treatment in any case consists in removing any obstruction to the airway, increasing the supply of oxygen to the brain, and restoring the general circulation.

The infant should be received into a warm sterile towel; there is in general no advantage in allowing the cord to cease pulsating before dividing it, and it is usually more convenient to cut it early and remove the infant to a cot or other prepared place, where it should be placed head downwards on a gentle slope. Mucus and similar material should be cleared very gently from the mouth and pharynx with a swab and a rubber-tipped mucus-extractor; if this can be done before the child takes its first gasp, the risk of aspiration into the finer air passages is reduced. Gentle stimulation, such as rubbing or pinching the skin may be attempted, but more vigorous methods of stimulation are liable to do more harm than good, especially in those feeble infants who are most in need of help.

Oxygen should be given as soon as possible, by soft rubber catheter, by funnel, or in an oxygen tent. It is now generally agreed that in the first few minutes of life there is already an excess of CO₂ in the blood, and that to give a mixture of CO₂, and oxygen at this stage is unnecessary and may be harmful. Most methods of artificial respiration are either dangerous or require equipment not generally available. Rocking, by Eve's technique, is simple, safe, and at least as effective as any other method: the infant, wrapped in a blanket, is held in the operator's arms, and rocked through some 45° on each side of the horizontal ten to twelve times a minute; oxygen may be given by mask or funnel at the same time.

Stimulants have a limited but definite place in treatment; nikethamide, 0.5 to 1 ml. of 25 per cent. solution, or lobeline, 0.25 to 0.5 ml. of a solution containing 3 mg. in 1 ml., may be given into the umbilical vein or intramuscularly. Unfortunately, no stimulant will act on the respiratory centre unless the latter is receiving a sufficient supply of oxygen and, in general the more severe the asphyxia, the less the response.

When respiration has begun, the infant should be kept warm, but clothes should not be allowed to restrict respiratory movement. Oxygen may have to be continued for several days, preferably in an oxygen tent if available, as there is evidence that some absorption may occur from the skin and stomach. When there is poor expansion of the lungs, inhalations of 7 per cent. CO₂ in oxygen for a few minutes every hour may help at this stage.

If much amniotic fluid has been aspirated especially when there has been prolonged labour with foetal distress, it is wise to give small doses of a sulphonamide to guard against infection which can so readily be superimposed on the collapsed and waterlogged lung. In the average infant, 0.125 g. of sulphamezathine, six-hourly for five days, should suffice; with this may be combined 10,000 units of penicillin orally every three hours. A close watch should be kept for relapse in the first few days of life; persistent or frequently recurring cyanosis should arouse suspicion of a congenital cardiac defect, even in the absence of a murmur.

***** OINTMENT FOR THE TREATMENT OF ACNE VULGARIS—*The Practitioner* April 1949.

A sulphur ointment of good penetrating power and incorporating an active polysulphide for intradermal use in treatment of acne vulgaris is recommended by M. J. Strauss and H. Sigel. (*Connecticut State Medical Journal*, February 1949, 13, 100). The formula is:—

Sulphur	7.5
Sodium mixed alkyl benzene Sulphonate	110.0
Antipyrine	54.0
Triethanolamine	100.0

Propylene glycol 168.5
water 1000 weight parts.

The ointment is massaged into the skin for two minutes: in the morning, after washing with soap and water, the ointment is applied, allowed to stay on for fifteen minutes, and removed with a towel; in the evening the ointment is applied half an hour before bedtime, and is allowed to remain on all night. If severe irritation of the skin occurs the ointment is applied once daily only, or treatment is interrupted for one or two days a week. Of twelve patients who persevered with the treatment for three months, good results were obtained in all but two. Of the entire group of thirty-one patients, good or excellent results were obtained in 83.3 per cent. It is stated that patients in whom a mild desquamation occurred responded better than those in whom this did not occur.

***** A SCALP OINTMENT—*The Practitioner*, April 1949.

An ointment that has been found useful in seborrhoeic conditions, Bernier's prurigo, and psoriasis of the scalp (J. A. Myers: *Pharmaceutical Journal*, February 12, 1949, 162, 119) has the following formula:—

Precipitated sulphur	3
Salicylic acid	3
Sodium sulphuricinate	5
Sulphonated Lorol liquid T. A.	10
Cetyl alcohol-tar mixture	4
Glycerin	5
White soft paraffin	20
Cetyl alcohol	22
Distilled water	28

The ointment is stated to be stable, has a velvety texture and rubs easily into the scalp. The scalp is cleansed by washing with warm water which converts the ointment to a detergent form.

DEPILATORIES—J. A. M. A.—*Jan.* 15, 49.

Q. Kindly outline the rational treatment of hyper-trichosis (superfluous hair) of the face. Please name the best depilatories, indicating the ingredients and their doses.

A. The only safe method for permanently removing superfluous hair is by electrolysis. Depilatories are temporary methods of removing hair and must be repeated every ten to fourteen days. Barium sulfide or a mixture of calcium and barium sulfide are chiefly used. The depilatories appear in powder form or may be sold as semi-solids. If in powder form, the preparation is mixed with enough water to form a paste that is easily applied to hair regions. It is allowed to remain on the skin until dry and then washed off. The hairs come off in the washing. Andrews recommends the following formulas:

Calcium sulfide 1 part
Water (to make paste)
Zinc oxide 3 parts

This may be irritating, and the label should include the ingredients and a word of caution.

Mix into a paste with a little water, rub on the skin for five minutes. Scrape off softened hairs with the edge of a tablespoon; wash the skin. Apply a soothing lotion, such as calamine lotion. McCarthy recommends the following paste:

	Gm.	or	Cc.
Barium sulfide	10		
Zinc oxide powder	12		
Starch	12		

Keep container tightly closed. When ready to apply, add sufficient water to make a paste and leave on two minutes before scraping off. Apply a soothing cold cream to allay irritation. This application should be repeated every ten to fourteen days.

Röntgen therapy is mentioned here to condemn it because of its dangerous sequella. Depilatory creams with thallium salts also are condemned because of their toxicity.

ASSOCIATION NOTES

COIMBATORE BRANCH

The monthly clinical meeting of the Association was held at 6 p.m. on 26-2-1949 in the Association premises with Dr. N. K. Sampath, the president in the chair. 49 members were present.

After tea and reading of the minutes of the last month's meeting, the following resolution was proposed by Dr. K. V. Subramaniam L.M. & S. B.S. Sc., and was passed unanimously, all standing.

"This meeting of the Coimbatore District Medical Association unanimously passes the resolution condoling the death of Captain S. Thambiah, B.A., M.C., M.R.C.P., F.D.S., F.R.C.P., and hereby authorises the Honorary Secretary to convey the condolences to the members of the bereaved family."

Then the resolutions of the building sub-committee approved by the executive committee were placed before

the general body and unanimously passed.

The president then requested Dr. M.G. Nair T.D.D. (Madras) T.D.D. (Wales) to deliver his address on "The problem of tuberculosis and the place of B.C.G. in the prevention of this disease."

The lecturer dealt at length with the problem of tuberculosis in India and affirmed that B.C.G. is the only solution in India at present.

An interesting discussion followed in which Doctors K. V. Subramaniam, Y. P. Vasudevan, P. K. Kalyanaraman, D. Sundareswaran, R. Sundarajan and N. Jaganathan took part.

After vote of thanks to the lecturer and the host of the evening Dr. C. V. Ramaraj, the function terminated at about 8 p.m.

RAMNAD BRANCH

President: Lt. Col. M. A. Parthasarathy
Vice-President: Dr. T. S. Shetty
Secretary & Treasurer: Dr. S. Sundaresan
Jt. Secretary: Dr. K. Venkataraman

A monthly meeting of the association was held on 26-3-49 at 4 p. m. in the Swedish Mission Hospital, Tirupathur. About 20 members were present including 2 from Pudukottai. The Members were entertained to tea by the staff of the Hospital.

After the tea, they were taken round the New Block of the Hospital opened recently, one for the E. N. T. Department, and the other for the Laboratory.

In the absence of the President and the Vice-President of the Association, Dr. S. V. Joseph, Civil Asst. Surgeon,

Sivaganga, was proposed to the chair and unanimously approved.

The minutes of the Annual Meeting at Sivaganga, and the monthly meeting at Chettinad Boat House were read by the Secretary.

The proposal to have a combined meeting of the Madura, Ramnad, and Tinnevely Branches of the I. M. A. at Kodaikanal during the 3rd week of May '49 was approved.

Dr. Ysander, M. D. Chief Medical Officer of the Hospital gave an interesting talk on 'Modern Conception of Anaemias'. He stressed the need

of blood examination in all cases of Anaemias, and correctly diagnosing the particular type before treating all cases with Iron and Liver extract indiscriminately.

After the lecture there was a clinical demonstration of 4 interesting cases: 1. Gastro-Jejunal Ulcer 2. Suspected case of Myasthenia Gravis 3. Lepromata of the Sclera and 4. Ciliary Staphyloma. The meeting terminated after thanking the lecturer and the staff of the Hospital for their hospitality.

The monthly meeting of the above branch of the Indian Medical Association was held At "LATHAMS BUNGALOW" at Ramnad on 23-4-49 under the Presidency of Lt. Col. M. A. Parthasarathy, F.R.C.S. About 25 members were present.

The members assembled in the Head Quarter Hospital at 3 p. m. and were shown practical demonstration of Blood Transfusion. The whole process was explained by Dr. S. V. Joseph, who demonstrated the grouping of blood before transfusion and actually demonstrated the transfusion to an anaemic patient, an inmate of the hospital. Later the members were taken round the hospital and shown variety of cases. A case of intestinal obstruction treated successfully without operation was also shown.

The members were entertained to Tea by the staff of the hospital at the Lathams bungalow, and the meeting commenced under the presidency of Lt. Col. Parthasarathy. The minutes of the last meeting held at Tirupattur was read by the secretary and adopted.

The president in his opening speech said:--

It gives me great pleasure to meet you all, once again, at our monthly meeting after all these months when I was away on the Hyderabad Expedition.

I must apologise for my inability to attend the last two meetings that

were held after my return from Hyderabad. In fact I was anxious to attend the last meeting at Tirupattur and had made all arrangements but owing to a slight misunderstanding with regard to the date of the last meeting, I had to miss the pleasure. However, here we are all once again and I am so glad that this meeting has been attended so largely.

As you all know we have met here this evening to talk about blood transfusion and the inauguration of a Blood Bank for this District.

It is, I am sure, superfluous for me to tell you what an important place Blood and Plasma transfusion have taken, and rightly too in modern treatment, not only of major surgical emergencies and operations but also in the treatment of anæmias and other allied conditions.

Ever since I came to Ramnad and took over charge of this hospital, it has been my long cherished ambition to have a Blood Bank of our own to cater to the needs of the patients, not only of this headquarters hospital, but also to those in the out-lying hospitals and dispensaries, when necessity arises.

It took me all this time to give it a start and even now it is unofficial. I am hoping however, that now that we have equipped ourselves to the best of our abilities and made a start, it will receive the official blessings of the authorities concerned. We are expecting the Provincial Blood Transfusion Officer to visit us here early next month and I am confident that he will include this district centre also in the list of officially recognised blood transfusion units and bless us with his help and encouragement.

Before I pass, I shall be failing in my duty if I do not mention how very grateful I am to Dr. S. V. Joseph of Sivaganga, and to the members of my staff in the headquarters hospital here, for their great enthusiasm, keen

interest and untiring energy and all the help they have given me in this effort. Dr. Joseph will be speaking to you presently on the subject of blood transfusion, on its indications, details of technique, pitfalls etc. He is eminently suited to talk to you on the subject, as perhaps you are aware, that he is fully trained in the Army Blood Transfusion Service.

In conclusion and before I call upon Dr. Joseph to speak to you, I wish to draw the attention of the members present to the foot note in the meeting notice viz., the auction of certain old editions of books belonging to the District Medical Lending Library. I request all members present to take an active part and make this function which is to be held at the end of this meeting, a success. I wish to inform all the members of the District Medical Lending Library that we have now purchased and added quite a few latest editions of useful books on the various branches of Medicine, Surgery etc., to the library and removed all ancient and prehistoric editions. It is, I am sure, needless for me to invite the members to make full use of the library since they are paying through their nose to be members of the library. We are expecting quite a few more books which have already been ordered with the publishers and awaiting release and supply shortly.

As you would perhaps have noticed during your visit to the Headquarters Hospital this afternoon we have now a fairly well equipped laboratory and we propose to do some of the commoner laboratory tests such as Kahn test, Widal test, F. T. M. Blood sedimentation test etc., in our own laboratory here, instead of having to send them to the King institute and other laboratories as hitherto. Medical Officers who wish to avail of the facilities of this laboratory are welcome to do so and we shall be glad to try and do our best.

I am glad to be in position to announce that an X-ray plant has been sanctioned for this Headquarters Hospital and we are hoping it will be installed here very soon. In passing, I may be permitted to announce also that our equipment in this Headquarters Hospital has been greatly improved, and we are now in a position to handle cases which had to be sent hitherto to Madura or other bigger Hospitals for want of proper equipment such as cystoscope, sigmoidoscope etc., With the addition of a X-ray plant, which is soon expected, we would be fairly well equipped and we should have nothing to grumble, barring, of course, the inadequacy of accommodation which is unfortunately, beyond our means, at least for the present.

Finally on behalf of my staff and on my own behalf I thank you all for attending this meeting in such large numbers and I trust you will maintain the same enthusiasm and interest in the association meeting and make it a point to attend, in large numbers the future meetings of the association. We trust that the practical demonstrations in Blood Transfusion and the cases of importance that were shown to you during your visit to the hospital, earlier in the afternoon, were of interest to you and you feel that you have spent your time usefully going round the hospital.

I shall now call upon Dr. Joseph to speak to you briefly on Blood Transfusions.

Old books belonging to the District Medical Lending Library was sold in auction.

The meeting terminated after thanking Col. Parthasarathy and the staff of the hospital for their hospitality and Dr. Joseph for demonstrating Blood Transfusion, to H. M. Rajah Saheb of Ramnad for placing the building at our disposal for the meeting, and the electrician in charge of lighting arrangements.

TANJORE BRANCH

President: Dr. Janab Mohamad Ismail
Vice-President: Dr. T. M. Pillai
Secretaries: Dr. E. K. Menon
 Dr. P. A. K. Nair

A meeting of the association was held on Sunday the 27th February 1949 at 4-30 P. M. in the Medical School Buildings, Tanjore.

39 members attended. After Tea provided by Dr. S. Subbalakshmi, the meeting commenced. In the absence of the President and Vice-President of the Association Dr. (Miss) Tiphagne was proposed to the Chair by the Secretary.

The minutes of the last meeting were read by the Secretary and adopted. After the President's introductory speech Dr. S. Subbalakshmi, M.B.B.S., Woman Asst. Surgeon, R. M. Hospital, Tanjore gave a lecture on "Some common complications of neglected labour."

A short discussion followed and several members took part. The meeting then terminated with a vote of thanks to Dr. S. Subbalakshmi for her fine lecture and Tea.

TRICHINOPOLY BRANCH

President: Lt. Col. R. K. Chettur
Vice-President: Dr. G. Joseph Gnanadickam
Secretary: Dr. V. K. Ranganathan
Treasurer: Dr. T. V. Sundaram

An emergent meeting of the Association was held on Saturday the 20th Jan. 49 in the premises of the Bishop Heber High School, Trichinopoly with Lt. Col. R. K. Chettur, the President, in the Chair.

About 40 members were present. After the Tea, kindly provided by the President, the lecturer Dr. K. V. Venkataraman, M. D., Director, King Institute Guindy was introduced by the President to the members.

Then the lecturer spoke on the subject of 'Epidemic Influenza.' A discussion followed in which many members took part.

The meeting came to an end with a vote of thanks to the lecturer, the host and the authorities of the Bishop Heber High School.

 The 20th Inaugural Meeting of the Association was held on Sunday the

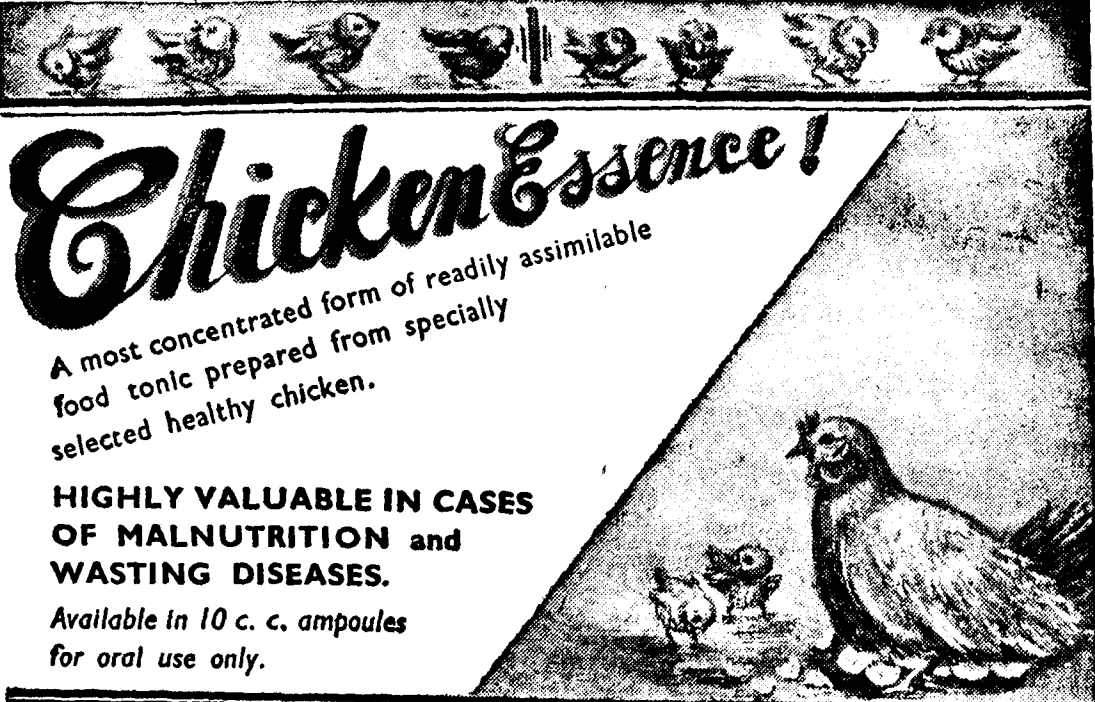
6th March 1949 at the Municipal High School, Karur. About 60 members attended the meeting. After the Tea kindly provided by the doctors of Karur the meeting commenced under the Presidency of Dr. P. A. S. Raghavan who was proposed to the Chair by the President Lt. Col. R. K. Chettur.

Dr. Raghavan introduced the lecturer Dr. R. Subramanyam, B.Sc., M.D., M.R.C.P., Physician, Govt. General Hospital, Madras to the members.

Then the lecturer delivered a brilliant lecture on 'Hypertension and its management' which was followed by a discussion in which many members took part. (Lecture published in this issue.)

The Secretary thanked the lecturer and the doctors of Karur and the meeting terminated at 8-30 P.M.

. Then the members were entertained to an excellent dinner kindly provided by the doctors of Karur.



Chicken Essence!

A most concentrated form of readily assimilable food tonic prepared from specially selected healthy chicken.

HIGHLY VALUABLE IN CASES OF MALNUTRITION and WASTING DISEASES.

Available in 10 c. c. ampoules for oral use only.

ANDHRA PHARMACEUTICAL WORKS LIMITED
BEZWADA

AP 690

The Supreme Products of
THE BENGAL MODERN DRUG HOUSE LTD.

❖ **INOPEPSIN** ❖

The Digestive Corrective
of Choice

↓

MONOLECITHIN

The Unequalled Nervine Tonic

Agents :
B. J. NATHAN & Co., Nowroji Road, Madras 10.



LIVOSARA

(compound)

ANTI-ANAEMIC-ALTERATIVE

A general tonic containing proteolysed liver, iron and vitamins of the B Group.

For treatment of nutritional deficiencies, general debility and various types of anaemias.

detailed literature from the makers:



Sarabhai

SARABHAI CHEMICALS
(Pharmaceutical Division)

Baroda
SHILPI

Ahmedabad
SC (Med) 6



A soothing preparation for general use in hyper-acidity of the stomach and particularly for the relief of pain in gastric and duodenal ulcers, Silma is available in the form of tablets and powder.

Each tablet of Silma contains $12\frac{1}{2}$ grains of Magnesium Trisilicate Sara, $1\frac{1}{2}$ grains of Magnesium Carbonate, 1 grain of Bismuth Carbonate and small quantities of a few essential oils added as flavouring agents. Silma powder also contains these ingredients in the same proportion.

MODE OF ISSUE:

SILMA tablets are supplied in bottles containing 25 and 100 tablets.

SILMA powder is supplied in cartons containing 100 grams.

Magnesium Trisilicate Sara used in these preparations fully conforms to the standard of U. S. P. and British Pharmacopeia Addendum and is manufactured in India by Sarabhai Chemicals (Fine Chemicals Division).

detailed literature from the makers:

SARABHAI CHEMICALS
(Pharmaceutical Division)

Baroda.
SC (Med) 10



168198

Press Announcement

T.C.F. (Sole Distributors: W. T. SUREN & Co., Ltd.)

We regret to inform our readers that due to a mistake in the May 1949 issue of the Miscellany, at the foot of the advertisement by T. C. F. on 'FERILEX' it is stated that the Agents for Madras Presidency are the Medical and Surgical Co., Ltd. This should have gone at the foot of the advertisement by Cipla Lab. Ltd. on page 26. We regret the mistake and hasten to correct the same.

Managing Editor.

ODDS & ENDS

Administration of Gynergen may not be advisable during pregnancy.

The product of distillation of Cod liver oil is an antibiotic, strongly bactericidel.

The incidence of tuberculosis is said to be lowest in Denmark.

Chemist (aside to his stout wife) "Don't come into the shop for a minute, dear, I am trying to sell six bottles of my fat-reducing mixture."

"Can you extract teeth painlessly?"

"I can't say. Once I nearly dislocated my wrist."

"Doctor, when I stand upside down, the blood rushes to my head, but when I stand on my feet, the blood doesn't rush in there. Why is that so?"

"Because your feet are not empty."

Doctor, meeting his old patient on the road, "You seem to be quite all right now. You must have taken my advice to have a change."

"Yes, I did."

"Where did you go?"

"To another doctor."

Doctor: "I have given you three doses of medicine to be taken after meals."

Patient: "Will you give the meals also, doctor?"

Registered No. M. 4839

RESO-CAL-VIT

(Calcium-Lacto-Gluconate with Vit. D.)

An assimilable Calcium preparation with Vit. D. suitably sweetened and put in the form of convenient tablets. Indicated in all cases of Calcium deficiency. Reso-Cal-Vit gives excellent results in Menstrual dysfunction, Pulmonary Tuberculosis, Bronchitis, Eczema, Pregnancy and Lactation, Rickets, Urticaria, etc.

Each Tablet Contains

Calcium-Lacto-Gluconate	5 grs.
Vitamin D. (Crystallin)	500 units.
Acid Tartaric	0.25 gr.
Acacia	0.20 gr.
Saccharin Purif.	0.06 gr.
Lactose to.....	10 grs.

RESOTONE

An excellent Nervine Tonic containing Iron, Glycerophosphates of Calcium, Potassium, Manganese, Caffeine, Strychnine, and extracts of Dates, Figs, and Grapes and reinforced with Vit. B₁. In general debility and nervous break down RESTONE has given very good results. If taken continuously for some time Muscular and Mental Fatigue vanish and bring Vim, Vigour, and Vitality to the Individual.

Manufactured by :

SOUTHERN RESEARCH LABORATORY,

Manufacturing Chemists,
MADURA.

Sole Distributor :

SP. M. MEDICAL MART,

15, East Chitrai Street,
MADURA.

Edited and Published by Dr. P. A. S. Raghavan, Z. M. R. E. (Vienna,) Teppakulam, Tiruchirapalli,
and Printed at St. Joseph's Industrial School Press, Tiruchirapalli