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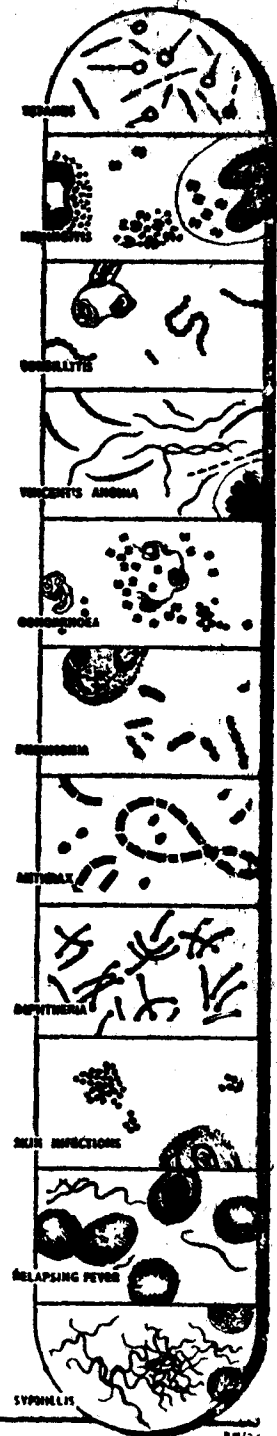
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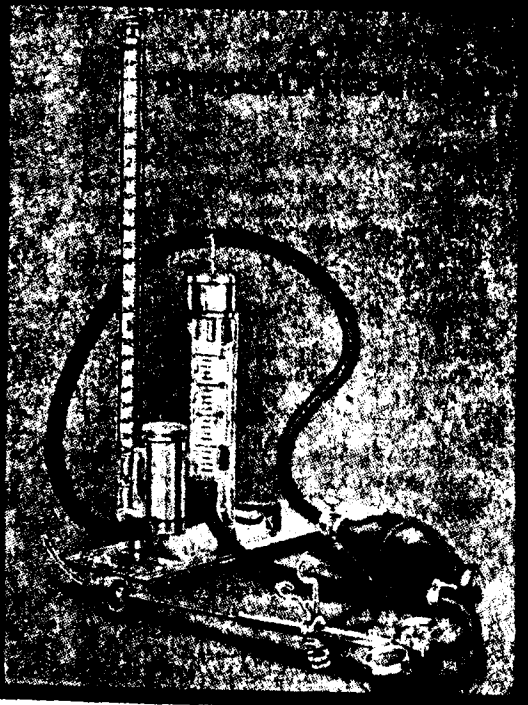
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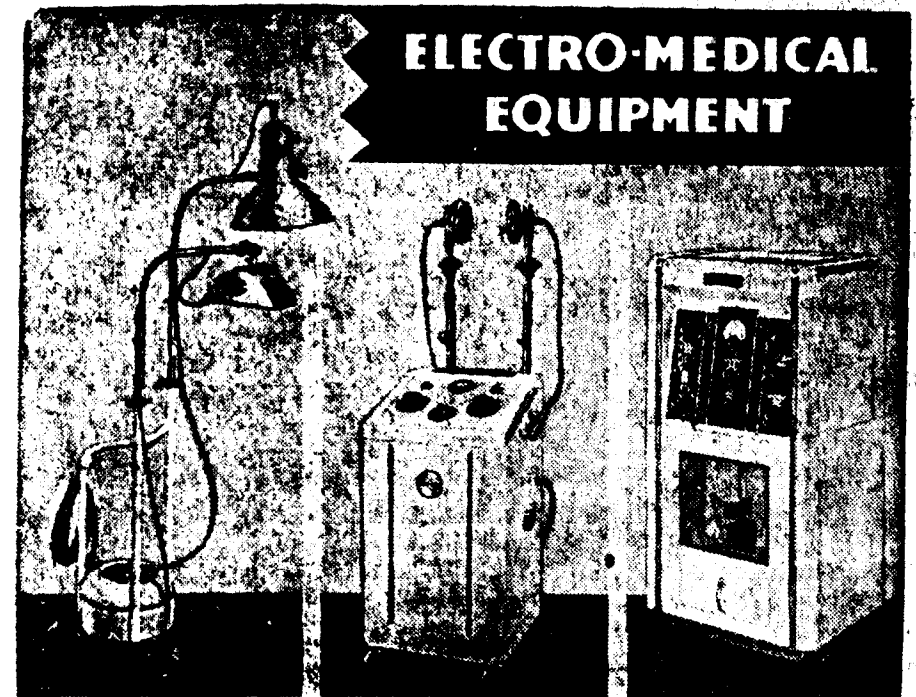
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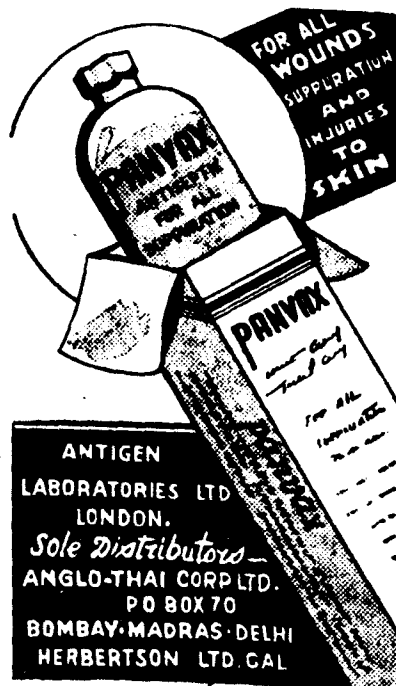
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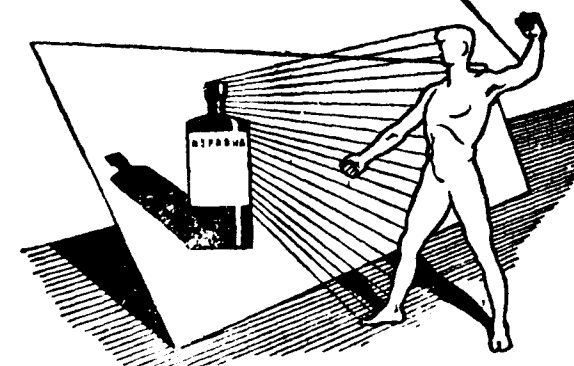
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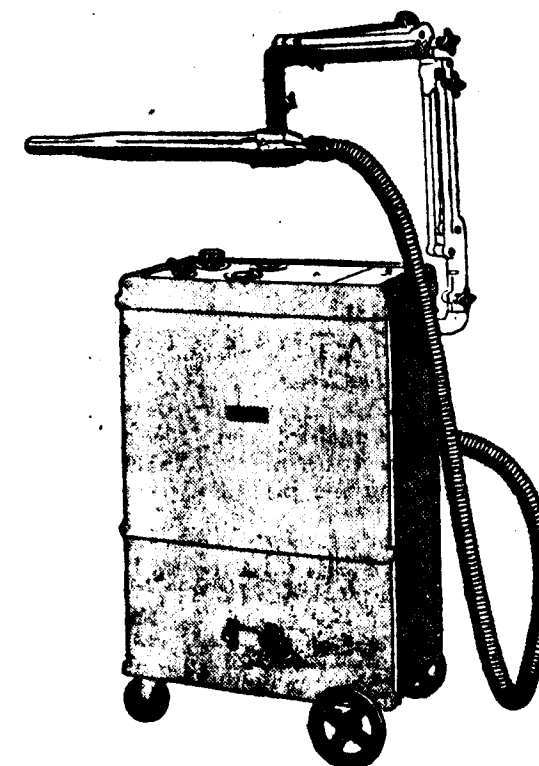


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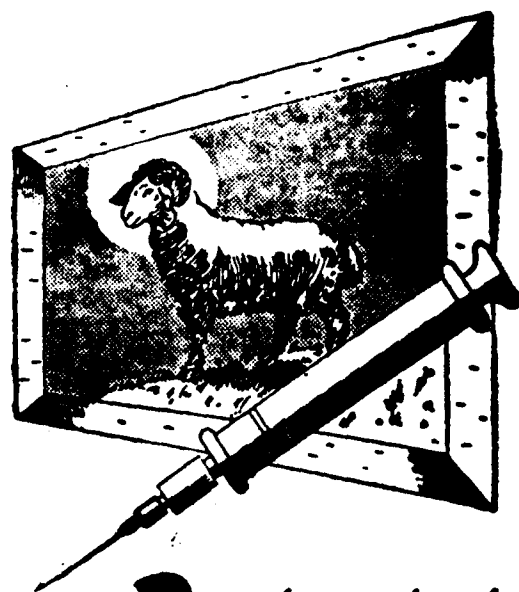
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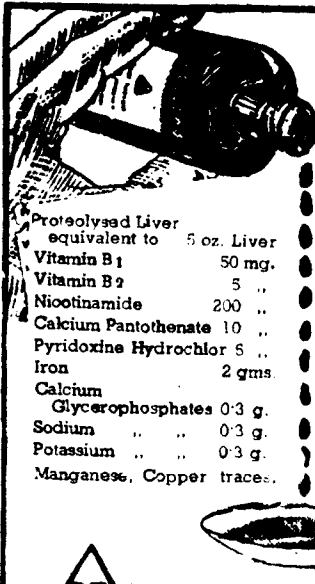
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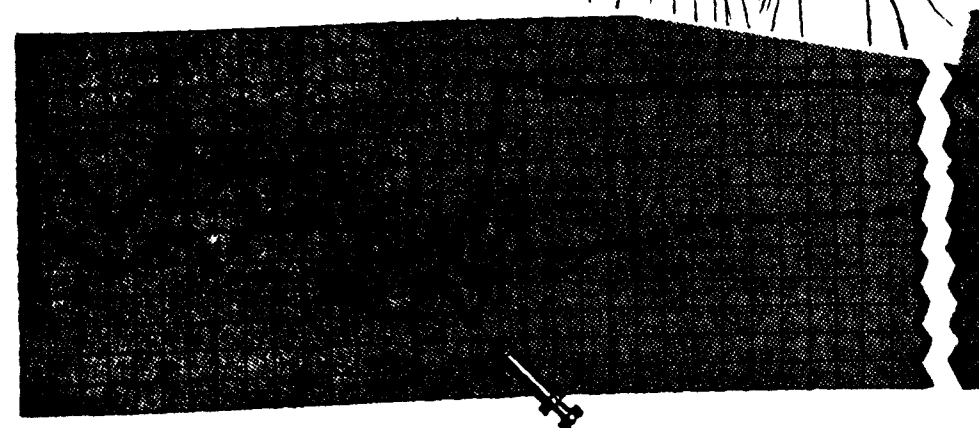
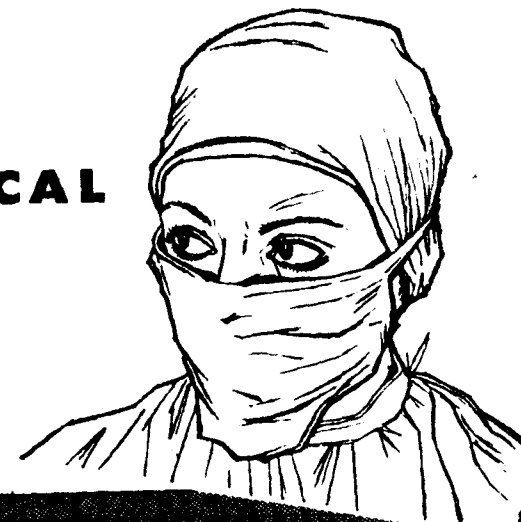
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ESTD. 1904.

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Original Articles

Mastoid Surgery—Its Present Status

MAJOR P. G. K. MENON,
Head Quarters Hospital, Mangalore.

IN recent years special study and research on the temporal bone have improved our knowledge regarding the diagnosis, prognosis and treatment of suppurative and nonsuppurative conditions of the ear. Discharge from the ear, disturbances of equilibrium and deafness are the well-known symptoms of ear disease. A patient usually seeks aid for his discharging ear and also when he finds that he is losing his balance; but for the solitary symptom of deafness he usually seeks aid at a very late stage. It is our common experience that when an individual's eye-sight is a little blurred he rushes at once to his medical officer but the same individual will calmly lose the hearing in one ear and only seek advice when the second ear is becoming definitely affected. The ears are complementary to each other and so it follows that a patient can be quite comfortable until he has lost about (60-70%) of his hearing.

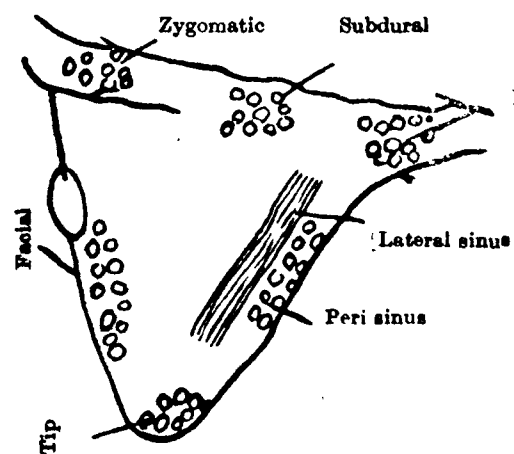
Majority of the patients seeking aid for deafness in our hospitals have clear history of discharging ears from childhood. The fact was noted also in the late War when some of us in charge of ear, nose and throat centres have found that wastage of man power in the armed forces was considerable; many have been admitted and trained in the armed forces only later to be boarded out and often pensioned at the expense of the State. It is clear therefore that the treatment of discharging ears should start early from the very onset and that our aim should be to get back the hearing of

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the patients to as near the normal as possible; and proper mastoid surgery is certainly of great help in eliminating sepsis and restoring hearing in our ear cases.

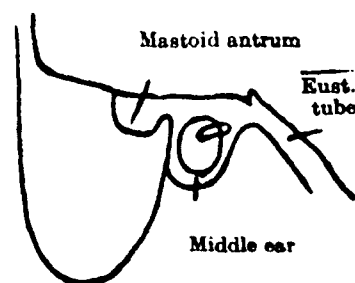
The mastoid part of the temporal bone, at birth, consists only of the mastoid antrum, and the mastoid process and the mastoid air cells are still undeveloped. The mastoid process grows downwards from the antrum and assumes the adult type in the third to seventh year. It is worth remembering that the mastoid antrum is not an isolated cavity within the temporal bone but part of the middle ear tract or cleft formed between the squamo-zygomatic and petromastoid portions of the temporal bone. Any infection of the tympanic cavity is liable to involve the whole cleft. In fact a mastoiditis exists in every case of acute suppurative otitis media in that the mucosa lining the antrum and at least some of the periantral cells are affected. This is resolved by the treatment for the suppuration of the middle ear, and drainage by a mastoid operation is not usually needed.

Three types of mastoid are described and the structure of these different types decides the course, influences the symptoms, signs, and treatment of mastoiditis as a complication of otitis media.

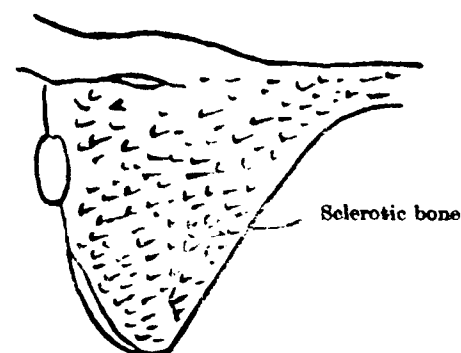
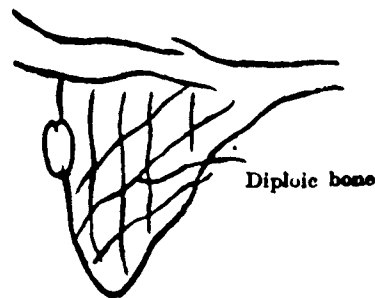


A cellular mastoid is shown as in the figure.

II. The diploic type.—The interior of the mastoid is filled with cancellous bone similar to that found between the inner and outer tables of the cranial bones. The early signs of mastoiditis tend to be later in appearance than in the cellular variety.



I. The cellular type.—The whole bone is formed of cellular spaces which are lined by mucous membrane. The cortex is very thin in this type of mastoid and therefore in acute infections cedema and subperiosteal abscess tends to be an early sign. It is these types of cases that we see commonly in the outpatients of our hospitals. The group of cells in a typical



III. The sclerotic type.—There is complete absence of cells in this variety and in an infection of the mastoid, pus cannot find its way through the dense surface. In a virulent infection it is easier for the pus to pass through the walls of the antrum and thus infect either the middle or posterior fossa of the skull. The following case

summary is illustrative of this point.

A male, aged 12, was admitted in the Wenlock Hospital on 25-2-1949, with history of ear discharge and tenderness behind the left ear for about a week. Weber laterised to the left. Child curls up in bed. Cortical mastoidectomy was done on 26-2-49 under general anaesthesia and antrum drained. A sclerotic mastoid was found at the operation. The child was found irritable even after the operation. 27-2-49: L. P. done and turbid fluid under pressure found. 28-2-49: Patient suddenly developed fits involving right arm and right side of the face, and completely unconscious. 1-3-49: The patient was operated under general anaesthesia. A left subdural abscess was drained and Penicillin injected. The patient eventually was discharged cured from the hospital.

Indications for Mastoidectomy in Otitis Media (acute)

A. Within ten days.

- (1) Acute otitis media with neck rigidity in children.
- (2) Severe initial deafness in the beginning of acute otitis media.
- (3) Profuse otorrhoea with Reservoir test. (If within 20 to 30 minutes after cleaning by syringing and mopping, secretions are detected oozing into the meatus through the perforation with pulsation, it is from the mastoid antrum and cells and not from the narrow middle ear itself).

B. 10th day to 2nd week.

- (4) In case of suppurative otitis media after spontaneous perforation or meningotomy if a headache or earache persists or increases.
- (5) Temperature persists or increases.
- (6) Mastoid tenderness persists or increases.

C. 3rd week onwards.

- (7) Swelling over the mastoid process above or in front of the ear. This may be a zygomatic mastoid or an extradural

abscess perforating through the squama of the temporal bone; swelling may be in the neck-Bezold's abscess.

(8) Sagging of the postero-superior wall of the meatus usually associated with purulent discharge. It means that the suppuration is extending forwards. It may be present for weeks with an ear-ache.

(9) Positive Reservoir sign.

(10) Acute otitis media with serous labyrinthitis.

(11) Grandingo's syndrome: Acute inflammation of the ear with homo-lateral external rectus palsy and pain behind the eye. It is due to oedema or inflammation spreading along the middle cranial fossa to the 6th nerve or gasserian ganglion.

(12) Acute ear with facial palsy: The nerve lies in the inner and upper wall of the middle ear in its bony canal—the aqueductus Fallopii. The canal takes a curved course just above the oval window before passing vertically downwards in the anterior and deep part of the mastoid process to emerge at the stylomastoid foramen. Dehiscences in the bony wall just above the oval window occur in some cases so that the nerve is only covered by mucoperiosteum and therefore can be subjected to pressure in the middle ear. As a result facial paralysis is occasionally seen as a complication of acute otitis media. Also the vertical portion in the deep part of the mastoid may be in very close proximity to some of the mastoid cells and paralysis coming on in a suspected mastoiditis gives a direct indication for immediate operation.

(13) Acute ear with intracranial complications: Meningitis or extradural abscess.

(14) Acute ear with diarrhoea and vomiting in children.

(15) Acute ear with congenital atresia of the meatus.

In chronic discharging ear the usual signs that call for surgical interference are:

(1) Impairment of hearing.

(2) Offensive discharge.

(3) Marginal or attic perforation.

(4) Granulations and polypii in the ear.

(5) Facial paralysis.

Radical mastoidectomy should be limited to cases where there is a very foul-smelling discharge or where endocranial complications like meningitis, lateral sinus thrombosis and brain abscess are threatened.

Can the serious intracranial complications mentioned above be avoided by the administration of antibiotic drugs? No doubt these complications are now very rare indeed after the advent of Sulphonamides and Penicillin. Before the introduction of these powerful

drugs the prognosis of these cases was always considered great. But these drugs will not by themselves and unaided cure infective diseases produced by certain organisms except perhaps in the earlier stages of invasion. Graham Brown in his conclusions based on 25 years' practice of mastoid surgery says (1944): "When pus has begun to form in bone or soft tissues the inflammatory process may be retarded with the so-called masking of symptoms but not to the point when resolution can effect a healing of these abscesses. Most of us have had similar experiences and we have been taught that these drugs cannot replace surgical treatment when an undrained necrotic process is present". Recently a case was referred to me of one with otitis media for which he had intensive Pencillin therapy with the result that although his discharge completely stopped he had unilateral deafness on that side.

I do not propose to go into the different techniques of the operations on mastoid except to mention that in chronic discharging ear with an acellular mastoid the infected middle ear and antrum could be cleared by an end-aural approach to the temporal bone as standardised and perfected by Dr. Lampert of New York.

So far regarding the suppurative surgery of temporal bone which is bound to decrease in proportion to the prophylactic measures against the incidence of the aural disease increases.

Non-suppurative surgery of the temporal bone is now being done extensively in all the advanced countries. Operations on the labyrinth are done to restore equilibrium to the unbalanced as in Menier's disease and also to give hearing for the deaf as in otosclerosis. For the proper performance of operations on these small and delicate areas special experience, special equipment, and special time are highly essential. Special experience by working on the cadaver before undertaking this sort of work, special equipment such as a binocular dissecting microscope giving 5 to 10 diameters of magnification while working and diathermy to control local bleeding, and special time in the sense that these operations should or could never be undertaken as a routine operation or as part of a long list. Let us hope that this type of specialised surgical aid will be within the reach of ordinary man and woman in our country also in the not too far distant future.

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Wenlock Hospital,
Mangalore.

Allergy and Anti-histamine Drugs

Lt. Col. N. S. VARIAVA, M.D., M.S.,

Hon. Physician, G. T. Hospital,

Teacher of Clinical Medicine, Grant Medical College, Bombay, and
Hon. Physician, The Bomanji Petit Poojee General Hospital, Bombay.

Definition.—Allergy is a state of hypersensitivity to various foreign substances that are harmless to a great majority of normal individuals. These common harmless substances produce in susceptible individuals undesirable body reactions. This allergic sensitivity may be local and limited to a certain system or organ, e.g. skin, gastro-intestinal tract, respiratory tract, etc., or it may be general when the symptoms of allergy may manifest as those of anaphylactic shock.

Historical.—This phenomenon of abnormal bodily reactions to various harmless substances has been known from ancient times. It has been noted both in men and animals. It was Lucretius (B.C. 98–55), who is responsible for the proverb, “One man’s meat is another man’s poison.” References about them are found from the times of Galen (A.D. 130–201). Asthma as a sensitising disease has been known over many centuries. Thus in the middle ages it was associated with certain flowers. Botallus (1565) associated asthma with roses. Similarly Benningerus (1673), Herlinus (1693), Bostock (1819) noted the association of asthma with certain flowers and pollen. Syderham (1685), Juncker (1718), Bateman (1814) also noted the association of urticaria with certain food. But no attempt was made to find out the mechanism of these abnormal reactions.

In 1890 Von Behring discovered diphtheria antitoxin. This gave impetus to the use of antisera against other bacterial organisms, and their toxins. Their extensive use over a number of years showed that the effects of serum sickness and other anaphylactic phenomena were due to the serum proteins and not to the antitoxin. Von Pirquet (1906) after studying the phenomenon of serum sickness coined the word “Allergy”, which means altered reactivity. He suggested that this abnormal sensitivity was due to antigen-antibody reaction. Doerr (1912) extended the term allergy to all those conditions in which altered reactivity plays an important part.

Mechanism.—For tissue hypersensitivity to develop two things are required: (a) allergic exciting agent or antigen, also called allergen, and (b) allergic anti-body called allergin. Cells are sensitised when allergin is in or on the cells. This alters the reactivity of the cells to various stimuli. When the antigen comes in contact with the allergin in these sensitised cells, a reaction occurs between them (antigen-antibody reaction). The two substances form a new

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compound. If, however, the allergin circulates into the blood in sufficient quantities to neutralise all the antigen, then there will be no allergic reaction.

This brings us to the consideration of (a) the nature of the antigen, and (b) the nature of the antigen-antibody reaction.

Nature of the antigen.—The exciting allergic agents can enter the body *via* the different portals and sensitise the cells. At one time it was believed that only protein substances could act as antigen. Recent knowledge has shown that even chemical substances and physical agents can act as antigens. This, as Landsteiner has conclusively proved, is due to non-protein substances forming compounds with proteins of the body. Then these protein compounds act as antigen.

The exciting allergic agents (antigens) can be classified as follow:—

(1) Inhalation:—(a) Vegetable..... Pollen of various grasses and flowers. Dust from certain cereals, moulds etc.

(b) Animal..... Emanations from horses, sheep, cows, pigs, goats, rabbits, cats, dogs, birds, poultry etc. Here also the infection is *via* the substances in the dust.

(2) Ingestion:—(a) Vegetable.... Various vegetable proteins, e.g. various grasses, wheat, maize, rice, barley, oats, leguminous foods, peas, beans, lentils, spinach, fruits and nuts.

(b) Animal..... Various animal proteins, e.g. meat, milk, eggs, oysters, lobsters, crabs and other fishes.

(c) Fruits..... Strawberries, tomatoes, currants, apples etc.

(d) Drugs..... Aspirin, phenolphthalein, quinine, bromides, iodides, salicylic acid, thiouracil, atabrin, barbiturates, sulphonamides etc.

(3) Injection:—Sera, vaccines, acetyl-choline, physostigmine, muscarine, pilocarpine, penicillin, liver injections, insulin, arsenicals etc.

(4) Contact:—Skin contact—cosmetics, hair lotions, face powders, dyes, solvents, bleaches, developers, fixatives etc.

(5) Metabolic:—Abnormal products of digestion in stomach or intestine. Faulty metabolism in liver or tissues.

(6) Bacterial:—Variety of organisms, streptococci being the most common. Their usual abodes in the body are the septic foci, e.g. sinuses of the nose, nasal palpus, septic tonsils etc.

(7) Helminths:—Round worms, hookworms etc.

(8) Physical agents:—Heat, cold, light, trauma etc.

Nature of the antigen-antibody reaction.—It is now definitely proved that the antigen-antibody reaction brings about increased

production of histamine, which is responsible for allergic reactions (Dale and Laidlaw-1910, 1911, 1918; Dale and Richards-1918; Dale H.H.-1919, 1948; Lewis, Cotton and Slade-1917; Lewis, T.-1927, and Sollman and Pitcher-1917). Besides histamine some other substances, "H substances" (Lewis T., 1927), are also produced, e.g. heparine from liver—which is responsible for the non-coagulable condition of blood in anaphylactic conditions, and acetyl-choline. But of all these substances, as far as the present knowledge goes, histamine is the most potent in its pharmacological action, and, thus, the manner of its formation, is what concerns us.

Recent work has shown that histamine in minute amounts is present in normal tissues and tissue fluids, e.g. liver, spleen, muscles and blood. In the blood, the eosinophil cells and the platelets yield fair amount of histamine (Code, 1937). In allergic and anaphylactic states the histamine level in tissue fluids and blood is raised.

This means that in allergic states there is liberation of large amounts of histamine as a result of the action of antigen on sensitised cells. The antigen-antibody reaction leads to cellular production of histamine and this histamine irritates the cells.

The method of histamine release is not well understood but the following theories are postulated:

(1) Histamine is formed by the breakdown of the amino-acid histidine. When histidine loses its carboxyl radical, it is converted into histamine (Dale and Laidlaw, 1910). Thus it is possible that trypsin and papain can liberate histamine from tissues *in vitro* (Rocha e Silva and Andrade, 1945). In allergic subjects the same chemical change might easily occur at susceptible points.

(2) As histamine can be readily oxidised back to histidine,—and the process is reversible—tissue anoxæmia would favour increased liberation of histamine. This is what probably occurs in asthma and migraine (Allen, H. W., 1949).

(3) Histamine is a normal constituent of tissues. In the tissues it lies in an inactive state. Trauma, infections, toxæmias, or other antigens liberate it from the insensitive cells, and they then become sensitive to it (Dale, H., 1948).

(4) The eosinophil cells and the platelets are the two rich sources of histamine in the blood. Citrated blood of rabbits yield very large amounts of histamine from the platelets. It is thus possible that increase of histamine in allergic and anaphylactic conditions may be from this source.

(5) Formation of histamine from proteins by hydrolysis can be brought about by proteolytic enzymes (Abel and Kubota, 1919). Vaughan, (1939) puts forth the theory that proteolytic digestive processes can liberate histamine in susceptible individuals.

Use of anti-histamine drugs in allergy.—Based on this concept that histamine or histamine-like substances "H substances" (Lewis, T., 1927) are mainly responsible for the allergic reaction, certain anti-histamine drugs are prepared. They are used in the therapy of allergic diseases to counteract the histamine effect.

INDICATIONS.—The conditions for which anti-histamine drugs are used these days,—and the list is daily mounting—are so wide and varied, that one often wonders about the sanity of the treatment. I have given below a list of indications—by no means complete—where the drug can be advantageously employed.

1. *Skin conditions*:—Urticaria—acute or chronic. Due to drugs, e.g. Penicillin, Sulphonamides, liver or arsenic injections, sera, vaccines, etc. Due to physical agents, e.g. heat, cold, light, trauma etc.

Pruritus—vulvar, anal or general. Due to drugs, e.g. quinine, atabrin, iodides, bromides etc. Due to foods, e.g. eggs, fish, strawberries etc.

Rashes—Due to drugs, e.g. arsenicals, bromides, atabrin etc. These rashes may be of all varieties—from a mere papular rash to a severe exfoliative dermatitis. Due to foods, e.g. eggs, fish, fruits etc. Due to insect bites, e.g. bees, wasps, ants, scorpions etc.

Erythemas—Erythema multiformis. Erythema nodosum. Erythema due to sensitisation to foods, drugs, physical agencies or insect bites.

Dermatitis—Dermatitis herpetiformis. Dermatitis contacta. Eczemas.

Angio-neurotic oedemas. Lupus erythematosus.

2. *Respiratory conditions*:—Bronchial asthma, hay fever, allergic rhinitis.

3. *Cardiovascular conditions*:—Myocarditis following scarlet fever, rheumatic fever etc. Periarthritis nodosa.

4. *Blood conditions*:—Agranulocytosis, thrombo-cytopenic purpura.

5. *Gastro-intestinal conditions*:—Pylorospasm in infants, spastic colitis, hepatitis, Reiter's disease.

6. *Genito-urinary conditions*:—Acute nephritis and other nephritic conditions. Dysmenorrhœa.

7. *Arthritis*:—Rheumatic, rheumatoid, infective polyarthritis.

8. *Nervous conditions*:—Migraine, Meniere's disease, peripheral neuritis.

CONTRA-INDICATIONS.—As these drugs are going to find a vast field in therapeutics, it is very desirable to know the limitations and contra-indications so as to enable a wise dispensation of them.

The anti-histamine drugs impair the finer judgement. Thus it is important to supervise the anti-histamine treatment. They should beware of driving cars, or working with precision instruments, or doing hazardous occupations, or doing work requiring great care and attention, e.g. engine drivers, aeroplane pilots etc.

LIMITATIONS.—It is also very important to know the limitations of anti-histamine therapy. It by no means replaces the older and other well-known therapeutic measures, e.g. Adrenalin injections, Calcium—orally and by injections, Ephedrine, application of cold, etc. Further it is important to know that the action of anti-histamine drugs is very shortlived. If the cause is removed then there may be permanent relief, but if, on the other hand, the operative cause persists, then the condition is likely to recur.

TOXIC EFFECTS:—The toxic effects as I gathered while going over the literature are listed below :

(1) *Central nervous system*:—Headache, drowsiness; sometimes mental excitement and sleeplessness; mental confusion; disorientation; impairment of mental judgement; difficulty in co-ordination; giddiness; diplopia.

(2) *Cardiovascular symptoms*:—Palpitation; in severe cases bradycardia and fall of blood pressure.

(3) *Abdominal symptoms*:—Nausea; vomiting; griping abdominal pains.

(4) *Genito-urinary symptoms*:—Sexual weakness; frequency of micturition.

(5) *General symptoms*:—Dryness of mouth; chilly feelings or hot flushes.

When the toxic effects occur, stop the drug altogether, or reduce its dosage. No other treatment will be necessary, but if the ill-effects are severe, Ephedrine gr. $\frac{1}{4}$ may be given orally or by injections. It can be repeated every 6 hourly. Benzedrine 5 to 10 mgm. or coffee orally are also effective. Pyridoxin 25 mgm. with Nicotinamide 50 mgm. t.d.s. are also useful antidotes.

Personal observations.—Below are cited cases (53 in all), where I have personally observed the effects of anti-histamine drugs, in private and hospital cases. These observations have extended over a period of eight months. For the sake of better appreciating the value of the treatment I have classified my cases in the same way as I have given under the title "indications."

Preparation used:—In my cases I have all throughout used Pyribenzamine (indicated in case reports by letter 'P', of Ciba Co.) It comes in the form of greenish tablets, each tablet of 0.05 gram.

Dosage:—In adults and in children over 12 years I have prescribed one tablet t.d.s. for 4 to 8 days. For children under 12

years, the dosage was calculated according to the well-known Young's formula, $\frac{\text{Age}}{\text{Age plus 12}}$. Unless otherwise stated in the cases, P. was the only product used, no other accessory treatment being given.

Urticaria due to drugs:—Case 9.—Parsee woman, 56 years old, suffering from osteo-arthritis of knee joints. She is highly allergic and gets urticarial rash with many drugs. Given I.V. Iodide and Salicylates for osteo-arthritic pains. Generalised urticarial patches all over the body. P. Improved.

Case 15.—Boy of 10 years, vaccinated. Developed high fever. Aspirin gr. v., t.d.s. After second dose urticarial rash—more marked over limbs and trunk, with marked itching. Calamine lotion for external use and P. Improved.

Case 22.—Parsee, aged 62 years, diabetic. Urticarial rash over scrotum, chest and arm after injection of Insulin. One and a half months ago also such a rash had appeared on taking the Insulin injection, P. On the fourth day had giddiness and a sensation of marked weakness. So he stopped the drug. On the 6th day before he came to me he had taken one tablet. Patient had found benefit from the drug.

Case 24.—Burns second degree, right leg, from hot water. Local application of Penicillin ointment. Generalised urticarial rash. P. Cured.

Case 27.—Dr's. mother brought for insomnia, 2 months. Was taking large doses of hypnotic drugs with poor results. Developed itchiness and urticarial rash over both upper limbs and trunk. P. Good response.

Case 40.—Woman, 56 years, developed herpes over forehead, very painful. A.P.C. one t.d.s. On the 6th day urticarial patches all over the body with marked redness. Swelling just under the eyeballs and swelling of the lips. P. two tablets t.d.s. On the 4th day developed giddiness and sleepiness. Rash and oedema disappeared.

Case 46.—Parsee female, 62 years old, had inflammatory swelling with boil on the left leg for 3 days. Penicillin 300,000 units in oil for 3 days. Swelling subsided but the abscess burst. Penicillin ointment dressing. On the second day urticaria. P. Cured.

Urticaria due to food:—Case 14.—Hindu boy, aged 10 years, ate mangoes. Urticarial swelling and puffiness of lips and face. P. Cured.

Case 18.—Dr's. brother, sensitive to milk, ate a milk custard. Urticarial patches with hot feelings in the body. P. Improved.

Case 20.—Nurse, G.T. Hospital, ate a mango. Swelling of lips and urticarial patches on the face. P. Improved.

Case 25.—Urticarial rashes frequently after eating pulses. P. No improvement.

Urticaria from other causes:—Case 2.—Parsee, 48 years old, gets swelling of lips on and off. Has advanced pyorrhœa. P. Given on four occasions. No improvement in swelling of lips but relief from pain. All teeth removed and after that the condition has not recurred.

Case 6.—Medical student brought her niece for patches of urticaria over the trunk and upper limbs. Eosinophils 7%. P. Cured.

Case 8.—Christian, generalised urticaria. P. Cured.

Case 21.—Urticarial rash on and off for last six months. Cause not detected. P. Improved.

Case 41.—Female, aged 20 years. Urticarial rash on and off for three months, more at times of menses. W.B.C.: 6000. Eosinophil: 6%. Stools -ve. P. Does not know further progress.

Pruritus due to drugs:—Case 13.—Pneumonia. Penicillin 30,000 units every 3 hourly. On third day severe itchy sensation all over the body. P. Disappeared.

Pruritus from unknown causes:—Case 33.—Borah, aged 33 years. Generalised itchiness all over the body, 10 to 12 days. No local cause detected. All the members of the house affected. P. Improved.

Rashes from unknown causes:—Case 29.—Parsee youth, weeping eczema of right chin and nose. P. Good response. After a few days he came for a similar complaint over left arm and right leg. P. Good response. After four months he had a similar complaint over the same region. P. Good response.

Case 44.—Parsee gentleman, herpes of lips, chin, legs and arms. Very painful. Local application of gentian violet. Penicillin 300,000 units in oil in one c.c. for three days. Pituitary injection for pain. Pain less but skin condition did not improve. P. Condition showed rapid improvement.

Erythemas from drugs:—Case 38.—Hindu woman, 59 years, advanced pyorrhœa and stomatitis. Two teeth removed. Swelling of jaw. Penicillin 30,000 units every 3 hourly. Sudden development of generalised erythema and itchiness all over. P. Good response.

Case 39.—Christian woman 40 years, taking Emetine injections gr. 1 daily for six days. On the 6th injection, nausea, vomiting and generalised erythema and itching all over the body. P. Good response.

Dermatitis due to drugs:—Case 4.—A college girl had dyspeptic ulcers in her mouth for which she was prescribed Stovarsol tablets. Developed severe exfoliative dermatitis for which she came to me. BAL treatment put her right but a patch of dermatitis on right

lower thigh persisted and there was itchiness all over the body. P. The itchiness disappeared and the patch of dermatitis gradually cleared.

Case 16.—Male, 40 years, constipated, took a purgative pill containing phenolphthalein to which the patient was a proved allergic. Swelling of palate, difficulty in swallowing and a scaly dermatitis patch in front of right thigh. P. Rapid improvement.

Case 30.—Exfoliative dermatitis following treatment of syphilis by arsenical drugs. BAL treatment. Marked improvement but slight exfoliation still persisted. Calcium orally and P. Rapid improvement in four or five days.

Dermatitis—Eczema:—Case 3.—Parsee gentleman, aged 48 years, chronic eczema right foot for six months. Weeping for last two weeks. P. and Kirsaulf ointment locally. Very good response. Ointment continued. After two months a second course of P. No further improvement. The patch persists in spite of other treatment also.

Case 26.—Parsee, 65 years. Anæmia and septic ulcer on left foot, secondary to varicose veins. Penicillin injections and local application. Giant urticaria with eczematous patch on buttocks and thighs. P. No response. Eczema became one of weeping type. Calamine lotion and Cal. Gluconate injections in the left arm. Urticaria followed by bullous weeping eczema on the bend of the left forearm. Calcium orally. Calamine lotion and P. No response.

Case 36.—Matron of a hospital, generalised eczematous dermatitis, started round about the neck and rapidly spread all over the body. Marked itching. Salicylic, Benzoic acid ointment for application, P. and Calcibronate intravenously for the itching. Rapid improvement in 5 to 6 days.

Case 43.—Chronic eczema of the leg in a servant of a solicitor firm, 2 years' duration. Acute exacerbation (weeping type) on and off. Calamine lotion and P. Good response, i.e. become dry. Salicylic, Benzoic acids and Crysarobin ointment. After about eight months complete disappearance except a patch on the great toe.

Case 45.—Barber's itch, pustular eruption on the chin. Penicillin in oil 300,000 units in one c.c. for three days and Sulphonamide ointment. Condition improved, itchiness all over the body. P. Improved.

Angio-neurotic œdema:—Case 1.—Parsee boy, aged 23, had a bottle of beer. Developed redness and swelling of hands and feet after 3 to 4 hours. P. Improved.

Case 5.—G. T. Hospital, Mukadum, angio-neurotic œdema of limbs and body. Adrenalin and Calcium intravenously. No response. P. Improved.

Case 7.—Nurse. G. T. Hospital, angio-neurotic œdema of both upper limbs. P. No response.

Case 12.—Angio-neurotic œdema of face and limbs, sudden development about an hour after meals of four hours' duration in a male. First time in life. P. Improved.

Case 28.—Dr's. aunt. Anæmia. Liver extract plus Vit. B complex. Angio-neurotic œdema in arm, legs and face. P. Good response. On later investigation she was found to be sensitive to Vit. B complex.

Case 32.—Hindu male, angio-neurotic œdema and urticarial rashes on and off for 3 days. At such times she gets yellowish vomits and pain round about the umbilicus. P. Good response.

Case 37.—Hindu woman taking treatment for anæmia with liver injections. Marked œdema of face, limbs, with itchy sensation all over the body. P. Good response.

Case 47.—Nurse, Parsee General Hospital, angio-neurotic œdema of right arm on and off. No cause detected. P. No appreciable improvement.

Bronchial asthma:—Case 10.—Bronchial asthma in a boy of 22 years. W. B. C.: 6,200. Eosinophil: 8%. P. Improved. Attacks recurred 4 times in three months and every time P. Brought about relief.

Case 11.—Bronchial asthma of many years. No cause detected. W.B.C. count normal. Eosinophil: 4%. P. No improvement.

Case 23.—Bronchial asthma of 8 years in a woman of 30 years. Two courses given in a period of one month. No improvement.

Case 42.—Tropical eosinophilia in a Hindu male, aged 52 years. W. B. C.: 30,750. Eosinophil: 18%. Chest—N. A. D. Gets asthmatic attacks on and off. Mother was suffering from asthma. P. Two courses, slight improvement. Autohemotherapy and arsenic—cured. No further attacks. Blood count returned to normal.

Case 48.—Recurrent attacks of cold followed by asthmatic attacks in a boy of 5 years. Has deviated nasal septum. P. Improved.

Cardiovascular conditions:—Case 31.—Dr., griping abdominal pain. Injection of Trasentin. Had vasovagal collapse. After some time recovered from it but was still slightly dazed as if in shock. He also complained of itchy sensation all over the body. P. Good response.

Case 53.—Child 14 years. Two or three previous attacks of rheumatic fever. Now no fever but joint pains. Pre-systolic murmur in the heart. P. No response. Salicylates, good response.

Gastro-intestinal conditions:—Case 17.—A doctor sensitive to eggs, ate an egg and milk custard at a party. Griping abdominal pain, diarrhoea and vomiting. P. Improved.

Genito-urinary conditions—Acute nephritis:—Case 34.—A boy 4 years, acute nephritis. Penicillin 40,000 units every three hours, alkaline diuretics and P. No improvement. In two months stay of the patient at the hospital, three courses of P. were given. No improvement.

Case 35.—Adult male, subacute nephritis following a swim. Pneumonia 6 months back. Urine heavily loaded with albumin and casts. P. and alkaline diuretics. No improvement.

Joint conditions—Rheumatic:—Case 49.—Boy, aged 7 years. Acute rheumatic fever, 10 days. P. No response, Salicylates—improved.

Joint conditions—Rheumatoid arthritis:—Case 50.—Borah, aged 50 years. Swelling of knee, wrist and smaller joints of hands and fingers. P. and Salicylates orally and by injections. Good response. Fever and pains subsided but swelling of the big joints persisted. A course of Myocrisine. Not much improved.

Case 51.—Hindu, 42 years. Chronic rheumatoid arthritis. P. Salicylates and a course of S. B. T. No improvement.

Joint conditions—Acute infective polyarthritis:—Case 19.—Acute infective polyarthritis. No focus detected except pyorrhoea. Penicillin, Streptomycin and P. Temperature normal and marked clinical improvement. Recurred after 15 days of stopping the treatment. Second course. Again improvement.

C. N. S. Migraine:—Case 52.—Medical student, aged 24 years. Headache every morning, subsiding by afternoon. P. Improved.

Conclusions.—1. Out of 53 cases, 39 cases (74%) are one or other variety of skin conditions.

2. The drug has its greatest benefit in skin conditions. A vast majority of allergic skin conditions show a rapid response to P.

3. Migraine also shows a good response.

4. The drug is not of very great value in bronchial asthma. Out of 5 cases only two showed response.

5. The drug has no value in acute nephritis. In joint conditions it is of doubtful value.

6. In only two cases out of 53 (4%) toxic effects were noted. Thus case 22 had giddiness and a sensation of marked weakness, while case 40 showed giddiness and sleeplessness.

Summary.—1. A historical review is given.

2. The mechanism of allergy is explained.

3. Personal observations of the value of Pyribenzamine in allergic conditions is reported.

My thanks are due to Messrs. Ciba Pharma Limited for placing at my disposal a liberal supply for Pyribenzamine to enable me to make this clinical study.

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Social Aspects of Medicine

In his lecture on "Medical Ethics and the New Humanism," Prof. John A. Ryle, Professor of Social Medicine in the University of Oxford and Director of the Oxford Institute of Social Medicine—the first of its kind in Great Britain—draws a number of useful conclusions for the future role of the medical profession. He emphasises the urgent need for all medical men and women to play a more constructive part than they have done in the past by adapting the methods of medicine to human needs in a changing society. Human justice by the standards of vital statistics is still a "shoddy affair" and this fact has a close bearing in medical ethics. He asks "possessing the knowledge that we now possess, is it not the duty of physicians everywhere in the world to assume leadership in the struggle for the improvement of living conditions?" This demands not only a change of emphasis in the training of medical students but also a wider conception of medical ethics, "a new and broader and more intellectually inspired sense of duty to our communities, to the race and to the individuals."—(*Nature*, 4132, 8.1.49, p. 45). T.N.S.B.

Fever Due to Food Allergy

Dr. Rowe reports pyrexia in a girl aged 18 years, attributable to food allergy. Fever, with a temperature of 100 to 103°F, persisted for 6 months, before the diagnosis was made. The patient had disliked milk all her life but because of her low weight and anorexia was obliged to drink milk regularly. Skin reactions were negative to milk but positive to some other foods. As soon as milk was stopped from her diet, the temperature fell to normal and she began to put on weight. When she again took milk, fever returned, she complained of abdominal distension and anal distress.—(*Ann. Allergy*, 6, 252-259, June 1948). T.N.S.B.

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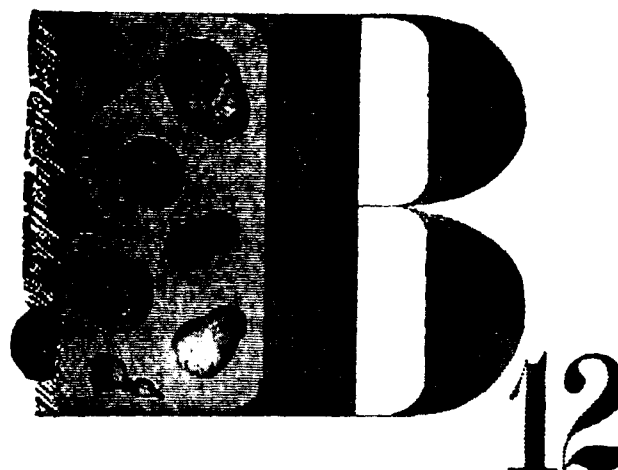
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Laboratory Diagnosis of Anæmias*

H. S. ANDLEIGH, B.Sc., M.B., B.S., D.T.M. (Cal.), D. Bact. (Lond.),
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ANÆMIA is a common ailment in our country. It is more of a symptom of so many diseases prevailing here, rather than a disease by itself. The poor living conditions and dietary deficiencies play an important part, and infections and infestations are some of the specific causes.

On the basis of hæmatological data, anæmias may be classified into the following four groups :—

(1) Normocytic normochromic—Size of the R.B.C. and their hæmoglobin content is normal, there is only decrease in the number of R. B. C.

(2) Macrocytic hyperchromic—Increase in the size and hæmoglobin content of the R. B. C.

(3) Microcytic hypochromic—Decrease both in the size and hæmoglobin content of the R. B. C.

(4) Various combinations of size and hæmoglobin content of R.B.C. such as the normocytic hypochromic or macrocytic hypochromic types of anæmias.

This classification also provides the clinician with a clue to the line of treatment. It is therefore very necessary that any laboratory procedures carried out on cases of anæmias, should be such which would provide one with the necessary data to enable him to place the case in one of these four groups.

In many places even now the laboratory investigations for a case of anæmia consist of :

- I. Hæmoglobin percentage.
- II. Total red cell count.
- III. Colour Index.

No one apparently bothers to determine the size of the red blood cells and draw the Price-Jones curves, as it is a laborious and time-consuming procedure. The clinician is thus denied this very helpful information, and he has to base his diagnosis on the three abovementioned data, which are discussed below :

I. The hæmoglobin percentage.—The hæmoglobin is usually expressed as the percentage of the amount present in the blood of the normal individual. Figures of different workers for the hæmoglobin content of normal individuals differ widely depending upon their nutritional state and the climatic conditions of the place of residence.

If the expression 100 per cent hæmoglobin has any meaning at all, it must imply that the particular sample is what one would

* Specially contributed to THE ANTISEPTIC.

expect from that individual if he were in perfect health. This would mean that a different standard would have to be adopted for each class of individuals, a procedure which will lead to endless confusion.

The fundamental object of hæmoglobin estimation is to determine the oxygen combining capacity of blood. The oxygen combining capacity of blood of healthy young adults is about 20·9 volumes per cent (British figures). 20·9 per cent oxygen capacity represents 15·6 grammes of hæmoglobin per 100 c.c. of blood. In India, Napier has found 13·8 grammes per 100 c.c. of blood as the average. Estimation of hæmoglobin in grammes thus directly gives us an idea of the oxygen combining capacity of the blood under test. It would therefore be better to abandon the method of expressing 'hæmoglobin content' in terms of a percentage of an unknown and arbitrary standard and to adopt the practice of expressing it in terms of grammes of dry hæmoglobin per 100 c.c. of blood.

II. Total red cell count.—This is a simple and essential procedure and must be carried out in every case.

III. Colour index.—The colour index expresses the mean hæmoglobin content of a single cell as compared with the content of a normal cell. It is the ratio of the percentage of hæmoglobin compared with a normal 100 per cent to the percentage of the number of red cells, also compared to the 100 per cent.

Anæmias with a colour index of more than one are labelled as the macrocytic hyperchromic, and those with a colour index less than one are labelled as the microcytic hypochromic anæmias. It is to be realised that the colour index is only a crude indication of cell size and may be entirely misleading. When the index is more than one, the cells are almost always macrocytic, but if the colour index is less than one, the cells are not always microcytic and sometimes the macrocytic cells may have such a low content of hæmoglobin that the index becomes lowered. The colour index is therefore not a reliable data. Moreover, in determining colour index we make use of the arbitrary figures and the chance of interpreting it wrongly very much lowers the diagnostic value of colour index.

It is thus seen that the clinicians at the present moment have only 3 findings i. e., the total red cell count, the hæmoglobin percentage and the colour index, to help them in the diagnosis of anæmia. These are not only by themselves insufficient but the last two are of limited help. Facilities are now available to determine the more useful absolute values which include the following:

- (1) Hæmoglobin in grammes per 100 c. c. of blood.
- (2) Mean corpuscular hæmoglobin (MCH)
- (3) Packed cell volume (PCV)
- (4) Mean corpuscular volume (MCV)

(5) Mean corpuscular hæmoglobin concentration (MCHC)

(6) Peripheral blood film findings.

1. *Hæmoglobin in grammes*:—The most useful form of expressing hæmoglobin for hæmatological purposes is as grammes of hæmoglobin per 100 c. c. of blood. The normal range in Indians is 12·5–14·5 grammes, average is 13·8 grammes.

2. *Mean corpuscular hæmoglobin (MCH)*:—This is the average hæmoglobin content of a single red cell expressed in micro-microgrammes (r. r. or μ r). It corresponds with the colour index. The normal range is 24–33 rr with an average of 29·5 rr. The mean corpuscular hæmoglobin is preferable to the colour index because it is calculated from actual observed figures and has a well recognised normal range.

3. *Packed cell volume (PCV)*:—This is the volume of packed red cells per 100 c. c. of blood. The normal packed cell volume ranges from 40–45 per cent with an average 40 per cent. In anæmias the values are different according to the type of anæmia.

In those anæmias characterised by small red cells, with decreased hæmoglobin values per cell (pigment content), the cell volume per cent is decreased because of the reduced size of the cells. Even with practically normal red cell counts the cell volumes percentage in such cases may be down to as low a figure as 25 per cent. In cases of increased size of the red cells with increased pigment content (macrocytic hyperchromic anæmias) the cell volume percentage is decreased as the increased size of the red cells in cases of this kind does not compensate for the reduction in the number of red cells present. Thus in all types of anæmias there is more or less reduction in the packed cell volume.

4. *Mean corpuscular volume (MCV)*:—This is the mean or average volume of a single red cell, expressed in cubic microns ($\text{Cu}\mu$). The normal for adults is from 80–100 $\text{cu}\mu$, with an average of 90 $\text{cu}\mu$. The figures obtained in different types of anæmias are given below in a tabular form.

5. *Mean corpuscular hæmoglobin concentration (MCHC)*:—This is the mean or average of the hæmoglobin concentration in each cell and is expressed as a percentage. It expresses the relation between hæmoglobin saturation and cell volume, and is obtained by dividing the hæmoglobin in grammes by the Packed Cell Volume in ccm. and expressing the figure as percentage, for example Hæmoglobin 12 grammes.

PCV	..	40 ccm.	
MCHC	..	12/40 x 100	30 per cent.

This value represents the actual hæmoglobin concentration in the blood and is the true indicator of the presence or absence of iron deficiency. It is the key to iron therapy. The normal range

is from 28 to 35 with an average of 31. It will be seen that no account is taken of the red blood cells in arriving at this value.

Table showing haematological data in different types of anemias

TYPES OF ANEMIA	HEMATOLOGICAL DATA							
	Total RBC in millions	Hb in grammes	MCH	PCV	MCV	MCHC	RBC size and pigment content.	
Normal blood.	5.0	13.8	20rr	40%	90 cu μ	33%	Normocytic	normo-chromic.
Macrocytic anemias.	3.0	13.0	30rr	32%	107 cu μ	38%	Macrocytic	hyper-chromic.
Iron deficiency type of anemias.	4.0	7.6	20rr	25%	63 cu μ	26%	Microcytic	hypo-chromic.
Aplastic and haemolytic anemias.	2.0	9.0	30rr	27%	90 cu μ	33%	Normocytic	normo-chromic.

It will be seen that I have purposely avoided mentioning data like the volume index, the saturation index etc. The great advantage of the absolute values over the index system is that the results are calculated on the observed figures without reference to an arbitrarily fixed normal. Experience has shown that there is quite a wide range of normality and this range is emphasized by the absolute values, whereas with the index system the normal figure of 1 is apt to be regarded as a diagnostic normal and the range of normality forgotten. There seems to be little advantage in calculating these indices and I would request every one to get into the habit of thinking in terms of mean corpuscular values instead of indices.

Another valuable diagnostic procedure which should not be omitted is the study of the peripheral blood film for the presence of nucleated red blood cells. It is really the study of a myelogram which is very helpful in deciding the type of anæmia. But this is not a simple procedure and most patients would not ordinarily allow it. The peripheral blood picture, however, is almost a mirror image of the bone marrow, and, though not as informative as the myelogram itself, is still very helpful. A blood film must always be suitably stained and examined for the presence of reticulocytes and the nucleated red blood cells. The relevant blood film findings in the different types of anæmias are given below in a tabular form: (*Vide page 109*).

I have described above briefly the fallacies in the diagnostic haematological data hitherto followed and have briefly explained why these old data be abandoned and the new generally accepted ones be adopted. In the short space available I have not been

Table showing the distribution of nucleated red blood cells in different types of anemias

Types of Anæmia	Megalo-blasts	Normo-blasts	Reticulo-cytes	Size of R.B.C.
Aplastic or hypoplastic anemias of toxic or mechanical origin.	Nil.	Nil.	+	Normal.
Iron deficiency anemias	Nil.	+ +	+	Reduced.
Deficiency of intrinsic factor.	Ehrlich's megaloblasts + +	+	+	Increased.
Deficiency of extrinsic factor.	+ +	+	+ (few)	Increased.
Anemias due to acute loss of blood.	Nil.	+	+	Normal.
Anemias due to chronic loss of blood.	Nil.	+ +	+ or +	Reduced.
Anemias due to errors of erythrolysis.	Nil.	Nil or +	+ +	Normal or slightly increased.

able to give many examples. However, I give below an example of a typical case of anæmia:—

Hæmoglobin percentage	65 per cent.
Total red cell count	3.6 millions.
Colour Index	0.9.

From these data alone the case was diagnosed as that of microcytic hypochromic anæmia and was put on Iron therapy. When there was no improvement, further investigations were taken up and the following absolute values recorded:

MCH 28.	PCV 36 per cent.
MCV 100 cu.	MCHC 28 per cent.

From these data a diagnosis of macrocytic normochromic anæmia was made and the patient was put on liver and vitamin B complex and improved very rapidly. I think the above example clearly signifies the importance of finding out the absolute values in all cases of anæmias and I hope we would now adopt them abandoning the determination of hæmoglobin percentage and colour index.

Intracapsular Cataract Operation Made Simpler and Safer by the Lens-Socketing Method¹

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IN this communication I desire to put before the learned ophthalmic profession, the results of my humble scientific labour on cataract surgery extending for over a period of ten years. As is well known there are many methods of intracapsular cataract operation, engineered and architected by the world's master brains in the realm of Ophthalmic science. These scientific methods, highly elaborated and ideal in themselves, productive of the best end results at the hands of particular exponents, are not always within the easy reach of the average ophthalmic surgeon, partly due to delicacy of technique involved and partly due to the difficulty in the attainment of manipulative skill involved. My only justification in presenting this method has been based on the presumption, as it has been my experience in practice, that this new method being simple in principle and safe and sure in practice, can easily be manipulated and manœuvred by the average ophthalmic surgeon with successful end results.

Millions of our people in the world become visually incapacitated due to the incidence of cataract. The salvation of these our unfortunate brethren, who are wrecked socio-economically lies in the removal of the opaque lens, which blinds the victims, making them unfit to carry on the normal avocations of life. Susruta was the world's first ophthalmic surgeon to have understood the anatomy, physiology and functional importance of the lens, and to have studied the pathogenesis of cataract. To Susruta goes the glory of having been the first ophthalmic surgeon to invent and perform the classical cataract operation.

Ever since the pre-historic age up to the early part of the 18th century, Susruta's method of cataract operation was being extensively followed by the ophthalmologists all over Asia and Europe. Cataract surgery entered into a new phase when in 1745 Daviel gave a re-orientation in the evolution of cataract operation by devising the open method of expression of the cataractous lens and performing his first extra-capsular cataract extraction.

Since then the majority of the ophthalmic surgeons have always preferred the extracapsular method of cataract extraction, the technique of which has remained unchanged since it was introduced by Daviel in 1745 (Duke Elder).

But the extracapsular method is not the ideal method of extraction of cataractous lens, as in this operation the posterior

capsule along with part of the anterior capsule, still remains and this may grow into an after-cataract, necessitating the subsequent surgical intervention. Hence the ideal method of cataract extraction would be the removal of the entire cataractous lens in its capsules without the infliction of trauma and without too much internal instrumentation to the ocular structures, both inside and outside.

Therefore it was only natural that as cataract surgery advanced in its path of evolution, a method free from the defects of the extracapsular extraction method would be devised. Hence we find that towards the latter part of the 18th century, the ophthalmic surgeons began to feel the necessity of devising and standardising a method of extracting the cataractous lens in its capsule. Besides eliminating the inherent defects of the extracapsular extraction, the intracapsular method has the further advantage in that cataracts can be extracted in any stage of maturity. The other outstanding advantage of the intracapsular method are:—

(1) The formation of after-cataract, which most often causes extreme anxiety to the patient as also to the surgeon in the capsulotomy operation, is altogether absent in this method, as there is no necessity of subsequent surgical intervention.

(2) Iritis and its concomitant complications become almost a rare feature on account of the total evacuation of the whole cataractous lens—the nucleus, cortex and the capsule.

(3) With the absence of the materials for the formation of an after-cataract, the visual results are decidedly better.

There are now many methods of intracapsular cataract extraction starting from Smith's, Pahwas' in India and ending with Barraquer's, Knapp's, Torok's, Elschsig's, Stanculeanu's, Sinclair's and Lacarrere's in Europe and America.

The different methods of intracapsular cataract extraction that have evolved from time to time may conveniently be discussed as belonging to the following groups:—

(1) The first method is devised by the Pagenstaecher Brothers, and known as the Pagenstaecher Method in which the cataractous lens is delivered in capsule by introducing an instrument, such as a scoop or a loop to the hind part of the lens.

(2) The second method is that invented by Smith, and standardised by Pahwa in India; this depends upon the exertion of pressure on the outside of the eyeball in order to rupture the lenticular ligaments and to express the lens in capsule entire from its fossa.

(3) The third method is that devised by Knapp in America. It consists in delivering the lens-in-capsule by application of traction and external pressure employed either simultaneously or one

¹ Specially contributed to THE ANTISEPTIC.

after another. Verhoeff, Sinclair and Elschmig and others have elaborated modifications of this method.

(4) The fourth method is demonstrated in the Hulen and Barraquer vacuum extraction method or in the Kalt and Stanoulaneau technique. In this method the cataractous lens is dislodged out of its fossa and removed by grasping its anterior capsule either with special forceps, a vacuum cup or by electro-coagulation.

Each one of the methods of intracapsular cataract extractions has been devised and standardised by master brains with very high attainments in the realm of ophthalmic surgery. While brilliant results are followed by operations at the hands of the learned exponents of the different methods, the average ophthalmic surgeon finds it difficult to undertake the operations with confidence and ease due to the delicacy of the technique involved in the methods and the high degree of manipulative skill required of the operator. And in the words of that great ophthalmologist, Duke-Elder, "It is to be borne in mind that all the methods of intracapsular cataract extraction are difficult, they require skill in the selection of cases and they demand a long apprenticeship and delicacy of technique not readily attained. Hence it follows that in the hands of the particular exponents good results are obtained which are by no means equalled by most of those who follow in their steps. The value of an operative procedure cannot be usefully assessed on the results of its most skilful interpreter, but must stand or fall on those reasonably attained by a surgeon of average ability."

Having been interested in the subject of cataract operation by the intra-capsular method for the past 10 years and in my eagerness to find out a method which would be non-violent in principles, simple and safe in its execution and which would be manipulated with ease and confidence by the average ophthalmic surgeon like myself, I have devised and experimented upon a simpler and safer method of intracapsular cataract extraction which I would call the 'Lens-socketing Method'.

The main role in the new operative technique which I have devised and practised successfully is played by two simple Jantras (devised after Susrutian patterns and principles) namely the Jabamukhi Jantra (Barley-form Lens Lever) and Masurika Jantra (Lenti-form Lens Socketor).

Not a forcible and violent eviction by the infliction of pressure amounting to trauma and consequent irritation of the intra-ocular structures, but a persuasive and non-violent coaxing out of the lens-in-capsule through non-violent pressure automatically regulated and mechanically controlled by the application of the Jantras *in situ*—this is the principle on which the *modus operandi* of the new method of intracapsular cataract operation is based.

By this method the lens-in-capsule, having been non-violently freed from its incarceration in the fortress of the hyaloid fossa, is gently and playfully coaxed out from its bed in the patellar fossa of the vitreous, without disturbing the vitreous and without causing the least trauma to the intra-ocular structures.

The unique success which I have achieved with this non-violent method depends, as I have described above, on the use of two simple 'Jantras' which are employed during the process of operative manœuvre. Susruta's Jabamukhi Jantra (Barley-form Lens Lever) mainly functions in breaching the zonular ligaments and dislodging the lens-in-capsule from its incarceration in the grip of the zonular ligaments, thus facilitating its upward leverage for final release, while Bidyadhar's Masurika Jantra (Lenti-form Lens-socketor, named after my father Niranjan Bidyadhar who designed it) lightly grips the lens-in-capsule at the upper equatorial border, prevents vitreous prolapse by exercising a backward pressure through its elliptical lip, virtually ensockets the lens-in-capsule in its process of dislodgement and delivery.

The syndrome of simplicity, surety and safety characteristic of this method of operation has encouraged me to carry on my experiment with the lens-socketing method in hundreds of cases of senile cataract in my Susruta Clinic at Sonpur Raj for a period extending over the past ten years.

I have seen in my practical experience that by the application of the lens-socketing method, vitreous prolapse is reduced to a minimum and intra-ocular irritation and complications become almost uncommon. The other characteristic features are that a lesser number of instruments are required to be introduced inside the eye. In fact, when iridectomy is omitted, as I do in the majority of the cases where the iris is healthy, only one instrument, *i.e.* the knife only, tenters the eye. The post-operative phase is mostly uneventful and the visual results obtained are so gratifying that it pleases the patient as well as the surgeon alike.

With these few introductory observations, enunciating the principle and practice of the lens-socketing method, I would proceed to describe the technique of this operation in detail.

This would be described under the following heads, namely—

- I. Pre-operative treatment.
- II. Description of the operation and its stages.
- III. Post-operative treatment.

Pre-operative treatment.—Consists of attending mainly to : (1) Preparation of the patient; and (2) Preparation of the eye with its appendages.

Preparation of the patient :—This includes a thoroughly searching investigation of the patient's oral cavity, tonsils, ear, nose and

throat and accessory sinuses; any other likely foci of sepsis have also to be eliminated. Susruta's advice of cleansing the patient's body should be followed and his advice to cure away disease of the teeth, nose and pharynx etc., should be scrupulously followed to rid the body of toxins. The patient should, as a routine, be examined for the presence of any constitutional disease and routine W.R. has to be done (where facilities are available) to determine whether it is positive or negative, the presence of which should receive adequate attention. The attending ophthalmologist has also to see if such affections as gall-bladder sepsis, blood pressure, bronchitis, pharyngitis, tonsillitis exist in the patient, for which he should take proper precaution and administer adequate treatment. In case of the patient suffering from diabetes, he has to see that the blood-sugar is brought to normal by proper insulinisation and diet therapy, and, if practicable, maintained at normal level by rigid dietetic control. It is to be noted that much enthusiasm in reducing the sugar below physiological level by insulinisation more often impairs the corneal nutrition, leading to delayed healing of the sclero-corneal wound. If the patient suffers from chronic pharyngitis attended with dry cough, he or she should be given appropriate medical treatment and should be given a course of autovaccine in resistant cases, if thought advisable, or in the case of doubt of a septic focus lurking somewhere either in the oral cavity or nasal sinuses, or the naso-lacrimal duct or the ear, a course of prophylactic polyvalent combined auto-vaccine might profitably be administered to the patient for increasing the power of immunity. Presence of any venereal diseases must also be searched for and attended to. In case there is any sign and symptom of avitaminosis and anaemia, this should also be promptly tackled by adequate and proper vitamin therapy. In case the patient is found suffering from any skin disease, he or she should be properly attended to and operation has to be postponed till the condition is clear. Any other constitutional or debilitating affection, if detected, must also be promptly and punctually removed.

The importance of a thorough physical and constitutional examination cannot be over-emphasised, as the ultimate success of the operation depends mostly on the healthy condition of the patient.

It is to be noted also that an ideal condition can never be attained, and the utmost the attending ophthalmologist can hope for is to remedy the physical and constitutional defects to the best possible limit.

In uncomplicated and apparently healthy cases, however, none of the above regimen need be followed and the routine procedure which I follow is to put the patient on calcium and vitamin therapy (multivitamin preferably) for a week at least, in case the patient has come sufficiently early for hospitalisation and to maintain his

oral hygiene by Dettol gargle. In highly nervous patients I generally prescribe a Carminative mixture Elixir Bromval to quieten his highly strung nervous temperament.

Preparation of the eye and its appendages:—The object underlying the preparation of the eye is to make the conjunctival sac, with its appendages as aseptic as possible by removing the maximum number of organisms. A preliminary bacteriological examination of the conjunctival sac, with that of the lacrimal, is absolutely indicated to know whether the conjunctival sac etc. is septic or aseptic. The usual procedure is to get a bacteriological examination done at least 48 hours before the time of operation, so that there would be enough time for the growth of pneumococci in the culture media. If the report of such examination reveals the presence of such organisms as streptococci, pneumococci, the operation must be postponed, till after further antiseptic treatment it is found to be normal on a subsequent examination. The lacrimal sac and the naso-lacrimal duct must be thoroughly examined to see if there is any sepsis, and if such sepsis be present it must be cured antiseptically before operation. Any moderate secretion from the eyelids must be treated with 2% Silver Nitrate solution or an ointment made of 5% Sulphonamide with 1% Mercurchrome. Of course it must be emphatically said that too much of antiseptic in the eye does more harm than good, as thereby normal resisting capacity of the organ becomes impaired to a great extent due to the conjunctival tissue being damaged.

The advent of Sulphonamides and Penicillin into the field of ocular therapy has allayed the apprehension of the ophthalmologist to a considerable extent and where laboratory facilities are not available, as is the case with most of the places in rural areas, Sulphonamides and Penicillin therapy have to be invoked as very effective weapons in the therapeutic armamentarium of the ophthalmic surgeon. In short, all possible precautions to ensure sterility of the conjunctival sac must be undertaken with meticulous care for all cases to be subjected to operation.

All the eyelashes of the upper and lower lids of the eye to be operated have to be trimmed flush with the margin.

A mild purgative is to be given to the patient the day before operation so that the bowels would not be disturbed for about 2 to 3 days after the operation. He is to be given a nonstimulating diet and should be scrupulously advised to possess a cool temper and an unperturbed and cheerful mind (Susruta).

Description of operation and its stages:—

- (1) Immediate preparation of the field of operation.
- (2) Anaesthetisation and immobilisation of the eye.
- (3) Instruments required—sterilisation of the instruments.
- (4) Help of an assistant.
- (5) Operation itself.

Preliminary cleansing of the field of operation:—This is generally done by thoroughly washing the patient's face, forehead and the lids with ethereal solution of soap and sterile warm water. After this they are sponged dry with 1 in 3,000 Bichloride of Mercury solution. It is presumed that the patient has been shaved clean and his eye lashes of the eye to be operated trimmed flush.

Anaesthetisation and immobilisation of the eye:—Ever since the introduction of Cocaine in ophthalmic surgery by Koller in 1883-84, it is being extensively used as an anæsthetic agent in cataract surgery. The most commonly used salt is Cocaine Hydrochloride, though Cocaine Biborate is often recommended for its greater stability. I use 4% Cocaine Hydrochlor. This is dropped every 5 minutes till 4 to 5 instillations are made. Alternatively with this instillations two to five drops of Adrenalin Chloride (1 in 1,000) are dropped into the eye. Adrenalin not only increases the anæsthetic effect of Cocaine but it also helps mostly in checking bleeding (Killick). I always try to get the maximal dilation of the pupil by the instillation of 1% Homatropin as well as the instillation of Cocaine 4% with Adrenalin 1 or 3 drops (1 in 2,000).

Immobilisation of the eye is done:—There are different methods of inducing paralysis of the orbicularis muscle by anaesthetising the branches of the facial nerve, the involuntary contraction of which, during operative manœuvres, produces squeezing with its attendant complications of prolapse of iris and vitreous. The principle underlying the induction of paralysing the orbicularis is by blocking the branches of the facial nerve by deep infiltration with solution of Novocain with Adrenalin.

The different methods in vogue are:—

VAN LINT'S METHOD.—This is done by paralysing the orbicularis by deep infiltration with 2 c.c. of 2% solution of Novocaine combined with 2 drops of Adrenalin solution 1 in 1,000. The injection blocks the branches of the facial nerve in about 10 to 15 minutes.

WRIGHT'S METHOD.—This is done by blocking the branches of the facial nerve by injecting the lid with 2% Novocaine and also blocking the main trunk of the facial nerve by injecting into the molar regions the stylomastoid foramen.

ELSCHNIG'S METHOD.—This consists of giving a retrobulbar injection of 1 c.c. of 2% Novocaine solution into the conjunctiva.

As a routine measure in every operation I immobilise the muscles of the lids by injecting periorbitally a 2% solution of Novocaine into the upper and lower eye-lids. About 1 cc. of the solution is injected retro-ocularly for inducing intra-ocular anæsthesia. I also block the upper branches of the facial nerve as it crosses the ramus of the mandible by injecting about 2 c.c. of 2% Novocaine into the molar region towards the stylomastoid foramen. In practice the exact spot

is determined by feeling for the temporo-maxillary joint by asking the patient to open and shut the mouth. The needle is then pierced direct to the surface of the jaw just below this until the point touches the bone.

After akinesia is induced by the above procedure, I usually insert a sterile cataract suture through the skin of the upper eye-lid. This would help the retracting outward of the upper eye-lid (when-ever required) during the process of delivery of the lens, and also this may be utilised in pulling down the eyelid over the eye after the completion of the operation.

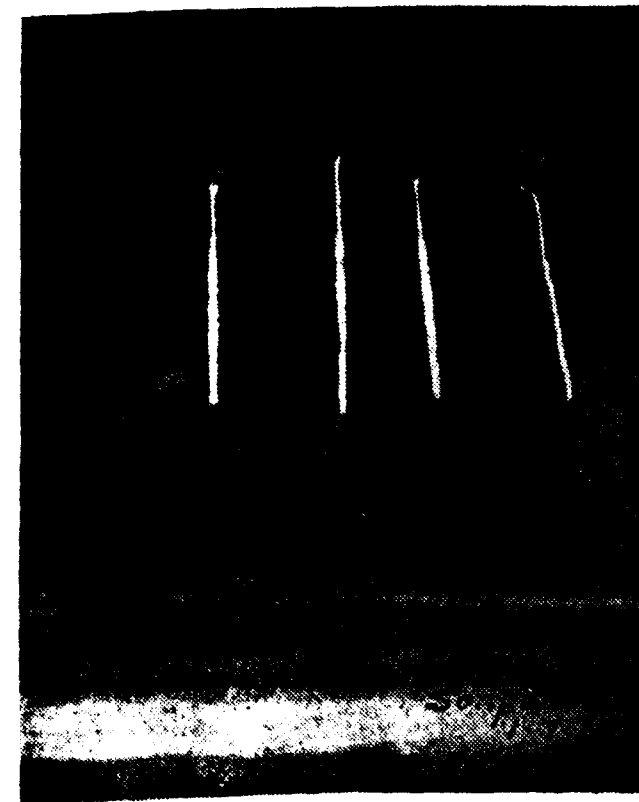
Instruments required:—The following instruments which have been newly designed are used in the operation, namely:—

(a) Susruta's Jabamukhi Jantra (Barley-form Lens Lever).

(b) Susruta's Jabapatra Jantra (Barley-leaf iris repositor).

(c) Susruta's Ahimukha Jantra (snakehood lid retractor).

(d) Bidya-dhar's Masurika Jantra (Lenti-form Lens Socke-tor).



A Ahimukhi Jantra (Snakehood lid retractor).
B Jabapatra Jantra (Barley leaf-iris repositor).
C Masurika Jantra (Lentiform lens-socketor).
D Jabamukhi Jantra (Barley-form lens lever).

The Jabamukhi Jantra has been designed from Susruta's

classical Jabamukhi Salaka with which he performed the first classical cataract operation.

The Masurika Jantra (Lenti-form Lens-Socketor) is designed by my revered father, Sri Niranjan Bidyadhar, who instilled into my mind the intuition for research. The other Jantras have been designed after Susrutian patterns and principles.

Besides the above instruments which have been manufactured locally at Sonpur Raj under my supervision, I also use the following ophthalmic instruments taken from the instrumentarium of the modern ophthalmologist:—(1) Eye speculum; (2) Graffes' cataract knife; (3) Capsule forceps; (4) Iris forceps; and (5) Dewecker's Iris scissors.

Sterilisation of the instruments:—Done by dipping them in boiling water, swabbing them dry and immersing them in absolute alcohol put on a sterilised tray.

The following medicaments are to be kept ready properly sterilised:

- (1) 1% Atropine Sulphate.
- (2) 1% Berberine Sulphate.
- (3) 10% Sulphonamide with 1% Mercurochrome ointment boiled and kept in a semi-liquid state.
- (4) Sterile vaseline solution of Normal Saline sterilised and kept lukewarm.
- (5) Sterile cotton-pledgets immersed in Normal Saline (warmed) in a covered tray.
- (6) Sterilised gauze, cotton and bandage.
- (7) Thick solutions of extract Berberis liquid.

I never use rubber gloves during eye operation. The delicacy of touch and the sensitiveness of fingers at manipulating the instruments which are so very essential in cataract operations—the Surgeon would be deprived of these by wearing the gloves.

Help of an assistant:—The services of an assistant is required in this operation. He is not required to possess a high degree of technical skill. An average knowledge and common intelligence for helping in ophthalmic operations is all that is expected of him.

Having carried out all the above routine preliminaries, the patient is now brought to the operation table.

Particulars of the operation proper:—By the time the patient comes to the operation theatre, maximal dilatation of the pupil with Homatropine and sufficient anæsthetisation of the eye ball has been effected.

The patient has already been told the day before that the operation itself is a very simple and painless affair and that he should keep absolutely quiet during the operation, so that he would get the best results.

The patient is laid on the table in the supine position with his head resting evenly and comfortably on a soft folding of cloth. He is covered over with a sterile chadar and the head wrapped over with sterile towels. Another towel spread over his mouth longitudinally is tagged on either side to the towels covering the

head. The eye (which is not being operated) is covered with a circular piece of lint pasted inside with Sulphonamide Mercurochrome ointment made for the operation.

The eye (to be operated) is now washed with Normal Saline and then the eye speculum is inserted under the eyelids of the eye to be operated.

Fixation of the eye:—This is done by lightly but steadily grasping the conjunctiva with some conjunctival tissue with the fixation forceps close to the limbus below and slightly to the nasal side, the left hand holding the fixation forceps between the thumb and the first two fingers. The eye-ball has to be lightly pulled to the position found convenient for the consummation of the incision.

The incision:—The incisions that have been advocated from time to time are the upward corneal or the upward sclero-corneal or the limbal. Susruta was the first surgeon to advocate the sclero-corneal or limbal puncture as the best and the safest. In performing his classical Lekhana operation, Susruta passed his Jabamukhi Salaka through a point situated just outside the junction of the black and white regions of the globe, i. e. the limbus and in a line dividing the white portion (sclera) equally into two segments.

The corneal incision suffers from many disadvantages. Healing of the wound is sluggish due to the defective corneal nutrition; union being weak, any accidental pressure during the post-operative stage may easily lead to the prolapse of vitreous by the bursting open of the wound, thereby augmenting the chance of intra-ocular infection. The only advantage is that prolapse of iris is less liable to occur in corneal incision. In the pre-historic age Celsus, Avicenna made punctures through the cornea, while performing the lens couching operation.

Sclero-corneal incision:—Advocated by Susruta as being the most advantageous. Healing of the wound takes place soundly and rapidly, union becomes sufficiently strong, thereby preventing prolapse of the iris and vitreous, chances of intra-ocular infection are almost nil.

This is therefore the most advantageous method of incision and the one that is universally used.

“The section which has now been universally adopted in the extraction of cataract is one which involves the limbus over an extent varying between $\frac{1}{3}$ to $\frac{1}{2}$ and which is invariably placed in the upper half of the globe” (Duke-Elder).

Size of the incision:—For all practical purposes, the size of the incision should be about half the corneal circumference.

If the right eye is to be operated, the surgeon has to hold the cataract knife with the right hand and the fixation forceps with the left hand. While operating on the left eye, the holding of the

instruments is reversed, the left hand holding the knife and the right hand the forceps.

Not being an ambidextrous operator myself, I take my stand at the patient's left side facing him, holding the forceps with the left hand and the knife with the right hand. I make the incision directed upward as usual. After finishing the incision I move forward to the patient's head side to complete the remaining part of the operation.

For making the incision, the surgeon holds the cataract knife with the cutting edge looking upward in his right hand in case of right eye, and *vice versa*, steadily and lightly between his thumb and his first two fingers. The point of puncture should be at or slightly below the limbus on the temporal side above the equator. The point of the knife is lightly but confidently thrust into the point of puncture and after it has penetrated into the anterior chamber, it is rapidly passed steadily on through it, in front of the iris, to a corresponding point on the other side, where the counter-puncture is made. After making the counter-puncture the knife is slowly, gently and steadily pushed on under the scleral conjunctiva upward for about 4 to 3 m.m. so as to fashion a medium size conjunctival flap at the top placed towards the temporal side.

While making the section, the Surgeon must keep in view the two planes of the eye—the plane of the iridic attachment and the plane of the limbal-ring. He has to steer the knife, keeping it parallel to and clear of either of these planes. Sometimes it might so happen that, due to accidental pressure exerted over the globe unwittingly either by the fixation forceps or by the knife, the iris might be embraced by the blade and cut out. In such a case there need be no apprehension, as no tangible harm will occur to the eye, except that there will be a wide and ugly coloboma.

After the section is completed, the surgeon should instantaneously release his grip of the fixation forceps over the conjunctiva and the knife and forceps be put aside. The speculum is now immediately removed from the eye-lids.

At this stage it will often be seen that there is a collection of blood and aqueous humour in the conjunctival sac. This should be mopped out with a pledget of cotton wool and a drop of Adrenalin Chloride (1 in 1,000) instilled into the sac.

Three quarters of the battle in intracapsular operation is finished after the completion of the incision, while the remaining one quarter requires only a few seconds for completion.

Now comes the role of the Ahimukha Jantra (Snakehood lid retractor) and that of the assistant. During all manipulations following the incision it is always imperative that the orbicularis muscle be effectively kept under control. The upper lid is now made to be retracted by the Ahimukha Jantra with the help of the

assistant, who lightly holds the snakehood lid retractor in his right hand (in case of right eye) between the thumb and index finger gripping it low down on the shank and keeping it drawn forward and slightly upward, pressing the tips of the middle and ring finger over the patient's brow by which manœuvre the orbicularis is kept controlled. The assistant simultaneously depresses the patient's lower lid with the volar surface of his left thumb. This manœuvre helps the maximal exposure of the field of operation, the patient's head being properly steadied and the orbicularis muscle being effectively controlled. The role of the assistant in thus retracting the upper and lower lids to keep the field of operation maximally exposed continues till the final delivery of the lens-in-capsule. For the rest of the operation after delivery of lens, the assistant is asked to lightly retract the upper-lid by either the Ahimukha Jantra or by drawing the lid upward and backward with the sutured catgut. At this stage iridectomy is undertaken, if it is to be done. My practice is that if all is well, i.e. if there is healthiness of the iris and the pupil has been maximally dilated and remains so after the completion of the incision, I generally avoid doing an iridectomy in the majority of cases.

Immediately after this phase, the surgeon proceeds to effect the delivery of the lens-in-capsule. To describe the actual process, the Masurika Jantra is held with the operator's left hand steadily gripping the shaft a little below the middle between the thumb medially and the index, middle and ring fingers laterally, the thumb apposing the middle-finger, the index finger obliquely embracing the middle of the shaft and placed at an angle of about 45° (degrees) over the upper sclerotic portion of the wound with its lentiform cavity (socket) looking forwards. The Jabamukhi Jantra is held with the right hand gripping its shaft at about its middle with the thumb medially and the index and middle fingers embracing the shaft externally a little above and below the site of the thumb and then placed simultaneously with its point negotiating the lower third of the cornea at 6 o'clock of the dial and a light delicate push is transmitted through its point, thereby exerting a steady backward pressure over the lower third of the lens directed towards the posterior pole of the globe. By the manœuvring of the Masurika Jantra and the Jabamukhi into action, as described above, no more pressure is allowed to be transmitted, than is just necessary for the non-violent rupture of the zonular ligament, leading to the dislodgement of the lens-in-capsule. In practice it is found that the pressure to be exerted is automatically regulated and mechanically controlled by the placing of the Jantras *in situ* and in virtually a few seconds, the lens-in-capsule would be found peeping outside through the corneal window, showing obviously that the zonular ligaments have given way, freeing the lens-in-capsule from its incarceration in the bed of the hyaloid fossa.

As the edge of the lens-in-capsule is found to be dislocated into the wound a backward pressure (regulated by putting the Masurika Jantra *in situ*) is automatically exerted through the lower elliptical lip of the Lentiform Lens socketor, care being taken that the Jantra is kept clear away from the edge of the emerging lens, and that it is not allowed to overlap the lens, while following up the lens during its process of delivery. By this manœuvre in action the suspensory ligament will give away at the top making the lens-in-capsule free to jump out on to the Lentiform Lens socketor.

At this stage the Masurika Jantra being kept steady in position, exercises automatically just enough pressure directed backward to keep the lens forward, at the same time mechanically keeping the vitreous intact (preventing its prolapse). The surgeon should now move the tip of the Jabamukhi Jantra delicately and gradually directed upwards and forwards towards the wound, lightly rotating its handle between the fingers. The tip with the bend of the Barley-form Lens Lever becomes gradually insinuated in the fold of the cornea beneath the lower edge of the lens-in-capsule during its upward and outward excursion and in cases where the ligament appears to be a bit tough and resistant, a slight rotational movement of the Jantra is all that is necessary. When more than half of the lens-in-capsule (when the lens-in-capsule would be found to be peeping fairly outside) would be seen outside the sclero-corneal wound, the pressure with the Masurika Jantra is relaxed, *i.e.*, it being kept only *in situ*, the pressure exercised by dipping the tip of the Jabamukhi Jantra would suffice for steering out the lens-in-capsule in its voyage of dislodgement and delivery.

Though a paragraph has been devoted to the description of the mechanism involved in the rupture of the zonular ligaments and the dislodgement and delivery of the lens-in-capsule by the Lens socketing method, in actual practice when the incision has been properly and scientifically done it takes only about a few seconds, virtually about 5 to 15 seconds varying in individual cases, for the final delivery of the lens-in-capsule.

It is in only a very few cases of senile cataracts that a few minutes have to be counted before effecting the dislodgement and final delivery of the senile lenses.

It is to be emphasised that the operation should always be performed in an atmosphere of calmness. Confidence, patience, deliberation and gentleness—with these watch-words the surgeon should always proceed with the operative manœuvre.

Reposition of the Iris:—After the delivery of the lens, the eyeball is washed with Normal Saline solution dropped from the Undine, the iris is then gently freed from the edges of the corneal wound and carefully replaced into its position by the help of the Jabapatra

Jantra. In practice the semicircular leaf of the Barley-form-iris-repositor is now passed a short distance into the wound, over the base of the iridial circle to replace the iris in its proper place.

Then the sclero-corneal lip together with the small conjunctival flap is embraced by terminal leafy position of the Jabapatra Jantra besmeared with the Sulphonamide Mercurochrome ointment kept semi-liquid and carefully stroked to its proper position. During this time the upper eyelid is to be lifted lightly up with the catgut suture.

Toilet of the wound:—A drop or two of 1% Atropine solution together with 1 drop of 1% Susruta's Berberine solution or alternatively a drop or two of 1% Mercurochrome solution is now dropped into the eye and the eyelids, besmeared with the Sulphonamide 10% with Mercurochrome ointment and carefully and gently reposed and closed by lifting the upper lid into apposition with the lower lid and by asking the patient now to close the lid.

Finally wet sterilised pads of circular pieces of lint (soaked in solution of Ext. Berberis Liq. and besmeared with the above ophthalmic ointment) and cotton wool are placed over both the eyes and a sterile bandage applied. The wet dressing thus applied accurately moulds itself to the contour of the eyeball with its lids closed and when dried up forms an excellent splint over the globe.

Post-operative care:—The principles following the therapy in the post-operative period of my cases are based mostly on the classical Susrutian teachings. The whole of the post-operative period is generally limited to a duration of ten days.

The patient is now carried to the ward which should preferably be a well ventilated, well shaded one, free from dust, smoke, din or such other nuisance. The patient is enjoined to keep himself calm and quiet. He is to be told not to eructate, yawn, nor sneeze or spit (Susruta). He is to be assured that everything has been alright, and if he strictly abides by these Susrutian injections, his success would be better established.

Posture:—After operation, the patient has to lie on his back for 24 hours, after which he is allowed to turn lightly to the unoperated side for a little while. I generally keep the patient in lying position on his back up to the 4th day, allowing him only occasional turning up to the unoperated side. On the 5th day, after change of dressings, he is allowed to sit for a comfortable while before he resumes his recumbent posture. This habitude is continued up to the end of the 10th day in all normal cases.

As a matter of fact if the operation has been consummated without any complication, and the general health of the patient is satisfactory, there is absolutely nothing to worry the surgeon except to see that the patient is kept completely restful and composed and

quiet, not talking to any-body, indicating his requirements only by manual signals. His eyes are in this manner kept absolutely at rest.

In a very few cases, it is occasionally seen that the patients complain of a dull aching pain referred to the back and the loins. In that case the patient is generally turned to the unoperated side and a little shampooing followed by light massage of the back with an antiseptic dusting powder would relieve the patient. In extreme cases a Sodium Salicylas mixture with Elixir Bromoval would help a lot to quieten the patient.

Change of dressing :—In this I follow the Susrutian principles of opening and dressing the eyes on the 3rd day, 5th day, 7th day and finally on the 10th day in all normal cases. It is to be strictly enjoined upon the hospital or the clinic staff that every time the dressings are changed, the following must be kept properly sterilised and neatly arranged :—

- (1) 5% Sulphonamide cum 1% Mercurochrome ointment, kept semi-liquid by warming and cooling.
- (2) 1% Lotio Atropine.
- (3) 1% Susruta's Berberin Sulph.
- (4) 1% Mercurochrome solution.
- (5) Thick solution of Ext. Berberis Liq.
- (6) Cotton pads, circular lint and bandages.
- (7) Solution of Normal Saline freshly prepared, sterilised and kept cool.

Before changing the dressings, the patient's room should be sufficiently shaded by the closure of the windows and doors, admitting of enough ventilation and light to proceed with the operation. After taking out the dressings the affected eye is compressed with a soft sterile towel or lint strung out of a hot solution of water saturated with Lotio Berberis liquid or alternatively a hot Boric compress is to be given. Simultaneously the unoperated eye is to be given a few touches of compress. The eyes are then washed with lukewarm solution of Normal Saline dropped from an Undine and carefully swabbed. A drop of 1% Atropine Sulph is dropped into both eyes followed by a drop of 1 per cent Berberine Sulph or alternatively a drop of 1 per cent Mercurochrome. The eyelids are next besmeared with the Sulphonamide ointment and covered over with circular lint and cotton pads and comfortably bandaged as before.

In my practice I keep both the eyes bandaged for the whole period of ten days. Here again I repeat what Susruta taught :—“If all goes on well the surgeon should remove the bandages on the 10th day and the following restriction should be imposed upon the patient; that is, he should be asked to restrain from looking at

dazzling lights and the glaring sun, till the accommodation in the eye is restored to its normal state”. After the removal of dressings the use of dark goggles, if available, or the use of dark shades in lieu thereof, is prescribed.

During this period his oral hygiene should only consist of swabbing the mouth with Condyl's lotion. He is not allowed to chew tooth-sticks or brush his teeth for about a month after the 10th day. He is advised to use tooth powders lightly brushing the teeth with fingers a fortnight after. At home he is to have warm gargles of table-salt solution to maintain the hygiene of his oral cavity.

Diet :—Consideration of diet is of no less importance in the postoperative care of a cataract patient. Here again I strictly adhere to Susrutian practice. “On no account should solid diet be given to the patient. He should be given only light liquid food and vitaminous foodstuffs and enough of fresh milk for ten days, after which he should be given light solid articles in moderate quantities, followed by enough milk.”

In practice it is often seen that some patients, hailing from the rural areas who are accustomed to rice diet only often show disinclination to be put on milk diet and barley and milk diet, as they complain of digestive derangements. In such cases I prescribe the drinking of *Bhat-manda* (rice gruel), with or without milk, sweetened according to the taste of the patient. Where fruit juice is not available and the administration of some vitamin therapy is indicated, vitamin C and if available multi-vitamin tablets are administered.

Bowel :—The movement of the bowels has also to be regulated, and if a motion has not occurred in the 4th day, he should be given a light glycerine enema to ease the bowels.

Report of a case of senile cataract operated by the Lens-socketing method :—*History* : M. K., Hindu, male, aged 60 of village Ranipathar, P. S. Phulbani, was admitted in the Government District Headquarters Hospital, Phulbani, on 8-7-'49 for the treatment of senile cataract of both eyes. He was only moderately built and his general health was not good. His teeth were mostly bad and his oral hygiene was far from satisfactory.

Pre-operative treatment :—The following pre-operative treatment was carried out in this case :

Some of the very bad teeth were extracted one after the other. Oral hygiene was regularly maintained by giving him gargles of Condyl's lotion, alternating with Dettol lotion. He was put on multi-vitamin tablets 4 daily till the day of operation. Milk was also prescribed in his dietary.

As his eyelids were not in a healthy condition the conjunctival sac was treated by irrigating with Normal Saline solution (made sterile) and by application of an ointment consisting of 5% Sulphonamide and 1% Mercurochrome for a few days before putting him on the operation table. Internally he was given M & B 760 tablets 6 daily for 5 days.

The day preceding the operation, he was administered an enema for evacuation of his bowels, the eyelashes of both the lids of the left eye (which was to be operated) were trimmed flush. In practice this was done by using a pair of scissors sterilised and besmeared with sterile vaseline. By doing so, the cut eye lashes would stick to scissors without falling into the conjunctival sac.

On the morning of the operation day, i.e. 31-8-'49 (when the patient was not allowed to eat or drink anything till sometime after the operation is over) the skin of his face, forehead and the eyelids were thoroughly washed with ethereal solution of soap and swabbed dry with warm water. After this the area was sponged dry with 1 in 3,000 solution of Bichloride of Mercury solution.

After the patient's face and eyelids were antiseptically washed, the conjunctival sac was thoroughly irrigated with lukewarm Normal Saline solution dropped from a sterilised Undine. Maximal dilatation of the pupil was obtained by instillation of a few drops of 1% Homatropine solution.

Anæsthetisation of the eye was done by dropping 4% Cocaine Hydrochlor solution. This was dropped every 5 minutes till five instillations were made. This was alternated with four instillations of (1 in 1,000) Adrenalin Chloride solution.

Immobilisation of the eye was done by injecting peri-orbitally 2% Novocaine solution. For this about 1 c.c. of the solution was injected into the upper and lower eyelids. About 1 c.c. was also injected retro-ocularly. The upper branches of the facial nerve were blocked by injection, about 2 c.c. of 2% Novocaine into the molar region towards the left stylomastoid foramen.

The patient was then brought to the operation table. By this time there was maximal dilatation of the pupil and enough anæsthetisation had already been induced to proceed on with the operation. The patient having been covered with sterilised sheets over the body and head, his right eye being covered with a sterile piece of lint smeared with Sulphonamide ointment, the eye speculum was inserted under the eyelids of left eye and his conjunctival sac was now thoroughly irrigated with Normal Saline solution. Next a sterile catgut suture was fixed to the left eyelid for use during the subsequent course of the operation.

Taking my stand by the left side facing the patient, I held the fixation forceps with my left hand and the knife with the right and proceeded to make the limbal incision extending about the upper

half of the corneal dial, terminating the incision with a small conjunctival flap. While making the incision the assistant helped efficient retraction of the upper lid by drawing up the catgut sutured to the lid. Towards the termination of the incision while the knife was being steered upward a little of iris was entangled and accidentally cut.

Immediately after finishing the incision, the fixation forceps and the knife were laid aside and the speculum was finally carefully removed from under the eyelids. There was found some collection of blood and aqueous humour in the conjunctival sac which were mopped out with a pledget of cotton wool and a drop of Adrenalin Chloride solution instilled.

With the completion of the incision three quarters of the battle was actually finished, and for the rest of the operative battle only a few seconds were required to release the lens-in-capsule from its incarceration in the fortress of the hyaloid fossa.

At this stage the help of the assistant was requisitioned. He had previously been told that his duty is to keep the eyelids retracted by lightly gripping the Ahimukha Jantra.

The assistant having now retracted the upper eyelid with the help of the Ahimukha Jantra held lightly in his left hand, while the lower lid was retracted with the thumb of his right hand, I proceeded to effect the delivery of the lens-in-capsule with the help of the Jabamukhi Jantra and Masurika Jantra. For this part of the operation I turned to the head-side of the patient. The Masurika Jantra was held with the left hand and placed at an angle of about 45° engaging the upper sclerotic portion of the wound, with its lentiform cavity looking forwards, while simultaneously the Jabamukhi Jantra gripped steadily and confidently with the right hand was placed with its point negotiating the lower third of the cornea at 6 o'clock of the dial. The Lentiform Lens Socketor being kept almost steady, a light delicate push or two was transmitted through the tip of the Barley-form Lens Lever. This was enough for the rupture of the zonular ligament and in about 3 to 5 seconds the lens-in-capsule was seen peeping outside through the corneal window. By keeping the Masurika Jantra *in situ*, the lens-in-capsule was finally steered out of its voyage by lightly insinuating the tip of the Jabamukhi Jantra along with its bend in the fold of the cornea beneath the lower edge of the lens within another two to three seconds.

There was no vitreous prolapse in this case and no prolapse of iris.

Next the eyeball was thoroughly washed with lukewarm Normal Saline solution dropped from an Undine.

The iris was properly reposed in its place with the terminal Barley-leaf of the Jabapatra Jantra. The conjunctival flap was

stroked to its position. A drop of 1% Atropine lotion was instilled followed by the instillation of a drop of 1% Mercurochrome (as Berberine Sulph was not available here). The eyelids being besmeared with the Sulphonamide ointment were manoeuvred into apposition. Wet circular lint with cotton wool superimposed besmeared with vaseline and ointment was next placed on the operated eye. The other eye being treated in a similar manner with pad and cotton well, a sterile bandage was applied to both eyes.

Subsequent management of the case:—The patient was laid on his bed. The room was kept properly shaded and the ward attendants and relations were instructed not to disturb the patient.

At 4 o'clock the patient was given a barley water drink and this was repeated once more at night.

After the end of 24 hours the patient was asked to change his posture to the right (unoperated side) for a while. He passed quiet days and nights, when on the 3rd day the dressing was changed in the morning.

After removing the first dressing, warm Boric compress was given, the eye washed with lukewarm Normal Saline solution and the eyelids swabbed dry with pledgets of cotton wool soaked in Normal Saline. On examination of the eye, the cornea was clear showing a clear pupil which was oval, union had taken place. No pain or heaviness was complained.

The right eye was washed with antiseptic saline solution, Atropine lotion being dropped. After this both the eyes were besmeared with Sulphonamide ointment and covered over with lint and cotton wool and bandaged. This was repeated on the 5th, 7th and 10th day when the eyes were opened finally.

Diet:—First three days milk and barley. For the subsequent days he was allowed *Bhat-manda* (rice gruel) and enough of milk.

Bowel:—Bowels were subsequently opened on the 5th day.

The patient was discharged on the 14th day after operation with instructions that he would lead a temperate life and for about a month hence he would not look a dazzling light nor would he expose his eyes to dust and smoke. At the time of his discharge, he could see near objects as clearly and he could walk unguided. He has been advised to come for the operation of his right eye after about a month.

Conclusion.—With a mind oscillating between confidence and diffidence I beg to put before the ophthalmic profession the results of my humble labour on cataract surgery extending for over a period of ten years.

The principles and practice of what I find a simpler and safer method of intracapsular cataract operation to be called "The Niranjana's Lens-Socketing Method" are given in these pages.

In presenting this paper my only justification is that I have only done my duty in endeavouring to find out, as far as my knowledge permitted, a simpler and safer method of intracapsular cataract operation adaptable to the hands of the average ophthalmic surgeon. I am not to hanker after the fruits thereof—good or bad—, as the Lord has said "*Karmanya-badhikarstay, Maphalesu kadachana.*"

I wish to make it clear that I do not pretend to any originality in scientific skill and surgical craftsmanship. I have always derived my knowledge and inspiration from the teachings of the great masters of the Science of Ophthalmology, to all of whom I offer my respectful obeisance.

Having been imbued with an intuition for research through the efforts of my revered father, I have tried to study the great surgical works, especially the Ophthalmic Section, of Susruta, the world's first Surgeon-Ophthalmologist. Indeed, the scientifically high standard of teaching on ophthalmic medicine and surgery, as disclosed in the classical works and the accuracy thereof when compared and contrasted with modern ophthalmic knowledge, are really surprising, when one considers the early age in which Susruta lived and flourished in India. As the world's first ophthalmic surgeon, Susruta nurtured and fathered the science of Ophthalmology in the hoary pre-historic age (when the rest of the world was steeped in darkness) and as a great scientific genius he had made contributions in the domain of Ophthalmology which are unparalleled in the history of medicine.

To quote Johnston Saint:—"In Arabic medicine and Greek medicine, in what we know of ancient Egyptian medicine, we find time after time traces of what can only be derived from the even more ancient and famous Indian Medicine. So the parent of modern medicine is not Greece but India."

To quote still another passage from an inspiring address of Green Armytage:—"Hitherto it has been the pride and fashion of scholars to ascribe to the ancient Greeks the glory of having first conveyed in their own language the foundations of medicine, Philosophy and Art, but recent research has shown that the genius of the Greeks drew its sap from Phoenicia and Crete, from Babylon and Egypt and even still farther afield from Sumeria and the dwellers in the valley of the Indus. Indeed it was from the East and not from Egypt that Greece derived her architecture, her science, her philosophy, her mathematical knowledge, in a word, her intellectual stimulus."

Indeed it was India in the ancient days of her glory that gave light and lead to the whole world in the realm of science, art and literature. History tells us that it is Ayurveda as taught and practised by the great seers of India, which is virtually the parent of modern medicine and surgery.

Ever since the pre-historic age when Susruta systematically built ophthalmic surgery on a scientific basis and preached and practised his classical method of cataract operation, the medical world has witnessed many changes in the domain of Ophthalmology. Thanks to the painstaking and learned researches of the world scientists of succeeding generations, numerous renovations and medications of the Susrutian technic have been introduced and numerous therapeutic advances have been made. The practice of Cataract Surgery as originally taught by Susruta has undergone thorough evolution at the hands of Daviel, Von Graefe, Wright, Smith, Knapp, Barraquer, Stanuclanu, Torok, Elschnig, Sinclair, Pahwa, Lacarrere and others. Hence all honour goes to Susruta for having built the temple of Ophthalmology in the pre-historic age, while the names of Von Graefe, Been, Arlt, Saemisch, Daviel, Fuchs, Knapp, Smith, Barraquer, Pahwa, Wright, Elschnig, Torok, Stanuclanu, Sinclair, Lacarrere and others would ever be remembered and glorified as master-builders of the great edifice of ophthalmic surgery in the modern age.

Thanks to Mahatma Gandhi, the Father of the Indian Nation and the prophet and pioneer of independence, now that India is free, it is upto her sons and daughters to revive her past glory and to take a leading part in the development and advancement of medical science, as their forefathers did in the days of yore when the Universities of Takshila and Nalanda formed great centres of learning and research, attracting scholars from all over Asia and Europe.

In the compilation of this paper, I have freely consulted the existing works of various authorities on the subject, to all of whom I am deeply indebted.

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Epidemic Encephalitis*

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Introduction.—I like to impress upon the medical practitioners that sporadic cases of epidemic encephalitis are not rare. The mild cases are often mis-diagnosed as influenza and the severe cases as pernicious malaria if the epidemic encephalitis is not thought of. Recently I came across of few cases of epidemic encephalitis—some of which are influenza-like and the others are cerebral malaria-like. The symptoms were rise of temperature upto 105°F with shivering, headache, bodily pains, lethargy and repeated convulsions in children. The fever remained continuous for 4-5 days and came down to normal gradually. In some cases there were lethargy, semi-unconsciousness or stupor from which the patient was roused by violent jerking, and again became semi-unconscious. In others there were restlessness, insomnia, bodily pains, various bodily movements, convulsions in children and immobility. Mild cases showed slight rise of temperature, bodily pains, constipation and slight amount of lethargy or somnolence. In some cases there were diplopia, strabismus or ophthalmoplegia. Blood examination did not show any malaria parasite and injection of Quinine did not produce any benefit. The cases were diagnosed as epidemic encephalitis by the pyrexia, lethargy or restlessness and diplopia, ptosis, strabismus or ophthalmoplegia. But the difficulty arose in case of children where there were high fever, convulsions but they could neither complain of diplopia nor there was ptosis or strabismus, but only diagnosed by Reversed Argyll Robertson Pupil—light reflex is present but accommodation reflex is abolished.

It is also called encephalitis lethargica because it produced lethargic symptoms in the first epidemic but in the subsequent epidemic it produced hyperactivity of the motor system. So it is now called epidemic encephalitis with akinetic or hyperkinetic symptoms.

Definition.—It is an acute epidemic or sporadic febrile disease of the nervous system caused by a filterable virus—most probably the virus of the herpes simplex with heightened virulence.

Mode of infection.—It is caused by droplet infection by the carriers or by the presymptomatic stage of the infected person. The virus from the nasal passage passes by peripheral axonic route to the central nervous system. Once the virus gains access to the central nervous system, it cannot come out, so case to case infection is rare. It may remain in C.N.S. for a long time producing symptoms of Parkinsonism.

PATHOLOGY.—Central nervous system.—No specific pathological change is found in the nervous system. It is one of congestion.

* Specially contributed to THE ANTISEPTIC.

The meningeal vessels partially over the brain stem are engorged, and numerous tiny vessels are seen over the cut surface both in the white and grey matter. Small hæmorrhages are found in the floor of the 4th ventricle—but rarely massive hæmorrhage.

Microscopic:—1. Interstitial—There is intense vascular dilatation with hæmorrhage. This hæmorrhage is confined to the perivascular space of the cerebral vessels. There is infiltration of cells mostly lymphocytes and a few plasma and large mononuclear cells in the Vircho-Robin spaces in the adventitia of the blood vessels; sometimes in the perivascular spaces of this. Rarely there are polymorph cells. The infiltrated cells are derived from the lymphocytes of the blood. Amyloid bodies are sometimes found in the wall of aqueduct and under the floor of the fourth ventricle. Acute siderosis of the vessels of globus pallidus have been found. As meningeal vessels show less congestion, the cerebrospinal fluid is almost normal.

2. *Parenchymatous*:—Degeneration of neurons shown by chromatolysis, eccentricity of nucleus and its destruction are found.

Neuronophagia is rare. The degeneration of neurons is least seen in the cerebral cortex and most marked in the nuclei of the cranial nerves—specially in the 3rd, 4th, 7th and the 12th C.N.; in the mid brain, specially in the aqueductal region, basal ganglia and pons, and in the medulla.

Purkinje's cells of cerebellum show similar degeneration.

The spinal cord may show similar lesion in a very few cases.

Outside the nervous system.—Petechial hæmorrhages are found over the pleura, epicardium, peritoneum and surface of diaphragm. In the kidney there is hyperæmia in the medulla, and the convoluted tubules may show degeneration.

C. S. fluid—No characteristic change due to absence of meningeal reaction.

The pressure and amount of C.S. fluid are increased. The C.S. fluid may be stained due to hæmorrhage. Globulin—little increased. Protein Chloride—almost normal. Sugar—high normal.

Normally it is .45—.60%. It may be increased to .65 to 1%, average being .75%. Cells—normal—may be increased to 50 rarely 100—all are lympho. Colloidal gold test gives lentic curve.

Clinical varieties.—*Acute*:—Clinically it can be divided into many kinds according to the type of symptoms it produces. Thus when it produces lethargic symptoms—it is called akinetic, when there is excessive motor activity, it is called hyperkinetic, or there may be a combination of these two forms, i.e., first there was excessive motor activity leading later to lethargy or somnolence. If mostly ocular-motor paralysis is present it is called ophthalmoplegia, and

if bulbar paralysis, it is bulbar type. If cerebellum is affected, there is cerebellar ataxia. It is called cerebellar type.

Chronic:—It may lead to Parkinsonism when it is called progressive Parkinsonian type or there may be progressive mental deterioration such as anti-social tendencies, moral perversion and depressed neurasthenic state, when it is called mental type. Some are of opinion that these may be called sequelæ but really these are the results of chronic infection as the virus survives long in the nervous system after the acute stage is over.

But for practical purposes the acute stage may be decided as akinetic or hyperkinetic, and the chronic stage as progressive Parkinsonian or mental type, or both combined.

Symptomatology.—Akinetic form produces fever, lethargy, paralysis and somnolence or coma which is a bad sign. In hyperkinetic form there are fever, restlessness, irritability, convulsions in children, choreic and athetoid movements, insomnia, delirium.

Sensory disturbance is of varied type. Nuclear lesions of the cranial nerves may be present, of which 3rd, 4th, 7th, and the 12th cranial nerves are most frequently involved.

In the first epidemic, lethargy, fever, and oculomotor paralysis were present. So it is called encephalitic lethargica, but in the subsequent epidemic there were various involuntary movements, choreiform and athetoid movements, clonic spasms, intense neuralgic pains. After the acute stage is over, the persistence of the virus in the brain leads to progressive Parkinsonian or mental type. It is mainly a disease of the mid brain, and the nerve cells in this area are often destroyed.

Ocular disturbances due to nuclear degeneration are diplopia, ptosis, strabismus and Reversed Argyll Robertson Pupil. Ophthalmoplegia as evidenced by inequality of pupil, eccentricity, loss of light reflex, and ciliary paralysis, and paralysis of internal muscles of eye may occur.

Cranial nerve paralysis due to nuclear degeneration of which 3rd, 4th, 7th, and 12th are often affected unilateral facial paralysis is often seen. Recently I saw a case where the 2nd and 8th C.N. were affected, and there were complete loss of vision and hearing, noticed after 4 weeks of the onset of the disease.

Motor disturbance:—(a) Muscular rigidity is more marked in the chronic forms. There is difficulty in starting the movements and equally difficulty in stopping it. The pyramidal tract is particularly immune. In those cases where the tract is involved is due to scattered hæmorrhages in the white matter of the cerebral hemispheres, and lower motor neuron paralysis is due to the same cause.

(b) *Abnormal muscular movements*—such as choreic and athetoid movements and sometimes clonic spasms of the muscles due to irritation of spinal nerve roots with associated root pains. Convulsion is rare, but in one of my cases early convulsions were the main feature of the disease.

The corpus striatum consists of: (a) Caudate nucleus; (b) lenticular nucleus; (c) globus pallidum and two subthalamic nuclei all associated with subsidiary motor tract. The pyramidal tract from the cerebral cortex passes through it and gives it a striated appearance. The corpus striatum is the infra cortical centre for the control and adjustment of all motor functions that are not immediately voluntary, as all automatic and associate movements. The precision and stabilisation of these functions are due to cerebellar influence brought into the mid brain mainly by fibres coming into the red nucleus.

The corpus striatum receives afferent fibres from thalamus and efferent fibres arising from the large motor cells from globus pallidus, passes to the Substantia nigra and red nucleus in the mid brain by ansa lenticularis. From these the impulse is carried to the ant.-horn cells of the spinal cord by extra pyramidal system (Rubro-spinal tract). Globus pallidum is older portion and is known as paleostriatum, and the caudate and putamen constitute new portion i.e., neostriatum. Impulses also pass along short fibres from neostriatum to paleostriatum (G.P.). These are probably inhibitory and regulatory in character.

Lesion in corpus striatum produces:—

Lesions in the cells of globus pallidum	{ 1. Muscular rigidity. 2. Tremors.	/ Lesion, in paleostriatum
Lesions in the cells of caudate nucleus and putamen	{ 3. Disturbance of movements—such as choreic and athetoid movements.	} Lesion in neostriatum

1. *Muscular rigidity*:—Specially seen in the large proximal muscles, and movements are slow.

2. *Tremors*:—Seen in the finger and tongue. But in the Parkinsonian syndrome due to chronic encephalitis—the lesion is seen in the Substantia nigra situated just in front of the red nucleus in the mid brain which is one of the relay stations in the extra pyramidal system. But in the idiopathic Parkinsonism the lesion is in the paleostriatum. (G.P.)

Lesion of the Substantia nigra is as follows:—

(1) Many of the large pigmented cells of Substantia nigra have disappeared and destruction of many fibres.

In chronic encephalitis—Substantia nigra is mostly involved and globus pallidum least and paleostriatum midway between the two.

Thus we see in Parkinsonian syndrome, lesion is somewhere in the passage of impulses from corpus striatum along the extra pyramidal track to the ant.-horn cells of the spinal cord.

Sensory disturbance:—Intense neuralgic pain is most probably due to the irritation of the post nerve roots as evidenced by the development of herpes zoster. Sometimes this neuralgic pain is long continued and persistent—which may be due to irritation of thalamus.

Picture of Parkinsonian syndrome:—The face is mask-like, neck stiff, the head is nodding slowly, the trunk is bent forwards and stiff, and the arm is held away from the trunk. Rapid flattening of eyelids with slowly closing is very characteristic.

In bulbar paralysis:—Hypersalivation is a very troublesome symptom. In one case of mine there was intractable salivation.

Meningeal symptoms:—Sub-occipital headache, painful stiffness of neck and head retraction were present in one of my cases which was differentiated from meningitis by the absence of leucocytosis in the cerebro-spinal fluid by lumbar puncture.

In the involvement of cerebellar:—Cerebellar ataxy is seen but generally good recovery of those cases takes place.

Sphincter disturbance is incontinence of urine may be present.

SEQUELAE:—1. *Oculo-gyric crisis*:—Recurrent attacks of conjugate deviation of eyes specially in the upward movements of the eyes, accompanied by wrinkling of the forehead and extension of the neck—which are due to muscular activity, and may last from a few minutes to a few hours—controlled by administration of 5 mgm. of Benzedrin B.D.

2. *Post-encephalitic tics*:—Stereotyped involuntary movements such as rhythmic movement of the jaws, tongue and face are common.

The course of epidemic encephalitis may last from a few days to a few weeks.

TREATMENT:—1. Mainly symptomatic.

2. Intravenous injection of Colloidal Iodine 150 c.c. repeated on alternate days may produce good result.

3. Intravenous injection of Sod. Salicylas 15 gr. in Normal Saline daily is certainly very helpful.

CASE I.—One Hindu girl, aged 1½ years, had an attack of fever with shivering. When the temperature rose to 104–105°F. she had repeated convulsions. After the blood for M.P. was taken, she was given an injection of Quinine gr. vi. I.M. at about 11 p.m. Persistent high temperature with convulsion continued and then again an injection of Quinine gr. vi was given at 3 a.m. next day. In between

the two convulsions the child remained completely unconscious. Next morning after repeatedly washing the head with cold water (in winter) and cold sponging of the body, the temperature came down to 101°F, but the convulsions continued and the patient remained unconscious. The blood examinations of 3 films proved negative malaria parasite. Then the convulsions were brought under control with the administration of Pot. Brom. and Chloral hydras, injection of Colloid Calcium. On the 5th day the temperature became normal gradually but the child was restless, irritable, boisterous, crying all the while; athetoid movements of the hand and feet, stiff neck with retraction, sleeplessness and Reversed Argyll-Robertson's pupil were seen. There was also strabismus. The case was diagnosed as epidemic encephalitis, and injection of Sodi Salicylas I.V. continued for 7 days. Inj. of Collo-Calcium, Pot. Brom-Chloral hydras mixture were given to keep the child at rest. When all the symptoms were abated a little, the child became a voracious eater and in course of 21 days she became a fatty child. The child became almost normal gradually in the course of 4 weeks, but later it was noticed that the baby could neither see nor hear—which she was doing before the illness. There is light reflex of the pupil but no accommodation reflex. On ophthalmoscopic examination no abnormality was found in the optic disc—most probably due to nuclear degeneration of the optic nerve.

CASE II.—One male aged 30 years had an attack of fever in which he suffered for 6 days during which he complained of diplopia, weakness of muscles. During the course of fever he was very much talkative for two days but later lethargic. He was given Sodi Salicylas I.V., and in course of 15 days he came round. After a month and a half the patient complained of tremor in hand and slow nodding of the head.

Treatment of Severe Hiccough

Barnard presents his experience in the successful treatment of 5 cases of persistent hiccough by electrotherapy. When conservative measures fail, surgical treatment, usually bilateral phrenotomy is often resorted to. However, the crushing or resection of the phrenic nerve is a serious procedure and leaves the elderly patient in a handicapped state. Barnard shows that hiccough may be relieved by the application of two small sponge electrodes to the proper sites of the affected patient and the administration of pulsating galvanic sinusoidal current at a comfortable tolerance of 20 to 30 pulsations per minute. This produces stimulation of the phrenic nerve and contracts the diaphragm. The exact *modus operandi* by which the hiccough is stopped is not clear, but apparently the impulses running to the diaphragm are interrupted and probably the muscle itself is tired as a result of the galvanic stimulation. The results obtained by Barnard have been uniformly excellent and merit further investigation.—(*Am. J. Surg., N. Y.*, 77, Feb. 1949, pp. 230-234).

T.H.A.A.

Some Causes and Treatment of Cough of Laryngo-Pharyngeal Origin

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Prologue.—The question of cough—a symptom and not a disease by itself—is mainly to be solved by the physician. But there are certain groups of cases which directly or indirectly come under the domain of the laryngologists. These groups may be considered under the following headings:

I. Hawking cough is very characteristic of catarrhal pharyngitis. It is generally associated with digestive disorders. On clinical examination, collection of mucus is seen in the pharynx and in some cases presence of granulations in the posterior pharyngeal wall is detected. Those granulations are nothing but hypertrophied lymphoid tissues akin to Payer's patches in the intestinal wall.

TREATMENT:—1. *General*:—Treat the gastro-intestinal tract.

2. *Local*:—(a) Alkaline sprays and pastilles. (b) In some cases where the granulations persist cauterisation with electric cautery gives at least a temporary relief.

II. Night cough:—By it I mean that cough is worst at night when the patient goes to bed. In most of these cases the cause is elongated uvula associated with the congestion of the mucous membrane.

TREATMENT:—One should not jump to perform uvulectomy but should try first: (a) Astringent gargles and paint (like Silver Nitrate 2% to 4%). In many cases the above will suffice; (b) In other cases simple cauterisation of the mucous membrane of the uvula will do; (c) But there are a few cases where the patient comes too late with a rat tail-like elongated uvula, where the simple thing is to sniff off the hypertrophied mucous membrane of the uvula along with a little muscular portion if necessary with a pair of scissors.

III. Morning cough:—That is to say, that the most troublesome cough starts early morning and this persists for a few hours—afterwards this type of cough is often associated with hoarseness of voice for sometime. On clinical examination it is often found that the patient is suffering from atrophic rhinitis and in some cases along with it laryngitis sicca leading to the fact that dry crusts form during sleep on the mucosa of the pharynx and the vocal chord of larynx. In the morning until and unless these dry secretions are coughed out there will be hoarseness and coughing.

TREATMENT:—(a) Treat the cause. (b) Alkaline spray in the morning and oily antiseptic spray and paint at night.

IV. Reflex cough:—One type of cough, though very rare, occurs in children where no physical findings are present in the throat or lungs, but on systemic examination only cerumen in the ears may be found.

* Specially contributed to THE ANTISEPTIC.

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TREATMENT:—In these cases the only thing to do is to syringe the ear with warm water after dissolving the cerumen with alkaline drops for a couple of days. (This actually does not come under this paper).

V. Now I am coming to a group of cases which I call obstinate cough i. e., obstinate to all treatment. This is because real cause is not always possible to ascertain in the beginning. The clinical findings of this group can be divided under three headings:

1. On examination of the pharynx colour of the plate is placid with history of exacerbation of cough in early morning after going to bed.

This in most cases gives suspicion of early tuberculosis of lungs detected only by skiagram of the lungs. This is absolutely different from the laryngeal tuberculosis where actual tubercular lesions can be found in the larynx.

TREATMENT:—The treatment goes to the physicians. So far as we are concerned: (a) Rest to the voice; (b) Finzen rays; (c) Reflected sun's rays; (d) Cauterisation of the tubercle; and (e) Linotus Paregoric etc.

2. On examination of the pharynx:—Blotchy patches of redness (no ulcer) is seen on the palate with history of persistent coughing throughout day and night temporarily relieved by medications. These are cases of secondary syphilitic infection proved by positive W. R. test. The blotchy patches are akin to roseola of the skin.

TREATMENT:—A few injections of Bismuth only or along with it Arsenic will act like magic. Iodide by mouth is a good adjunct.

3. On examination of pharynx no change of the mucous membrane of the palate is seen associated with the fact that there is no positive finding in the lungs, that the patients are mostly females and on enquiring it will often be found out that the patient for some reason or other is unable to fit herself in her environment e. g., a very young wife of an old man or an unkind mother-in-law or an aged unmarried girl or an unmarried girl with a stepmother and so on.

TREATMENT:—(a) Administer elephant dose of sedatives and hypnotics and impress upon changing the environment of the patient. (b) In some cases it may require Paraldehyde per rectum to make the patient sleep.

VI. The next important group is croup or laryngeal diphtheria. This is a disease of the children. Clinical feature is—sudden cough with hoarseness of voice or quick loss of voice associated with fever in a child should always give rise to suspicion that the child has got diphtheria of larynx, no matter whether there is a patch present in the pharynx or not—more conclusive will be the suspicion if succussion of the chest follows and the definite

diagnosis by the examination of a laryngeal swab by smear and culture.

TREATMENT:—Treat the case as diphtheria and do not wait for a laryngologist to examine the larynx—as no laryngologist can see the cavum larynx in a child by indirect laryngoscopy.

VII. The next important group is cough with hoarseness. Its laryngeal part is—the physical finding of paralysis of a vocal cord and the medical and surgical part is the presence of something like aneurysm of the aorta, mediastinal growth or apical growth etc., pain in the chest. The treatment falls under the domain of physicians and surgeons.

VIII. The last and the most common of the present day causes of cough is Allergy.

Here there is no physical finding in the pharynx or the larynx and everything possible has been tried but the cough persists.

DIAGNOSIS.—(1) Allergic history in the family. (2) Eosinophilic count of blood.

TREATMENT.—Simple alkali mixture with Ephedrine Hydrochlor gr. $\frac{1}{4}$ t.d.s., or in some cases it may be necessary to continue the treatment in the shape of Autovaccine from the sputum and tonsil pus and Soamine, or it may be necessary to take recourse to the last sheet anchor in Auto Sero or Hæmotherapy.

Smoker's throat:—Here the physical finding is that the pharyngeal mucosa is congested with dilated veins and the history of the case will be that the patient smokes too much and there is no troublesome cough so long as the patient sticks to one brand of tobacco. There is cough always if the brand of tobacco is changed in between his patent brand of tobacco. Here it is not the question so much of irritation but it is a question of allergy.

TREATMENT:—The best treatment is to abstain from smoking for a couple of days and then to stick to one particular type of tobacco. The smoker afterwards develops chronic bronchitis and the treatment in that case will be the treatment of chronic bronchitis.

Conclusion.—It is not possible to go through all the causes and treatment of cough under this heading in this short paper.

For the general practitioner it will suffice to know that if ordinary medicaments fail to relieve the cough—examine the blood (different count and W.R. if necessary) and take skiagram of the chest. No throat paint is of much use. Alkaline gargles with oily sedative antiseptic sprays like Adrenalin Chloride and steam inhalation is much better than throat paint.

In larynx steam inhalations and sedatives like Codein are very good.

Frank Breech with Meningo Myelocele Due to Spina Bifida

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IN frank breech presentation both the thighs are flexed and the legs extended over the anterior surface of body. In this particular case, the patient was a young primigravida. She attended the ante-natal clinic for the first time at 8½ months of her pregnancy. On clinical examination, it was diagnosed as a case of



Extended lower limbs left one forcibly
kept in the position shown.



Abnormal genitals.

frank breech. The diameters of her pelvis were normal and clinically there was no cause for frank breech presentation. Fortunately this was not fully engaged. External version was tried and, with

little difficulty, it was possible to dislodge the presenting part. Thus the external version was possible and one peculiarity that was noticed was this, that head could engage at once with a sudden click sound. Patient was given uterine sedative and was kept under observation. She delivered in due time normally with vertex presentation. The child was living, weighing 6½ lbs. and had the following deformities: There was a big sac containing fluid and spinal cord on the back on lumbar region. The right thigh was flexed and right leg extended over the



Meningo myelocele.

anterior surface of the child. There was no deformity as such in this extremity and this thigh and leg could be moved normally but as soon as the hand support was taken off this thigh and leg could maintain their original position i.e., thigh flexed and leg extended over the anterior surface of the body of the child. This position removed the doubt of the diagnosis of frank breech as X-ray was not taken in this case. The last malformation in this child was the improper development of genitals.

There is practically no aetiology for frank breech presentation. The causes for breech presentation are many but there are practically no causes for full breech, footling or knee presentation. From this case it looks evident that there must be some congenital deformity or dystrophy or dysfunction of muscles or joints giving rise to these presentations. In this particular case there must be either dystrophy of muscles of thigh and leg or of ligaments thus attaining abnormal position resulting in abnormal presentation.

During delivery, this big meningo-myelocele burst and there was yellowish thick material coming out of this sac. Within 24 hours there developed necrosis in the centre on the top portion of this sac. Condition of the child was not satisfactory. The child was operated for this sac and on opening this sac at the necrosed area it was found out that there was cauda equina in that sac coming out through the split portion of lumbar spinal vertebral portion and having attachment to this top portion of this sac that was necrosed. This cauda equina could not be separated from the necrosed portion of the top portion of the sac and was cut while operating. The child died within 24 hours.

This type of meningo-myelocele reminds one that this sac may be an undeveloped twin. In fully developed twins with lumbar attachments, there may be possibility of spina bifida in both with spinal cord travelling from one to the other and not complete closure of spinal columns in both with separate spinal cords. X-rays in such cases will not help as the antero-posterior views will overlap the shadows of the other. The lateral view is of no use. Such twins cannot be separated to have separate individual living due to above possibility of having one continuous nervous system with cerebro-spinal fluid. Similarly if one dies then due to above reasons the other may also die immediately.

Conclusion:—There is not much literature in such cases. The investigation is only available in records of post-mortem examination of such rare abnormalities.

Anophthalmia

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ANOPHTHALMIA and Microphthalmia are two distinct varieties. In anophthalmia there is complete absence of eye ball. Such a type of abnormality is rarely seen and there is hardly any mention of such abnormality in any text-book of obstetrics.

Eye is the only organ visible externally with direct connections with brain as it is part and parcel of brain. In such cases it may be presumed that optic nerve may not enter the orbit. It may either end as fibrous element at the optic foramen or entirely be absent together with chasma. As it has got connection with brain, olfactory lobes and cerebral hemispheres may be deficient being outgrowths of anterior cerebral vesicle. It is the failure of primary optic vesicle to bud off from anterior cerebral vesicle which may be the usual cause of anophthalmia. This failure may be due to amnion touching or adherent to these buds thus arresting their further development. Cases are seen where the amnion, if it is adherent to any part, results in non-development of that particular part e.g., anencephalic monster, intra-uterine fractures etc. This nodule is of mesoblastic origin. There may be capsule of fibrous tissue like sclerotic, containing pigmented choroidal tissue, but not any retinal tissue. In short there is complete absence of essential nervous elements constituting the eye. This is called anophthalmia. This presence or absence of essential nervous elements in the nodule in orbit, can only be determined by microscopic examination. So clinically it is very difficult to distinguish between true anophthalmia and microphthalmia.

Case report.—Mrs. A.B.C., aged 19, brought her first child on the 2nd day of her delivery at O.P.D. of this hospital. She had delivered normally at full term. The parents of this infant are healthy. The child was healthy weighing 7 lbs., well formed with no stigma. The eye lids of both eyes were small and well formed. The orbit was smaller than normal, was lined with conjunctiva. All the rudimentary parts of the eye were present e.g., sclera, cornea, iris etc. Child died without any cause on the 15th day. The patient was pregnant again after few months. Kahn and Wassermann were both negative in both. This time she delivered a healthy



Anophthalmia.

child with no deformity of any sort. It is nearly more than one year and the child is healthy.

Conclusion.—Congenitally one or both eyes may be absent. Such a type of abnormality is usually met with in healthy, well formed babies with other malformations such as the hare lip, extra digits in association with it. This is due to failure of development but the cause of failure of this development is not known though the possibility of this may be that of *adhesion of amnion to the developing bud resulting in non-development or arrest of further growth of the part concerned.*

Case Report of Neuromyelitis Optica

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WHEN an ophthalmologist is confronted with a patient with sudden complete binocular loss of vision, it becomes a problem for diagnosis. The following is the case report.

A patient, aged 46 years, caste Brahmin, profession—Station Master. History of complete and sudden blindness on the 8th of August 1949. He was brought to me on the 9th evening. He could not come of his own accord on the stairs and therefore he was lifted. He had an attack of mild influenza a week previously. On examination:—conjunctiva and cornea-clear; both pupils semi-dilated and hippus was present. There was pain on movements of the eyeball and on pressure on the eyeball posteriorly.

Fundus examination.—Both the fundi were normal and the diagnosis was bilateral retro-bulbar neuritis.

Neurological examination.—There was flaccidity of the muscles of the lower extremities and all the deep reflexes were absent. Patient was quite conscious, though he was very sluggish in answering. The chief complaint was intense headache and binocular loss of vision. The condition of the patient was the same the next day except that he could be roused after some effort. Lumbar puncture was suggested but the patient's relatives refused. Next day he developed spasticity of all the muscles and he became completely comatose and expired.

TREATMENT.—Penicillin two lacs units every two hours were administered with vitamin B₁. There was no incontinence of urine or faeces.

The sudden loss of vision with bilateral retro-bulbar neuritis and flaccidity of the lower extremities point to the diagnosis of neuromyelitis optica or Devic's disease and death is due to ascending involvement with failure of respiratory centre or that may be associated with encephalitis what is called encephalomyelitis.

HISTORY.—In 1894 Devic reported five cases and gave the name neuromyelite and neuroptico-mylite (he included papillitis and retro-bulbar neuritis.)

Goulden made a survey of literature in 1914 with 51 case reports and added his own making 52.

In 1927 Beck again surveyed the literature on neuromyelitis optica on 70 cases. Several cases from time to time have been reported and about 200 cases have been reported so far.

Neuromyelitis optica may occur at any age but is common in persons between 30 and 50 years of age and more common in females than males. As to neuromyelitis optica no sex is exempt. As to precedents of symptoms in 50% of cases visual loss may be the first and in 50% cases neurological symptoms may be the first but in all cases visual loss always occurs.

Prognosis.—50% of cases are fatal. Onset is always sudden. Prodromal symptoms are not in any way marked except there may be mild antecedent illness—usually a sore throat, cold or flu or mild attack from influenza. The ætiology and pathogenesis are obscure and unknown but it is ascribed to a virus infection. Silbermann in 1945 suggested an allergic theory.

Conclusion.—Literature on neuromyelitis optica abounds in contradiction and no definite clinical findings have been reported. Goulden has found loss of vision the first symptom in 80% of cases while Beck only in 25% of cases. Goulden has stated that optic neuritis is commonly found and the retro-bulbar neuritis is rare, while Paton claimed that retro-bulbar neuritis was the characteristic lesion and papillitis rare. In this particular case bilateral retro-bulbar neuritis was the characteristic lesion. Sudden loss of vision and fatal within five days of the onset of the disease are the main features. In our Indian literature no such case has been described and I would request the readers of the ANTISEPTIC to be on the look out in such an emergency when such a case confronts them.

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Anti-convulsive action of Paraldehyde

De Elto and his coworkers tried paraldehyde by intravenous injection in the treatment of convulsive states produced in the course of neurosurgical operations and got very good results. Clinically paraldehyde has been used in many cases to stop operative or post-operative convulsions. The authors maintain that paraldehyde injected intravenously in doses of 0.05 to 0.1 cc. per kilogram of body weight is the best agent available to break up and stop a convulsive discharge. The dose may be repeated if necessary.—(*Jour. Neur. Neurosurg. and Psych.*, London, 12, pp. 19-25, Feb. 1949).

T.W.S.R.

A Case of Malaria Resembling Tetanus

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On 26-8-'49 at 2 p.m., I was called to see a boy, aged 8 years.

History.—The boy was otherwise normal upto 12 noon the same day except for a complaint of headache. At 12 o'clock he said that he was feeling unwell and went to bed. Gradually he became unconscious. He had three attacks of tetanus-like convulsions before my arrival.

Examination.—The boy was found propped up in bed avoiding light and was fully unconscious. Heart and lungs were normal. Pulse 80, temperature 98°F, spleen and liver not palpable. I waited to see the convulsion but none came for 15 minutes. A cold wash was given with a bucketful of water to the head. After two minutes there was a severe convulsion. The boy was arched back like a bow. The tongue was held between the teeth and it seemed that it will be bitten off. The boy screamed and with the help of the handle of a spoon the tongue could be pushed in. After a minute everything passed off and the boy again propped up. Two more attacks came in 5 and 7 minutes intervals. There was frothing at the time of attacks. Some quacks were present and they diagnosed it to be a case of tetanus and that the boy was doomed.

Diagnosis.—I diagnosed the case to be of cerebral malaria on the grounds that

- (a) No primary symptoms of tetanus were present.
- (b) Loss of consciousness which is not present in tetanus.
- (c) The boy had taken Paludrine tablets from out-door for malaria about a week back and that he was having attacks of malaria since last 2 months.

- Treatment.**—1. Solution Hexamine 40% 5 c.c. I.V. at 3 p.m.
 2. Solution Quin. Di-Hcl. gr. v. 1 c.c. I.M. at 3-30 p.m.
 3. Mist. Diaphoretic 3 p every 3 hours.
 4. Mist. Quin. Sulph. gr. iv; 3 p every 3 hours.

The Quinine mixture to be followed after an hour of the diaphoretic mixture. But the mixtures could not be administered due to partially unconsciousness of the patient and partially nervousness of the members of the family.

At 7 p.m. I was informed that the boy was still unconscious and that he had three more attacks. At 10 p.m. the attendants informed me that no attacks came after 7 p.m. and that the boy was slightly responding to call. I again went to see the patient at 11 p.m. and injected Quin. Di-Hcl. gr. iv 1 c.c. I.M. After about 2 minutes of the injection the boy cried for water. Warm milk with glucose was given. The boy was supported, made to sit and the glass given in

his hand. He gladly took it. He identified everybody including myself and then wanted rest.

Alkali and Quinine mixtures were continued for two days more. Then Tr. Chinchona 3 p in Chloroform water was substituted. Later,

R Syr. Easton 3p
Tr. Carminative M v
Tr. Card Co M v
Aqua Chlor ad 3p t.d.p.c.

was prescribed. The boy has been sent to a locality with better climate and since then he is keeping good health.

Effect of Sun-Light on Unstained Lepra Bacilli

A. T. ROY,

Medical Officer, Purulia Leper Home & Hospital, Purulia, B.N.R., Bihar.

Introduction.—A suggestion was made by a leprologist that there was possibility of progressive deterioration of lepra bacilli if kept unstained in sun-light. In fact, he found deterioration in a smear taken from an L_3 case when the smear was stained after 10 minutes' exposure to sun-light. This is the plea for taking up the experiment.

The results have been noted after staining the smears at different times and at different temperatures of sun-light.

Procedure.— L_1 , L_2 , L_3 , (Lepromatous-infectious) cases were selected. 12 skin smears were taken by the incision method from each case. 6 of these 12 smears were kept uncovered by the window of the laboratory exposed to sun-light (day-light) and other 6 were kept in the sun. Two centigrade thermometers were kept with the two batches to note the temperatures. The temperature was noted each time before a slide was removed for staining and this was done every 10 minutes.

Discussion.—From the result it will be found that there are some variations in the contents of bacilli in Nos. 9 and 12 in L_1 cases and Nos. 2, 3, 9, 10, 11 in L_2 cases might be due to difference in taking the smears or some other such causes. The smears 10, 11 in L_1 cases and 5, 6, 12 in L_2 cases will show that the question of time is not important for that variation.

The sun-light direct or indirect had little influence for the progressive deterioration of the bacilli when kept exposed in sun-light. It was difficult to detect the amount of deterioration if there was any. The deterioration would have been great in two hours if there was any deterioration in 10 minutes.

Conclusion.—Smears were taken from lepromatous cases and kept exposed in the day-light and sun-light for different lengths of time and stained and examined. No deterioration could be detected

though they were exposed upto two hours. Smears are not likely to be kept uncovered longer than a few minutes by the workers—so the point raised is not of much importance for the practical points of view.

In day-light						In sun-light					
Cases	Slide No.	Temperature	Time	Period of exposure	Result* in	Cases	Slide No.	Temperature	Time	Period of exposure	Result* in
L_1 Case	1	34°C	8:55	×	3		7	48°C	9:55	60 mins.	4-5
	2	"	9:5	10 mins.	4		8	47°C	10:5	70 "	4-5
	3	"	9:15	20 "	3		9	"	10:15	80 "	3
	4	34.5	9:25	30 "	4		10	48°C	10:25	90 "	4
	5	"	9:35	40 "	3		11	51°C	10:35	100 "	4
	6	34°C	9:45	50 "	4-5		12	"	10:45	110 "	3-3
L_2 Case	1	32.5	8:25	—	5		7	34°C-47°C	9:25	60 mins.	5-6
	2	31	8:35	10 mins.	5-4		8	34°C-47-48	9:35	70 "	5-6
	3	32.5	8:45	20 "	5-4		9	34°C-47°C	9:45	80 "	5-4
	4	"	8:55	30 "	5-6		10	34°C-48°C	9:55	90 "	4
	5	"	9:5	40 "	5-6		11	34°C-50°C	10:5	100 "	4-3
	6	"	9:15	50 "	5		12	34°C-51°C	10:15	110 "	5-4
L_3 Case	1	32.5	9:45	×	6		1	51°C	10:45	60 mins.	6
	2	"	9:55	10 mins.	6		2	49°C	10:55	70 "	6
	3	"	10:5	20 "	6		3	49°C	11:5	80 "	6
	4	"	10:15	30 "	6		4	"	11:15	90 "	6
	5	"	10:25	40 "	6		5	"	11:25	100 "	6½
	6	"	10:35	50 "	6		6	51°C	11:35	110 "	6

* Results—Degree of positiveness (+6, +5 etc.) of a smear has been given according to Cochrane's Practical Text-Book of Leprosy, page 70.

A Case of Tuberculosis of Lungs and Abdomen

RAJMAL NANDECHA, L.M.P. (C.P.),
Physician and Surgeon, Indore City.

I WAS called in to see a patient named Ghanshyamlal, aged 25 years, Brahmin, a student, on 2-6-'49. His complaints were:—(a) Fever irregular since 2 months; (b) cough with expectoration—1 month; (c) gurgling noises in abdomen, frequently associated with pain near umbilicus—1 month; (d) loss of appetite—2 months; and (e) loss of weight—2 months.

On physical examination:—Pale and anæmic, icteroid tinge in eyes, tongue smooth and clean, no palpable glands in neck, temperature 102°F in mouth, pulse 120 p.m., resp. 25 p.m.

Chest examination:—On examination it was noticed that there was wasting and diminution of movement, on right side more marked than on left side. Palpitation—increased tactile fremitus on right. Percussion—slight dullness. Auscultation—rales heard

all over chest. Abdomen—tenderness in umbilical region and also in right iliac region. Spleen palpable. Liver could not be palpated.

Family history :—Only son of his father. Father living in good health, wife and two children quite healthy. No history suggestive of any contact with consumptive.

Personal history :—Patient is a young man of 25 years. Not addicted to any drink or smoke. Past history:—Nothing particular. Skiagram chest :—Report showed heavy infiltration right upper and left middle zone and infiltration right lower zone. Sputum examination :—Revealed presence of Koch's bacilli.

TREATMENT :—(a) Absolute rest in bed; (b) Temperature record ; 8, 12, 4 and 8 p.m.; (c) Diet—Guided by appetite and digestion. (d) Medicines—(i) Wyamine 1. (ii) Celin 1. (iii) Calcinol granules 1 tea-spoonful—t.d.s. p.c. (4) Paludrine 1 BD for 10 days only. (e) Dihydrostreptomycin 0.5 g BD. I.M. was started daily for 10 days when his temperature was normal and began to show improvement in appetite and then 0.5 g once a day I.M. for 21 grms.

After 21 grms. of Streptomycin his condition showed marked improvement and hence the same medicines plus Dihydrostreptomycin 0.5 g was again started only once a day and thus completing 21 grms. His skiagram was taken. The report of skiagram was on 30-8-'49. Infiltration right upper and left middle zone. Both hila plus third course of Streptomycin was again started in the same manner and on 26-10-'49 skiagram shows improvement as compared to previous skiagrams.

After the third course of Dihydrostreptomycin it was decided to give him P.A.S. (Dumex) in the following doses—10 gms. 4 times a day for 5 days and then 8 gms. 4 times a day for 2 months.

P.A.S. did not agree in the beginning, the patient started getting loss of appetite and frequent passing of loose motions with slight pain in abdomen. On this the doses were reduced and then when he began to show signs of agreement, the doses were gradually increased to 8 gms. 4 times a day.

He was also given Nutritone 10 c.c. one ampoule by mouth daily.

He is now quite alright. Looks altogether a different man in health. Skiagram on 12-1-'50 shows fibrotic changes.

He is still continuing the treatment and is advised to report after 2 months.

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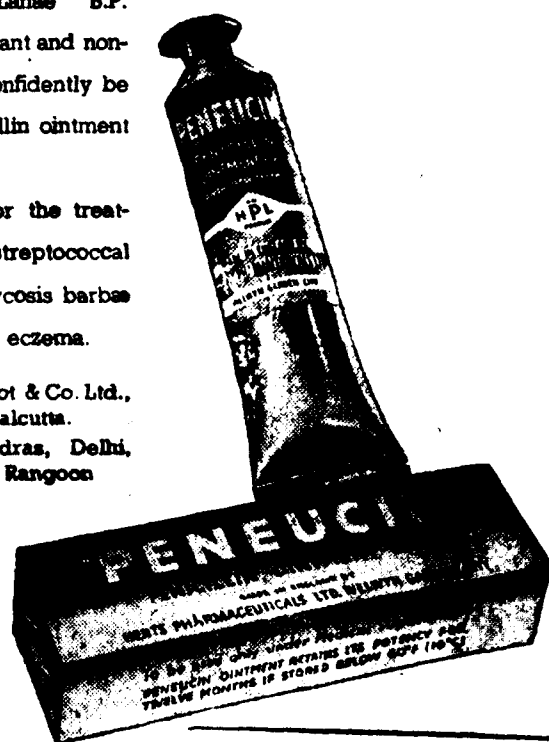
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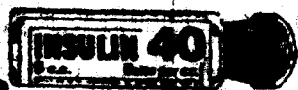
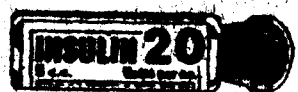
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Post-Graduate Medical Council

WITH the Hon'ble RAJKUMARI AMRIT KAUR, at the helm of the Public Health Department in the Government of India, the wheels of the department are moving quick without being clogged, and the recommendation of the Up-Grading Committee to establish an All-India Council of Post-graduate Medical Education, has been accepted with the minimum delay possible and acted upon. The Council was inaugurated at Madras on January 9, by the Hon'ble the Minister herself. "We must provide in India," she said, "the same type and high standard of training facilities as are obtainable in the West.....It is highly important that we should be in a position to give such training in our own land, with our own background and with a knowledge of our own particular needs." Due to the absence of such facilities at the present moment, only a handful are able to go abroad, either as government scholars or on their own, to receive advanced courses of training, and many who have the aptitude and the qualifications have to rest content practising the profession with the knowledge they have acquired by study, personal experience and the limited scope they have to advance it, to the serious detriment of the interests of the country. But for the alien rule with the monopolistic outlook, the position would have been entirely different and many Indian doctors would have contributed considerably to the sum total of knowledge on diseases and their treatment. Let us hope, with the inauguration of this Council and the up-grading of medical colleges for advanced study and research, a new era will dawn in the medical field, as in the political sphere, and that it will not be long before people from other countries flock to India for advanced courses of study in particular branches of the science.

Dr. JHIRAD has, as President of the Obstetric and Gynaecological Congress, drawn attention to the fact that the coaching and training given to the undergraduates is not all that it should be, if they are to be equipped for the onerous responsibilities that devolve upon them when they come out of the colleges, and that they should be better equipped for the great task that lies ahead of them. The Hon'ble the Minister, also is of the same view and were it not for the persistence with which she was putting it forward on every possible occasion, it is very doubtful if some of the Provincial Governments would have desisted from rushing through with their unfortunate trends to reduce the period of training for under-graduates and to diminish the facilities that should be available for effective training. In her speech inaugurating this Council, she has gone one better and said: "All progress in the field of medicine, whether it be in the realm of theory or of practice, is dependent on the production of a growing body of medical scientists of the proper type. Adequate integration of under-graduate and post-graduate education and a raising of the standard of training at both stages are what the country needs to day." The profession as a whole is at one with her in this respect, and we trust that this forthright declaration of hers will curb the unfortunate tendency noticeable in some quarters to lower standards and revive the caste system.

There is organic unity between under-graduate and post-graduate medical education. Only when the ground has been well prepared during the under-graduate course, can the candidate be able to benefit by the post-graduate course. That is why in the United States, as Dr. Sir A. LAKSHMANASWAMY MUDALIAR observed in his welcome speech, exacting standards are fixed for the selection of hospitals for under-graduate and post-graduate training. The hospitals there are graded according to one of the three ratings: Fully approved—the hospital having met all the requirements is carrying them out in an acceptable manner; (2) Provisionally approved—the hospital having accepted the requirements is endeavouring to put them into effect, but for lack of time or other acceptable reasons has not been able to do so in every detail; and (3) Not approved—the hospital has not met the requirements in an acceptable manner. But even hospitals once rated are not allowed to continue as such for all time. Each hospital is considered for rating annually. All hospitals automatically come off the approved list on December 1 of each year, and are immediately reconsidered for new rating. In such reconsideration, some hospitals may be up-graded, some may be allowed to stand in the same rating and some may be removed altogether from the list. The very fact that some of the finest hospitals in the United States are approved for graduate training only in certain branches of the science although there are many other branches of work which are carried on there by distinguished medical men in their specialities, is

proof positive of the great care that is bestowed in the selection of hospitals.

It will be within the recollection of the readers that in regard to the question of raising the standard of medical practice in the country, the Bhore Committee suggested three main lines of approach: First, the provision of facilities for post-graduate training for short periods for the large majority of the profession who are general practitioners, whether they be in public service or not; secondly, provision for some degree of specialisation lasting about 12 to 18 months in all the major fields such as ophthalmology, obstetrics and gynaecology, dermatology, oto-rhino-laryngology, pediatrics, tuberculosis, malariology, psychiatry, etc.; and, thirdly, the establishment of training facilities of an advanced character, which would involve at least four or five years of work in the specific subjects in which the candidates desire to attain adequate proficiency. It is only from the third category of workers that recruitment should be made for professional appointments in medical colleges, for research institutions and for the more responsible posts in the specialised fields of State health administration.

It follows that it is of the utmost importance that the Post-graduate Council should be in a position to consider, as Dr. LAKSHMANASWAMY MUDALIAR pointed out: (1) The minimum requirements for efficient training for the several post-graduate qualifications that have been or are likely to be instituted in the different universities; (2) The conditions under which hospitals and teaching institutions can be recognised as centres for post-graduate training in one or more of the different specialities; (3) Such conditions should include a survey of the qualifications and experience of the teachers that are considered responsible for post-graduate training; and (4) The maximum number of trainees that can be trained in any particular institution in the speciality concerned. The profession as a whole is anxious that post-graduate training should be of such a high order as to receive the approbation and encomium of the whole world, that All-India Associations of different branches of medical science would be willing to give the proper lead in the matter, and if the fundamentals are decided upon in consultation with them and with their advice, there would be no room for complaint either that the standards fixed are unnecessarily high, or that brilliant students would be handicapped because of the limitations imposed in the number of those who can be admitted for effective training.

The emphasis to-day need not be, as Dr. Sir A. L. MUDALIAR observed, on the examination but should be on the manner in which the education is imparted. The first and basic thing that has therefore to be considered is not the holding of the examination and the severity of the test to be applied, but the manner in which these post-graduates are trained in a fairly consecutive period so that the

training itself will be such that one need not worry about the examinations. After all, examinations are but a poor test and a very inadequate test at that has become an accepted fact in many countries and it has been emphasised by our University Commission also. We hope with the Hon'ble RAJKUMARI AMRIT KAUR that while the Council envisages its programme of action on the broadest possible basis, prescribes adequate standards and takes steps to have those standards rigorously enforced, it will extend its scope further and give positive help to governments and educational institutions in the development of post-graduate education on sound lines. We also appeal to the Hon'ble the Minister and to the Government of India to bring into existence the All-India Medical Institute at an early date. Financial stringency there is, but where there is a will there will be a way.

A Proud Record

So many are
The sufferings which no human aid can reach.
It needs must be a duty doubly sweet
To heal the few we can.

—COLBRIDGE.

It is given but to a few to dedicate themselves to the service of ailing humanity. And Dr. Ida Scudder's record of service is a remarkable achievement of which she herself, the whole nation and all those who have helped her to carry on the noble service of healing may well be proud of. The Scudder family has placed our country under a deep debt of gratitude for the great service it has rendered for a period extending over a century, ministering to the sick and the ailing. Dr. Ida Scudder's grandfather, Dr. JOHN SCUDDER, the First, was the first medical missionary to leave the United States and to labour in South India. Several of Dr. Ida's uncles and her own father, Dr. JOHN SCUDDER II, were medical missionaries in South India. But it was given to Dr. Ida Scudder to outbeat the records of her forebears and make her name remain green as long as India lives.

The circumstances which led her to dedicate herself to the cause of alleviating the suffering of the sick and of the ailing are remarkable and worth quoting: "I had had no idea of studying medicine when I was young, but on a visit to India, I was, during one night, asked to go to three young women in labour. All three died, as I was unable to help them—at that time, I caught a great vision of India's medical need, and a great desire was born in my heart to prepare myself for this need—a vision that has grown during the past 50 years and grows greater as the days pass—a vision of a great medical centre where men and women can be trained for the highest and best as doctors, nurses, technicians and

specialists." That noble vision is nearing fulfilment and its completion depends upon the hearty and willing cooperation and help extended to the institution which she has founded and which she has nursed all these years with more than maternal care.

A short history of her achievement is worth recording. She arrived in Vellore 50 years ago, to be precise, on January 1, 1900. It was a very small beginning that she then made. The house in which she then lived was a small room on the ground floor with two beds. From that small beginning it has multiplied in course of time two-hundred-fold. First to four beds in a thatched house, then to 40 in Mary Taber Schell Hospital, then sixty, and so on and so forth, now to 484 beds for patients, with provision for 195 medical, 150 nursing and 6 dispensing students with a staff of 70 doctors, 85 nurses, 3 pharmacists and 5 compounders and technicians, a branch hospital at Gudiyatham, a rural unit at Kavanur and wayside clinics extending to a radius of 25 miles to Odugathur on the South-West and Chittoor on the North-East. A monumental record of achievement indeed. No wonder His Excellency the Governor of Madras, the MAHARAJA of BHAVNAGAR, presiding on the occasion of the Golden Jubilee of Dr. Ida Scudder's medical activities the other day at Vellore, said that "in permitting me to pay my tribute, however inadequate it may be, to her and to her work, you have accorded me such an honour as I have seldom received before." By thus honouring her, India has honoured herself.

It is but natural that the occasion should have been availed of by His Excellency to pay his tribute to the foreign Christian missions for the services they have rendered to India in the fields of education and medical service. Time there was when their services were either lost sight of or looked upon with suspicion on the ground that they were not only foreigners but also Westerners. Such a prejudice even blinded them to the truth that some of the earliest Christian communities in the world existed in India long before the spread of the religion in the West. "It is," as His Excellency observed, "one of the highest tributes to the work done by these missions that they were able not only to conquer this initial prejudice, but to win the affections of the people and the regard of its leaders, and that too long before August 1947 and the dawn of freedom in this country." These prejudices are now things of the past and when one looks at the country with its vast social problems, its great educational and medical needs, one cannot but be extremely grateful for all the spade work, for all the unremitting labour, often unrecognised and unrewarded, that they have done during these years.

Sir SAMUEL RANGANATHAN speaking on the occasion mentioned the special features of the institution which Dr. IDA SCUDDER has founded and the lines of future development that have been planned.

Among the latter are included the establishment at an early date of a leprosy sanatorium near Vellore for research and detailed study of the disease, hospitals for mental cases and infectious diseases and the provision of facilities for advanced research. All these, in addition to the present urgent requirements of the Christian Medical College and Hospital in the way of laboratories, equipment and accommodation for staff and students, involve naturally a huge expenditure. It is estimated that the capital expenditure according to the present plans, calls for thirty lakhs of rupees in a five-year programme and sixty lakhs of rupees in a ten year programme. Besides, the annual expenditure on the college and hospital comes to about 11 lakhs of rupees, of which only 4 lakhs of rupees are contributed by Mission Boards abroad. There is thus a deficit there as well. Sir SAMUEL RANGANATHAN is perfectly right in pointing out that it should be considered a national and patriotic duty by every well-to-do citizen to support generously this enterprise and that the Governments, both Central and Provincial, should come forward to help this institution with liberal grants-in-aid. That would be the most appropriate way of recognising the valuable services Dr. IDA SCUDDER has rendered to the country. We hope and trust that the appeal will not fall on deaf ears and that before long donations and grants will be forthcoming in an abundant measure to enable Dr. IDA SCUDDER to see the fruition of the plans she has so well and truly laid. To Dr. IDA SCUDDER, than whom there is no one to whom so many have owed so much, we offer our most hearty and sincere congratulations on this most happy occasion and pray that she may be spared many more years to come for the service of our great Motherland.

Mepacrine Dermatitis

Peterkin and Hair observed an eruption of the skin amongst soldiers in N. Africa in 1943, and later in Italy. They and several American Dermatologists considered it to be due to mepacrine. Pruritus was severe in most patients but constitutional symptoms were absent. An acute onset, with generalized erythema was followed by chronic lesions. Patchy alopecia was found to occur in some cases. Lesions resembling lichen planus leucoplakia, or syphilitic mucous patches, appeared on the tongue and mucous membranes of the mouth. Diseases which may resemble mepacrine dermatitis are lupus erythematosus, psoriasis, pityriasis rosea, and seborrhoeic eczema.

It is now agreed (after a detailed and coordinated study of this condition observed in different parts of the world) that the ingestion of 0.1 g or more daily of mepacrine for several months was the cause of the condition.

Inder Singh has recently described in the *Br. Jour. of Dermatology and Syphilis* (Vol. 60, 1948) the occurrence of dermatitis (mepacrine) in Indian labourers and says that the accumulation of mepacrine in the skin depends on the dose and rates of absorption and excretion. Singh found that this dermatitis is more common during the hotter and more humid months of the year. The treatment of the condition is to hasten elimination of the drug by a large fluid intake and the administration of acid salts. (Editorial Annotation, *Br. Med. Journal* for 30.7.1949). T.N.S.B.

SURGERY

Penicillin treatment of acute osteomyelitis.—(*Nord. Med.*, Stockholm, 41, pp. 2-6, 7.1.49, Eng. abst.).

Dr. Lind says that the results of penicillin treatment in acute osteomyelitis depend not so much on the dosage (provided it is over 100,000 units daily) but on the duration of its application. It should be administered for 2 to 3 weeks (preferably for a week after temperature comes to normal) so that the total dosage is at least 1,000,000 units. Surgical intervention can usually be avoided or limited to incision of larger abscesses only. Local treatment with penicillin has no certain beneficial effect. Intracosseous injection of penicillin into the focus has many advantages and no ill-effects. Sulpha drugs administered simultaneously with penicillin are without demonstrable value, but have still a place in the regimen of treatment to deal with penicillin resistant organisms and to enhance the effect of penicillin. Immobilization is to be enforced till subjective symptoms have disappeared. The above observations are based on the successful results obtained by Dr. Lind in 16 cases of acute osteomyelitis in femur, tibia, and humerus treated with penicillin. Recovery was observed for up to 25 months in 11 cases. T.N.S.B.

Small daily doses (1 to 2 mg. of diethylstilbestrol) of estrogens will no doubt temporarily relieve annoying vesical symptoms and produce a mild shrinkage of the prostatic adenoma. These improvements will cease when the drug has been discontinued. Hormones are not known that will permanently reduce the size of a benign enlargement of the prostate. The greatest usefulness of the estrogens now seems to be in advanced prostatic carcinoma. A normal male should not take testosterone. T.N.S.B.

Blood transfusion syphilis.

According to Arzt, the percentage of transmission of syphilis by blood transfusion is not known, but 1 infection per 4,000 cases may be admissible for certain countries in certain times. The process of infection with *Treponema Pallidum* by transfusion differs from that by cutaneous route in that there is no filtration through the lymph nodes and in that the infective material is much more massive, considering the transfusion of 300 to 500 cc. of blood. The most dangerous donors are persons in the first incubation period, in the absence of any clinical symptoms and serologic proof. The right selection of the donor is the essential point in the problem of prevention of syphilis by blood transfusion. Persons with serologically latent syphilis should be rejected. Professional blood donors should be preferred to occasional donors among relatives of the patient. Professional donors are examined first on registration and have to undergo regular control examinations by a venereologist. Immediately preceding the transfusion a renewed clinical, and if possible serologic, examination, at least with a rapid reaction, should be made. Donors with serologically negative reactions who present symptoms from which syphilis may be expected and particularly donors with negative reactions with manifestations of any kind at the genitals should be rejected. The risk of transmission of syphilis may be reduced by the use of blood or serum treated with sodium

Hormones in benign prostatic hypertrophy.—(*J.A.M.A.*, 9-7-1949, p. 930).

The hormone treatment of benign prostatic hypertrophy is based on the ascertained relationship between the prostate and endocrine glands in animals. This same relationship probably also exists in humans, but many of its details remain unsolved. For this reason many conflicting observations have crept into medical literature regarding hormonal treatment of benign prostatic enlargement. The substances most frequently recommended are estrogen, testosterone, and inhibin. Conflicting results of treatment have been recorded, some favourable and some unfavourable.

citrate and preserved by refrigeration, instead of fresh blood; the donor of the blood which is to be preserved should be subjected to a Wassermann test.—*J.A.M.A.*, Aug. 6th.

Curling's ulcer.—According to Braithwaite and Beales ulceration of the duodenum following burns was first described by Curling in 1842. Harkins, in an extensive review of this condition in 1938, suggested that its incidence in severe burns was about 3.8 per cent, but the authors state that the incidence now is much lower. They ascribe this to modern methods of eliminating or reducing to a minimum bacterial infection of the burned areas. As early as 1894 it had been suggested that acute duodenal ulceration is associated with septic conditions as frequently as it is with burns and that the mechanism of production is the same in both cases. The authors report the histories of 2 patients with Curling's ulcer. They stress that Curling's ulcer is one of the late complications of burns. The lesion is found most commonly at the stage when the sloughs in third degree burns are separating; this is when tissue autolysis, exudation and infection are likely to be severest. The first of the patients cited had an extensive burn, covering approximately 65 per cent of his body. The ulcer was clinically evident eleven days after the injury. His treatment was adequate, but the extent of the burn was massive and infection with its resulting toxemia was inevitable. Forty per cent of his burn was third degree, with inevitable sloughs. The second patient shows that minimal sepsis may reactivate a dormant ulcer. In eight years, during which approximately 1,500 burns had been treated, only 3 examples of 3 Curling's ulcer had been seen. This gives an incidence of 0.2 per cent. Some investigators have expressed the opinion that sepsis is the main feature in the production of Curling's ulcer. Penicillin is the most prominent recent factor in the control of sepsis. The introduction of penicillin has done much to diminish the incidence of Curling's ulcer. With modern treatment of burns aimed at prevention and control of infection and early skin grafting, this lesion will be

encountered rarely, and then only in very extensive burns when the ideals of treatment are impossible to fulfil.—*J.A.M.A.*, Aug. 6th.

The treatment of enuresis.—A marvellously versatile prodigality has been shown in the treatment of enuresis, and such widely different measures as operative treatment, medicinal treatment, hypnosis and psychotherapy have been recommended. Dr. H. Hove, of Denmark, has asked himself if good results may not be achieved by a quite simple system of education. He has undertaken a follow-up investigation of all the 61 cases of enuresis treated in the Medical Department of the Bornholm County Hospital in the 12-year period 1936-1947. The ages of the patients at the time of treatment in hospital ranged from 3 to 22 years, the average age being between 9 and 10 years. There were 39 males to 22 females.

The treatment, exclusively educational, was confided to one and the same nurse, who had a happy knack of dealing with children, and appreciated their need for encouragement and praise. They were given nothing to drink after 6 p.m., and during the first few days in hospital were taken out of bed at 11 p.m. and 2 a.m. When some improvement had been effected the patient was awakened only once at night (mid-night). Later the patients were taught to respond to an alarm. In obstinate cases a little salt food was given in the evening. The average duration of hospital treatment was 25 days, and on discharge the patients were urged to continue the same treatment at home.

Improvement was achieved in practically every case before discharge from hospital, and 38 patients did not wet their beds once while in hospital. There were also 15 who wetted their beds only during the first few nights in hospital. The patients were classified according as they were (1) mentally defective—5 cases; or (2) the subjects of primary enuresis, i.e. persistence of the physiological incontinence of infancy—36 cases; or (3) the subjects of secondary enuresis, i.e. enuresis developing some time after cessation of the physiological

incontinence of infancy—19 cases. (The 61st patient had died before this follow-up investigation was undertaken.) No improvement after discharge from hospital had to be recorded in 13 cases, 3 of which belonged to the first group, 7 to the second, and 3 to the third. From 1-12 years after discharge from hospital 77 per cent. could be regarded as cured, and the recovery-rate rose with the length of time after discharge from hospital.

Practically all these patients had been given medicinal treatment, chiefly before admission to hospital. In no case could the exhibition of some drug be connected with the patient's recovery. Ten of the patients were also treated for adenoids, 12 for threadworms, and 24 for anaemia with iron. There was no clinically demonstrable spina bifida in any case. A young man stated that a couple of years after discharge from hospital his enuresis ceased when he gave up smoking for a time. In another case recovery was associated with a move to California, and in yet another with a severe attack of measles. The recovery-rate was highest during puberty. Hove concludes: "The results are quite up to the level of those achieved by more active and medicinal treatment. These investigations may perhaps be a brake on too violent medicinal treatment of these unhappy neurotic sufferers from enuresis."—*Clinical Journal*, May-June, '49.

The principles underlying the management of renal calculi.—(Vincent Vermooten, M.D., Dallas, condensed from the *Journal of the Oklahoma State Medical Association*).

The management of renal calculi depends on various factors. In order to prevent too extensive surgery, urologists have been more and more interested in the etiology and behaviour of renal calculi.

Randall first drew attention to the fact that a small calcium plaque on the renal papilla may act as the nidus for the formation of a renal calculus. It is formed from the deposition of the calcium in the collagen fibers surrounding the subepithelial blood vessels or tubules

of the renal papillae. These "micro-liths" may be extruded into the renal pelvis and in time become renal calculi. The type of calculi which are formed presumably depends on diet and metabolic disturbances.

There is no one etiologic factor for the formation of a renal calculus, but some of the factors are urinary tract infection, obstruction, dehydration, patients who remain in bed for long periods of time, and urinary stasis. If it is also taken into consideration the extra burden that is placed on our eliminative process by the habit we have all acquired of taking overdoses of citrus fruits and juices to form a good alkaline ash diet and superimpose on this an excessive amount of calcium by drinking "a quart of milk a day" one can realize why calcium phosphates or carbonate stones are easily formed. Other health habits such as heliotherapy, which like Vitamin D mobilizes calcium, are also conducive to calculus formation, especially if a Vitamin A deficiency is present.

In studying a patient with nephrolithiasis, apart from routine information, we want to know about his health habits, details of food habits not excluding his fluid intake, and we need repeated urine examinations. Repeated routine pH determinations of every specimen of urine voided are necessary. Uric acid, calcium urate, cystine and xanthine calculi develop in an acid urine. Calcium or ammonium carbonate or phosphate calculi form most commonly in an alkaline urine while calcium oxalate stones are generally found in neutral urine. The reaction of the urine may therefore give us some clue as to the nature of the calculus.

An estimation of the blood calcium and phosphorus will help to rule out any gross abnormality of calcium metabolism. X-ray may be diagnostic. An alkaline earth stone is usually laid down in concentric layers; an oxalate stone shows branching crystals, while uric acid or cystine stone is either translucent or homogeneous. Further information regarding the relative function of the two kidneys can be obtained on cystoscopic examination. The existence and amount of stasis can be obtained only

on ureteral catheterization and retrograde pyelography.

If the etiologic factor is not one that can be corrected surgically then we should attempt to control the growth of the calculus before subjecting the patient to operation. But if, with the regulation of diet and fluid balance and the use of various drugs, we are unable to prevent a calculus from growing, and there is no mechanical or other etiologic factor present which can be corrected at operation, we must weigh our decision whether to remove the calculus or the stone bearing portion of the kidney or the entire kidney against leaving well enough alone.

Renal calculi should not be removed merely because they are present. They should be removed because they cause pain or hematuria, or are responsible for some other form of disability. They

should be removed if they are considered to be the chief factor in maintaining renal infection.

Except in an emergency, a cystine calculus should not be removed unless we are able to change the patient's cystine metabolism. The formation of cystine calculi may be controlled by intense alkalization of the urine; uric acid stones by the control of the purines in the diet. We can do little to control the growth of calcium oxalate.

The alkaline earth stones are more amenable to treatment when not due to the presence of a urea splitting organism, in which case they are very difficult to handle and are almost certain to recur. In the absence of a urea splitting organism such as either *A. aerogenes*, *Pseudomonas* or *B. proteus* it is worth while to try to acidify the urine. —*Digest of Treatment*, Nov. '49.

OBSTETRICS AND GYNÆCOLOGY

Diphtheritic vaginitis.—J. G. Thurston in *B. M. J.*, 1949, 1, 272, reports the case of a married woman, aged 33, referred to the gynecological out-patients' department because of increasing leucorrhœa. This had been present in a minor degree for about a year, but during the past month had become profuse and offensive. Stovarsol pessaries, prescribed by her doctor, had had little if any effect. She had had one pregnancy 3 years previously, terminated after a long labour by incision of the cervix and a forceps delivery. Menstruation was regular. Her general health was excellent, and she had had no serious illnesses in the past. No history of contact with a diphtheritic case could be obtained.

There was a profuse watery dirty-coloured discharge, with the odour in the breath of patients suffering from faucial diphtheria. After cleansing the vagina by dry swabbing, the cervix was seen to be covered by large superficial discrete ulcers, the surface consisting of a greyish exudate, which was adherent, and could be removed only in small portions by very firm swabbing, leaving a raw bleeding area. The whole vagina

was reddened and inflamed, and the upper two-thirds contained numerous pin-head ulcers. Examination did not cause undue discomfort. Specimens of the discharge sent for laboratory investigation revealed a pathogenic strain of the diphtheria bacillus.

She was transferred to the isolation hospital, where she was given a single intramuscular dose of 40,000 units of antidiphtheritic serum, and penicillin 100,000 units twice daily for 3 days. This treatment caused an almost immediate improvement of the vaginitis, discharge being absent after one week. Three further specimens from the vagina, at weekly intervals, gave negative results for the diphtheria bacillus. The vagina and cervix one month after she was first seen showed a normal mucous membrane with no sign of the previous ulceration.

Diphtheritic infection of the vagina is rare, but if it occurs it presents a clinical picture which is so typical that it can cause no difficulties in diagnosis, providing its possibility is borne in mind.—*Clinical Journal*, May-June, 1949.

Relief of dysmenorrhea.—Cluny Macpherson (*Canadian Medical Association Journal*, 60:54, January 1949) reports the use of adrenalin and recently anti-histaminic drugs in the treatment of cases of severe dysmenorrhea in which the symptoms suggested an allergic condition. The author's attention was first called to this subject by a paper read in 1931 at a local clinical society which stated that in cases of dysmenorrhea due to "pelvic allergy," the conditions in the pelvis closely resembled those in the chest in asthma. At that time he was treating a girl thirteen years of age for severe dysmenorrhea at every menstrual period, who often required as much as $1\frac{1}{2}$ grain of morphine and 150 grain atropine to relieve the pain. After hearing the paper on pelvic allergy, the author gave the patient an injection of 1 c.c. of adrenalin chloride 1:1,000 at the time of her next menstrual period in which the dysmenorrhea was as severe as usual. The pain was relieved within ten minutes and did not return; her menses were painless for six months, when the administration of adrenalin was again effective; pain did not recur for another nine months. Since that time, the author has treated all cases of very severe dysmenorrhea with adrenalin with uniformly good results. Since the introduction of the anti-histaminic drugs, he has employed benadryl given by mouth in less severe cases of dysmenorrhea, with equally good results. His practice now is to give an injection of 1 c.c. adrenalin chloride when called to a severe case of dysmenorrhea. Then the patient is directed to take a capsule (50 mgm.) of benadryl three times a day on the day before her expected menstrual period if her cycle is regular, or if the cycle is less regular, the same dosage (three capsules daily) is to be taken "the moment she knows menstruation is approaching." The author is of the opinion that this treatment for dysmenorrhea should be more widely tried and the results checked in a larger series of cases.—*Medical Times*, Sept. '49.

Management of breech presentation.—J. P. Redgwick, M.D.

To manage a breech presentation properly it must first be diagnosed. An

accurate clinical diagnosis of foetal polarity in the obstetric patient in labour is most important. Because of obesity, voluntary resistance and uterine tone, the abdominal findings by palpation of foetal polarity, small parts and position of foetal heart tones are often inconclusive. Roentgenograms are not always available.

Lewis E. Savel, at Margaret Hague Hospital, has described an aid to ordinary palpation methods. He describes feeling a buckling sensation on rectal examination, as though compressing a derby hat, when a vertex is present. This, he states, often can be elicited through an uneffaced cervix if the presenting pole is steadied over the inlet by pressure on the fundus from above. This is valuable at times in ruling out a breech when ordinary signs fail, radio-grams are not available, and a vaginal examination is not desirable.

As we know, the infant mortality rate in breech presentations is three to six times higher than in vertex presentations. According to statistics of Drs. Beck, Standers, Cosgrove, Williams, Curtis and DeLee, the foetal mortality rate averages about 14.1 per cent. The maternal mortality rate is not significantly higher than in vertex presentations.

In breaking down these statistics, however, it is not breech presentations *per se* that account for the higher percentage of foetal mortality, but rather the concurrent existing pathology and complications. There is a far greater incidence of prematurity, prolapsed cord, placenta praevia, tumours, and foetal abnormalities in breech than in vertex presentations. The aetiology of breech presentations as listed in the eighth edition of DeLee and Greenhill are: (1) low implantation of the placenta; (2) contracted pelvis; (3) tumours; (4) arcuation or other abnormalities of the uterus; (5) polyhydramnios; (6) multiparity; (7) foetal abnormalities; and (8) prematurity.

All of these aetiological factors explain the increased foetal mortality rate, but also point to conservative management of breech presentations.

In many cases the breech position can be rotated by external version to vertex presentation in the last trimester. This is an office procedure and can be done without anaesthesia. The bladder and lower bowel should be emptied and the abdomen well powdered. Dieckmann suggests the Trendelenburg position. Rectal pressure is applied on the breech to free it if it is fixed at the inlet. Pressure is then exerted on the breech on the side of the soft parts to increase flexion, and at the same time on the head to force it down into the inlet. Following this procedure the patient is allowed to rest twenty minutes in the office. Various binders have been used in an effort to prevent a reconversion to the breech position, but without much success. Unfortunately, this frequently happens. After the thirty-second week of gestation weekly external versions can be attempted. If the vertex engages, this, of course, is unnecessary, as it remains fixed. After 35 weeks patients in early labour or with membranes ruptured should be radiographed and a careful evaluation made of the size of the foetus, reproductive history, age, parity and type of pelvis.

Dieckmann states that delivery should be accomplished by elective section if there is a contracted or borderline pelvis with a large baby or if, due to age or some other reason, the mother cannot have another child. Guyer and Heaten at Bellevue Hospital state that by careful pelvimetry the foetal mortality rate from breech can be lowered, and if a cephalo-pelvic disproportion exists an early elective section should be done. Eastman, at John Hopkins Hospital, feels that premature rupture of the membranes in an elderly primipara with breech presentation is an indication for a section. Statistics at Johns Hopkins shows the foetal mortality rate in breeches with early rupture of the membranes to be doubled over those cases that dilate to ten centimeters before they rupture. The cause of death is almost always prolapsed cord with floating breech. Very few sections are indicated in breeches, however. It would be senseless to open a uterus to extract a three to five pound premature foetus.

Eastman also feels that the use of forceps on the aftercoming head has cut the foetal mortality rate in half. Other men feel that after a deep episiotomy and with the help of a good assistant, pressure exerted over the symphysis to keep the head flexed will facilitate extraction of the head without the aid of forceps. There is no question but that the assistance rendered by the hand on the abdomen to the aftercoming head is of great aid in extracting the baby from below.

Seventy-five per cent. of breech presentations are frank breeches, in which the legs are extended over the foetal body, splinting the vertebral column, thus preventing flexion and slowing the progress of labour. Because of the slower delivery, analgesic drugs should be used with caution, unless the labour is normal with contractions every two to three minutes lasting 40 to 60 seconds. Most of the frank breeches deliver without decomposing. We have all, I am sure, delivered frank breeches with the legs extended to the chin of the foetus, followed by good results both for the foetus and the mother.

The usual guides for decomposing and extracting a breech are:

1. If breech does not engage with nine to ten centimeters of dilatation, and contractions have continued for two hours with no further dilation, a Duhrssen operation can be done and extraction carried out.

2. Prolapsed cord, if dilatation is complete.

3. Frank breech, where soft parts have become oedematous and gangrenous and pressure in groins will not deliver, extraction may be a life saver.

Deep anaesthesia should be used in decomposing and extracting a breech. Drop ether is preferable. A deep episiotomy should be done. On entering the uterus an effort should be made to flex the knee of the anterior leg of the foetus and bring it down to the introitus. The back rotates voluntarily, thus making it easier to flex the posterior leg and bring it down. Extraction can then be accomplished, bringing the shoulders down to the pubis. If the arms are

extended over the head they can be flexed over the face and body and brought down. At times this can be facilitated by rotating the body clockwise freeing one arm, and then counter-clockwise to free the other arm.

Delivery of the head is aided by (1) Piper forceps; (2) assistant's pressure over symphysis to keep it flexed, (3) Wigand manoeuvre, which means

supporting the baby's body with the operator's forearm, placing a finger in the baby's mouth to maintain flexion of the head, then using the other hand on the abdomen to force the head through. Personally, I like the Piper forceps. The aftercoming head is not moulded by labour, as would be a vertex, and therefore is harder to deliver.—*General Practitioner*, Nov. 15, 1949.

EYE, EAR, NOSE & THROAT

Diagnosis and treatment of ocular allergy.—(*American Journal of Ophthalmology*, Vol. 32, No. 11; 1949, pp. 1457-1478).

Allen C. Woods, M.D., describes the allergic reaction in the eye under two broad heads: (1) Anaphylactic and Pollen type and (2) Bacterial type.

The clinical allergic reactions are classified as external and internal, former consisting of: (1) Conjunctiva; (2) Blepharo conjunctivitis; (3) Chronic recurrent irritative conjunctivitis; (4) Vernal or spring catarrh. Cornea: Phlyctenular kerato conjunctivitis and recurrent marginal ulcers of the cornea. Of the latter (uveal tract): (a) Sympathetic ophthalmia and endo-ophthalmitis phaco-anaphylactica; (b) non-granulomatous uveitis; and (c) granulomatous uveitis.

Diagnosis depends on two basic points: the presence of (1) hypersensitive stage and (2) the underlying specific hypersensitivity. A central contact of sensitized conjunctiva with specific allergen is essential to cause an ocular reaction. Thus the source of allergen is limited to air-borne; organic specific tissue extracts, and bacterial antigens:

Treatment is described under external and internal eye manifestations. The cardinal principles of treatment are: (1) Isolation; (2) Specific desensitization; (3) Adjuvant therapy. A detailed account of the various types of treatment of the condition with organ specific tissue extracts bacterial antigens follow.—*V.C.S.*

Continuous intravenous injection of typhoid vaccine in treatment of certain ophthalmic diseases.—Curry

and Shaw point out that for many years artificial fever, induced in a hypertherm cabinet or by injections of foreign protein or typhoid vaccine, has been used in the treatment of various diseases of the eye. Attention has been directed particularly toward the use of single rapid intravenous injections of typhoid vaccine. A draw-back of this type of therapy is the unpredictable febrile reaction. Moreover, typhoid therapy is frequently withheld from elderly patients or persons with heart disease because of the risk entailed in a severe reaction. Solomon and Somkin in 1942 introduced the method of controlled hyperpyrexia by the continuous intravenous administration of typhoid vaccine. It occurred to the authors that this type of therapy might well be applied to the treatment of certain ophthalmic diseases.

One cubic centimeter of typhoid vaccine in a concentration of 1,000,000,000 killed organisms per cubic centimeter was suspended in 1 liter of sterile isotonic sodium chloride solution U. S. P. With the patient in bed, a 21 gage intravenous needle was inserted in an antecubital vein and the mixture allowed to flow at a rate of 20 to 30 drops per minute. Rectal temperatures were recorded at fifteen minute intervals. If the temperature did not begin to rise in 30 to 45 minutes, the rate of flow was doubled. If the rise in temperature was rapid, the rate of flow was decreased. The degree of fever desired varied from case to case, depending on the condition under treatment and the physical condition of the patient.

Summarizing their experience with this method the authors say that a total of 17 patients with ophthalmic disease,

including nonspecific iritis, syphilitic keratitis and suspected sympathetic ophthalmia, were treated by the continuous intravenous administration of typhoid vaccine, with gratifying results in every case. This method of treatment is recommended because it may be given safely to elderly and debilitated patients and the degree of fever and

chilling may be controlled.

(Curry, J. J. and Shaw, E. A. *Archives of Ophthalmology*, 42: 123-125 August, 1949. The authors are connected with the Robert Dawson Evans Memorial and the Ophthalmologic Service, Massachusetts Memorial Hospitals, Boston, Mass.)—*United States Information Service*.

MEDICINE AND THERAPEUTICS

Irradiation of spleen.—(K. C. Kepp, Geberund Fraun Stuttgart, 9: pp. 24-31, Jan. 1949, Eng. Abst. *J.A.M.A.*)

Irradiation of spleen with 180 to 200 kilovolts and a 0.5 mm. copper filter (the focus distance was 40 cm. and size of the field was 6 by 8 cm.) was introduced into gynaecologic therapy after attention had been called to its favourable effect on blood coagulation. The location of the spleen having been ascertained by percussion, the Röntgen tube is directed slightly upward so that irradiation of the ovaries is avoided. The rays as applied by Kepp produce a surface dose of about 135 r of which about 60 r reach the spleen. This dosage produced no undesirable secondary effects. The author reviews results in 65 cases. So-called juvenile hæmorrhages accounted for 39 of the cases. Functional hæmorrhages in sexually mature women and in women of the menopausal age, hæmorrhages in the presence of adnexitis, and hæmorrhages resulting from the thrombopenia, were the other conditions in which irradiation of the spleen was done. In over 75 per cent of all cases, the existing hæmorrhage was arrested by the irradiation. Regulation of the menstrual cycle was effected in 40 per cent of the cases. The coagulability of the blood is believed to be increased by the products of destruction deriving from the splenic parenchyma, which is particularly very, very sensitive to irradiation.

T.N.S.R.

Effect of smoking on diuresis.—(*Quart. Jour. of Med.*, Oxford, 18, 51-56, Jan. 1949).

Nicotine has been known to stimulate the sympathetic ganglions. Several obser-

vers have shown that the absorbed nicotine from one or 2 cigarettes is enough to raise the blood pressure by 20 mm. and the heart rate by 10 to 12 beats per minute. Walker presents in this article his findings on the liberation of anti-diuretic hormone as a result of smoking. Experiments on 13 students showed that inhibition of water diuresis was caused by the smoking of one cigarette in 7 subjects and of 2 in six others. Non-smokers were more susceptible than smokers, to the effect of smoking. In 3 students the intravenous injection of 1.6 to 3.0 mg. of nicotine acid tartarate inhibited water diuresis. The inhibitory effect of smoking and nicotine was accompanied by a rise in the total chloride excretion and was probably due to the liberation of post pituitary hormone. The effect of smoking was of the same order, as that of intravenous injection of 50 milliunits of pituitary (posterior lobe) extract. Evidence has been adduced to show that the inhibition of water diuresis was not due to a nonspecific effect of the nausea which often accompanied smoking or the injection of nicotine. Morphia in therapeutic doses does not inhibit water diuresis in man.

T.N.S.R.

Whooping cough and mental deficiency.—(Annotation, *Br. Med. Jour.*, 30-7-1949, p. 274).

Levy and Parry writing in the *American Journal of Mental Deficiencies*, Vol. 52, 1948, have produced evidence to support the hypothesis that an attack of whooping cough may cause mental deterioration. They investigated a group of 1,000 children admitted to a special school for intellectually retarded

children in Washington. 350 of these showed a history of whooping cough before admission. But a questionnaire issued to the parents, resulted in replies only from 213; of these 213, only 128 gave a positive answer regarding an attack of whooping cough, the other 85 denied the attack. In 20 of these 128 (15.6%) there was a definite causal relationship between the attack of whooping cough and the intellectual retardation that followed. The age of the attack was important; the number of children whose mental retardation was due solely to whooping cough was 14 (29.2%) of the 48 children who had the disease before they were 2 years old; 5 (14.3%) of the 35 children between 2 & 5 years of age, and only 1 or (2.2%) of the 45 children attacked after 5 years of age. The conclusion that an attack of whooping cough can lead to serious mental deterioration seems to be justified. The children studied by Levy and Parry had intelligence quotients of 70 or less and border line cases were not included. It is therefore possible that whooping cough may be a cause of dullness amongst the general population of children.

T.N.S.R.

Urethritis treated by aureomycin.—(R. R. Wilcox and G. Findlay, *Br. Med. Jour.*, pp. 257-259, 30-7-1949).

The treatment of nonspecific urethritis has up to the present been unsatisfactory. Sulphonamides combined with urethral irrigation have in some cases yielded good results; but penicillin has been of little value. Streptomycin has been found to be of use in a few cases; it is also known to be active against pleuropneumonia-like organisms which are often associated with the distressing complaint of nonspecific urethritis.

Wilcox reports on the successful use of aureomycin in nonspecific and gonococcal urethritis. Aureomycin hydrochloride is administered orally in capsules containing 250 mg. each; oral dosage is more effective than injection. The total dosage given by the author varied from 9 to 11 grammes in 6 days. The patients became rapidly symptomatic.

The author advocates the use by the oral route of aureomycin in all cases of nonspecific urethritis.

T.N.S.R.

Sodium intake in cardiac failure.—(*Am. Pract.*, Philadelphia, 3, pp. 353-360).

Sokolow reports on the importance of sodium intake in the management of cardiac failure. Three patients (2 women and a man) of the ages of 49, 47 and 52 respectively with symptoms and signs suggesting congestive heart failure formed the basis of his observations. The first was desperately ill with severe orthopnoea cyanosis, ascites, alternating pulse and gallop rhythm. The tremendous loss of fluid within 3 days of starting a salt-free diet and the rapid restoration to essentially normal cardiac function that resulted were striking. In the second woman patient (with long standing hypertension) the absence of cardiac enlargement the essentially normal electro-cardiogram and a normal venous pressure cast a great deal of doubt on the diagnosis of congestive heart failure. Dietary study revealed a high sodium intake. By reducing the sodium in her diet the patient became free of all symptoms. In the third patient, long hours of erect posture coupled with excessive intake of salt, produced peripheral oedema simulating congestive heart failure. Correctly interpreted and treated by limitation of salt, the oedema and dyspnoea completely cleared and the patient started working again full time at his usual occupation without any symptoms. Not all cases of cardiac failure require the radical restriction of sodium in the diet to 350 mg. which is in use at the California University Hospital. In cases of slight cardiac failure and good cardiac reserve, modest restriction of salt will suffice.

T.N.S.R.

Vitamin A and carotene.—(*Nature*, 164, 212, August 1949).

Special Report No. 264 of the British Medical Research Council issued in June 1949 brings out very closely the folly of judging the adequacy of supply of any nutrient, (and particularly vitamin A and carotene) on the basis of its level in

including nonspecific iritis, syphilitic keratitis and suspected sympathetic ophthalmia, were treated by the continuous intravenous administration of typhoid vaccine, with gratifying results in every case. This method of treatment is recommended because it may be given safely to elderly and debilitated patients and the degree of fever and

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MEDICINE AND THERAPEUTICS

Irradiation of spleen.—(K. C. Kepp, Geberund Fraun Stuttgart, 9: pp. 24-31, Jan. 1949, Eng. Abst. *J.A.M.A.*)

Irradiation of spleen with 180 to 200 kilovolts and a 0.5 mm. copper filter (the focus distance was 40 cm. and size of the field was 6 by 8 cm.) was introduced into gynaecologic therapy after attention had been called to its favourable effect on blood coagulation. The location of the spleen having been ascertained by percussion, the Röntgen tube is directed slightly upward so that irradiation of the ovaries is avoided. The rays as applied by Kepp produce a surface dose of about 135 r of which about 60 r reach the spleen. This dosage produced no undesirable secondary effects. The author reviews results in 65 cases. So-called juvenile hæmorrhages accounted for 39 of the cases. Functional hæmorrhages in sexually mature women and in women of the menopausal age, hæmorrhages in the presence of adnexitis, and hæmorrhages resulting from the thrombopenia, were the other conditions in which irradiation of the spleen was done. In over 75 per cent of all cases, the existing hæmorrhage was arrested by the irradiation. Regulation of the menstrual cycle was effected in 40 per cent of the cases. The coagulability of the blood is believed to be increased by the products of destruction deriving from the splenic parenchyma, which is particularly very, very sensitive to irradiation.

T.N.S.R.

Effect of smoking on diuresis.—(*Quart. Jour. of Med.*, Oxford, 18, 51-56, Jan. 1949).

Nicotine has been known to stimulate the sympathetic ganglia. Several obser-

vers have shown that the absorbed nicotine from one or 2 cigarettes is enough to raise the blood pressure by 20 mm. and the heart rate by 10 to 12 beats per minute. Walker presents in this article his findings on the liberation of anti-diuretic hormone as a result of smoking. Experiments on 13 students showed that inhibition of water diuresis was caused by the smoking of one cigarette in 7 subjects and of 2 in six others. Non-smokers were more susceptible than smokers, to the effect of smoking. In 3 students the intravenous injection of 1.6 to 3.0 mg. of nicotine acid tartarate inhibited water diuresis. The inhibitory effect of smoking and nicotine was accompanied by a rise in the total chloride excretion and was probably due to the liberation of post pituitary hormone. The effect of smoking was of the same order, as that of intravenous injection of 50 milliunits of pituitary (posterior lobe) extract. Evidence has been adduced to show that the inhibition of water diuresis was not due to a nonspecific effect of the nausea which often accompanied smoking or the injection of nicotine. Morphine in therapeutic doses does not inhibit water diuresis in man.

T.N.S.R.

Whooping cough and mental deficiency.—(Annotation, *Br. Med. Jour.*, 30-7-1949, p. 274).

Levy and Parry writing in the *American Journal of Mental Deficiencies*, Vol. 52, 1948, have produced evidence to support the hypothesis that an attack of whooping cough may cause mental deterioration. They investigated a group of 1,000 children admitted to a special school for intellectually retarded

children in Washington. 350 of these showed a history of whooping cough before admission. But a questionnaire issued to the parents, resulted in replies only from 213; of these 213, only 128 gave a positive answer regarding an attack of whooping cough, the other 85 denied the attack. In 20 of these 128 (15.6%) there was a definite causal relationship between the attack of whooping cough and the intellectual retardation that followed. The age of the attack was important; the number of children whose mental retardation was due solely to whooping cough was 14 (29.2%) of the 48 children who had the disease before they were 2 years old; 5 (14.3%) of the 35 children between 2 & 5 years of age, and only 1 or (2.2%) of the 45 children attacked after 5 years of age. The conclusion that an attack of whooping cough can lead to serious mental deterioration seems to be justified. The children studied by Levy and Parry had intelligence quotients of 70 or less and border line cases were not included. It is therefore possible that whooping cough may be a cause of dullness amongst the general population of children.

T.N.S.R.

Urethritis treated by aureomycin.—(R. R. Willcox and G. Findlay, *Br. Med. Jour.*, pp. 257-259, 30-7-1949).

The treatment of nonspecific urethritis has up to the present been unsatisfactory. Sulphonamides combined with urethral irrigation have in some cases yielded good results; but penicillin has been of little value. Streptomycin has been found to be of use in a few cases; it is also known to be active against pleuropneumonia-like organisms which are often associated with the distressing complaint of nonspecific urethritis.

Willcox reports on the successful use of aureomycin in nonspecific and gonococcal urethritis. Aureomycin hydrochloride is administered orally in capsules containing 250 mg. each; oral dosage is more effective than injection. The total dosage given by the author varied from 9 to 11 grammes in 6 days. The patients became rapidly symptomatic.

The author advocates the use by the oral route of aureomycin in all cases of nonspecific urethritis.

T.N.S.R.

Sodium intake in cardiac failure.—(*Am. Pract.*, Philadelphia, 3, pp. 353-360).

Sokolow reports on the importance of sodium intake in the management of cardiac failure. Three patients (2 women and a man) of the ages of 49, 47 and 52 respectively with symptoms and signs suggesting congestive heart failure formed the basis of his observations. The first was desperately ill with severe orthopnoea cyanosis, ascites, alternating pulse and gallop rhythm. The tremendous loss of fluid within 3 days of starting a salt-free diet and the rapid restoration to essentially normal cardiac function that resulted were striking. In the second woman patient (with long standing hypertension) the absence of cardiac enlargement the essentially normal electrocardiogram and a normal venous pressure cast a great deal of doubt on the diagnosis of congestive heart failure. Dietary study revealed a high sodium intake. By reducing the sodium in her diet the patient became free of all symptoms. In the third patient, long hours of erect posture coupled with excessive intake of salt, produced peripheral oedema simulating congestive heart failure. Correctly interpreted and treated by limitation of salt, the oedema and dyspnoea completely cleared and the patient started working again full time at his usual occupation without any symptoms. Not all cases of cardiac failure require the radical restriction of sodium in the diet to 350 mg. which is in use at the California University Hospital. In cases of slight cardiac failure and good cardiac reserve, modest restriction of salt will suffice.

T.N.S.R.

Vitamin A and carotene.—(*Nature*, 164, 212, August 1949).

Special Report No. 264 of the British Medical Research Council issued in June 1949 brings out very closely the folly of judging the adequacy of supply of any nutrient, (and particularly vitamin A and carotene) on the basis of its level in

for South-East Asia; at Alexandria, for the Eastern Mediterranean; at Washington, for the American continent. Other Regional Offices are to be created for Europe, Africa and the Western Pacific area. In the meantime, WHO maintains Field Offices in China and Ethiopia, and an Epidemiological Intelligence Station at Singapore.

These and other developments are described in the *Annual Report of the Director-General of the World Health Organization* which will shortly be published. The twelve-month period covered in this document witnessed the gradual and carefully-planned expansion of WHO which for two years had been an interim organisation carrying out some of the essential duties inherited from the League of Nations, UNRRA and the Office International d'Hygiene Publique. Today, the total staff serving in the field and in offices is just under 400, representing 41 nationalities.

The story of WHO activities in 1949 can best be told in calendar fashion.

January

The World Health Organization started the year with a membership of 57 countries, most of them suffering from the current influenza epidemic, which, however, remained fairly benign in character. Daily broadcasts on epidemics and quarantine measures over the ten Geneva transmitters of the WHO world-wide network included reports on influenza, its prevalence and characteristics. At the same time, WHO's World Influenza Centre in London was identifying viruses responsible for the epidemic, from samples obtained in affected countries, and preparing vaccines.

Medical services for Arab refugees in Syria, Jordan, Lebanon and Palestine were organised by WHO to co-ordinate the efforts of UNRPR and voluntary agencies in that field.

WHO's Expert Committee on Maternal and Child Health met in Geneva and asked that mass immunization campaigns against diphtheria, whooping cough and other childhood diseases causing high mortality, be carried out in every country.

In New Delhi, the WHO Regional Office for South East Asia started operations.

February

Health problems of the Eastern Mediterranean area were examined in the course of a special conference called by WHO in Cairo. Decisions included the setting up of a Regional Office at Alexandria no later than July, and the nomination of Sir Aly Tewik Shousha, Pasha, Egyptian Under-Secretary of State for Health, as its Director.

The first international medical research programme in tuberculosis was launched in Copenhagen under the sponsorship of WHO in connection with the BCG vaccination campaign in Europe and elsewhere.

Stimulus was given to penicillin production in Eastern Europe as a result of the meeting of production experts in Geneva under the chairmanship of the co-discoverer of the drug, Prof. E. Chain.

The WHO Executive Board prepared an enlarged programme of activities for WHO in 1950, for the approval of the Second World Health Assembly meeting in Rome four months later. The Egyptian Government formally presented to WHO the "Anti-cholera Memorial Medal" in recognition of its assistance to Egypt during the recent cholera epidemic.

March

On the first day of the month, the Pan American Sanitary Bureau began functioning as WHO's Regional Office for the Western Hemisphere.

Hungary, Bulgaria and Yugoslavia announced their intention of launching penicillin treatment campaigns against syphilis with WHO and UNICEF assistance, while anti-VD demonstrations were planned in Italy and Czechoslovakia.

Tuberculosis surveys were initiated by WHO consultants in ten Eastern Mediterranean countries and in Central and South America.

Malaria control projects commenced in Hungary, Roumania, Bulgaria and Yugoslavia, while preparations were started for long-term campaigns in India, Pakistan and Iran.

April

WHO and UNESCO sponsored an international conference in Brussels to establish a permanent Council for the co-ordination of Medical Science Congresses.

On the basis of world-wide statistics compiled by WHO, it was announced that the world's death rate had reached its lowest figure in recorded history, and that the greatest improvement in longevity was shown by Latin countries in Europe and America.

WHO and UNICEF held joint meetings to establish health programmes which the latter organisation will carry out for the benefit of children.

The first international VD control team, with American and Norwegian specialists, was sent by WHO to India.

A malaria control campaign was started among 800,000 Arab refugees living in highly malarious districts.

Turkey received WHO assistance for the modernizing of its nation-wide malaria control organization.

May

The first International Pharmacopoeia for use by doctors and druggists of all nations, was announced by WHO experts as ready for publication in 1950.

DDT, the major weapon in malaria control because of its destructive effect on mosquitoes, is harmless to man as commonly applied in residual spraying, WHO experts meeting in Sardinia announced. Other insecticides were studied for their effect in killing disease-bearing insects, many being recommended for international use. Six new

international standards for biological products (including penicillin 'G' and streptomycin) were established by WHO experts meeting in London. 35 biological standards had been set earlier for vitamins, hormones, antitoxins and antibiotics.

June

The Second World Health Assembly opened in Rome with 400 representatives of 59 countries and 21 international organizations. The Palazzo Venezia, where the Assembly was housed, was the scene of important decisions during the following three weeks. A \$ 7,500,000 regular budget was approved, and an additional \$ 10,000,000 requested from member states in voluntary contributions for the further development of health programmes in malaria, mother and child health, tuberculosis, venereal diseases, epidemic control, sanitation, mental health, public health administration and nutrition.

In addition to these priority projects, the Assembly approved further work on health statistics, leprosy, biological standardization, unification of pharmacopoeias, and international control of habit-forming drugs. Steps were also taken to facilitate the expansion of WHO's regional structure.

The Assembly appealed to the U.S.S.R., the Ukrainian S.S.R. and Byelorussia requesting them to reconsider their withdrawal, announced in February, from the World Health Organization.

July

As the Assembly adjourned for a year with the decision to meet again in Geneva in May 1950, the WHO Executive Board met to implement the Assembly's decisions and elected Sir Arcot Lakshmanaswami Mudaliar as its Chairman. The Board decided that internationally recognized common names for new drugs in international use should be given by WHO, and approved a VD control project for the Rhine River area which includes 5 nations.

World Health Day was celebrated for the first time in many states throughout the world to commemorate the signing of the WHO Constitution.

News of a typhus emergency in Afghanistan was received, and WHO, through its offices in New Delhi and Washington, immediately supplied the stricken country with DDT and vaccines, and sent two experts to help organize control of the outbreak.

August

Special measures to combat tuberculosis in under-developed countries were drawn up by the WHO expert Committee on tuberculosis which met in Copenhagen.

Venereal disease control methods were inspected during a WHO study tour of the anti-VD services of Rhine River ports followed by 3 months study of anti-VD administration in the United States, organized by WHO and the US Public Health Service.

Preliminary measures in the joint WHO/FAO plan for increasing world food production by combating diseases, particularly severe endemic malaria were outlined by WHO experts, who will review potentially fertile agricultural areas open to improvement through malaria control.

An emergency appeal from India as poliomyelitis broke out in Bombay was answered by WHO which sent iron lungs by air to the affected area.

September

A basic international mental health programme was drafted by the first WHO Expert Committee in this field. It includes public health services for the prevention, detection and treatment of psychiatric cases, and special mental health training for all public health workers, nurses, educators and members of other key professions.

Sanitation and related aspects of environmental hygiene were stressed as forming some of the most important factors in health, in another expert report which outlined essential measures for general improvement of physical environment in many countries.

The Regional Committee for South East Asia held its second session in New Delhi and decided to pool the regions's health training facilities.

India was selected to receive WHO assistance in fighting plague, and other danger spots in the world were singled out for similar work which will be started next year by an international team of experts.

October

The second session of the Eastern Mediterranean Regional Committee was held in Geneva.

Eradication of yaws and syphilis in Haiti and adjoining areas of the Dominican Republic was planned by a WHO group of experts meeting in Washington. Recommendations were also made for the control of other venereal infections now widely prevalent throughout the world.

Plans were made for Poland to organize, with WHO assistance, international training courses in biochemistry and the control of venereal diseases.

Co-operative schemes were planned with the Food and Agriculture Organization for the raising of nutrition standards throughout the world, and especially in the large areas where deficiency diseases such as pellagra, kwashiorkor and endemic goitre are common.

November

In Cairo, a study group pointed out the necessity of safe guards against schistosomiasis, a parasitic disease, when developing irrigation projects for increased food production.

Assistance in setting up three laboratories for tuberculosis diagnosis in Athens and

Salonika was provided by WHO which sent an expert to advise the Greek health authorities.

The Republic of the Philippines became the first country to request WHO assistance in establishing an up-to-date mental health organization throughout its territory.

As the malaria season in India slackened, a WHO malaria team turned to fighting a plague outbreak in Mysore State.

Cholera control teams will be sent next year by WHO to assist India and Pakistan it was announced in New Delhi after a group of experts had toured the danger spots of Madras Province.

It was announced that WHO and UNICEF will help Indonesia to fight venereal infections. Plans were made in India to develop the Simla VD project, initiated by a WHO team, into a Training Centre.

Building plans to house WHO Headquarters in the Palais des Nations at Geneva were completed, pending approval of the United Nations General Assembly.

December

The International Tuberculosis campaign of BCG vaccination had already been completed in two countries, was in progress in 14 others and so far had reached 18 million children. WHO plays an important part in this co-operative international enterprise of UNICEF, the Danish Red Cross and its Scandinavian associates.

Preparations were made for establishing in Czechoslovakia an International Medical Reference Library and a Training Centre for Anaesthesiology, while from Hungary came a request for assistance in establishing a Virus Research and Training Centre, and an Institute of Industrial Hygiene.

This brief calendar of events retraces the main lines of WHO's development during 1949. Technical services were increased, while field work was started in several countries and continued in others. Over 200 fellowships were awarded by WHO to members of the medical professions in more than 30 countries.

An Appeal

The following appeal has been issued by The Andhra Provincial Branch of the I. M. A.:

Dr Yellapragada Subbarao was one of the brightest sons of India. He has not been spared to us unfortunately to continue his very useful and valuable researches in medicine which revolutionised the understanding and treatment of some of the most refractory conditions and contributed greatly to the well-being of man.

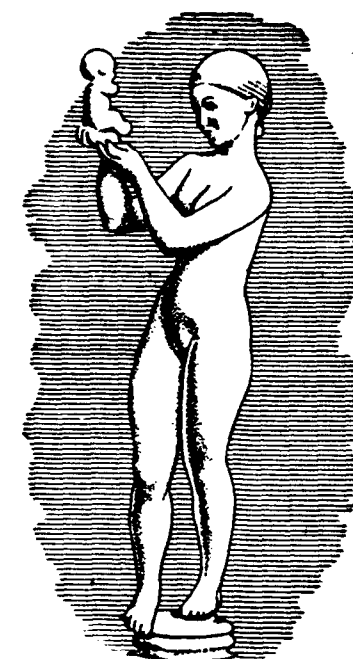
Yet very little is known to the public about Dr. Subbarao or his work and activities though the results of his investigations are well-known to the medical profession.

He was an Andhra, graduated in Medicine from the Madras Medical College and took his M. Sc. from the Madras University. He did his D. T. M. at the University of London and while at London he met the late Dr. Richard Strong, of the Harvard School of Tropical Medicine at whose instigation he went to the U. S. A. In U. S. A. he worked under the direction of Prof. Fisher, Professor of Bio-Chemistry at Harvard. His contributions in the field of Research were varied and many, well known to the profession. His investigations

helped the understanding of the mechanism of muscular contraction. His researches in the fractions of liver extracts led to a new approach to the study of cancer. His recent work led to the development of aureo-mycin, another antibiotic.

The desire is but natural that such an illustrious name should never be forgotten by his countrymen. The Andhra Provincial Branch, Indian Medical Association, therefore decided to commemorate his life by instituting a worthy memorial. It appeals to all the medical men and women of India through the Indian Medical Association to contribute their mite and help establishing the memorial. This branch makes a special appeal to the numerous friends and admirers of Dr. Subbarao to take an active interest and collect contributions not only from the medical profession but from the general public as well.

The contributions may be sent to the Honorary General Secretary, Andhra Provincial Branch, Indian Medical Association, Visakhapatnam or to Andhra Bank, Visakhapatnam, to the credit of Dr. Y. Subbarao Memorial Fund, Andhra Provincial Branch, Indian Medical Association, Visakhapatnam.



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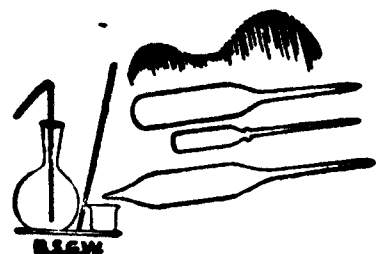
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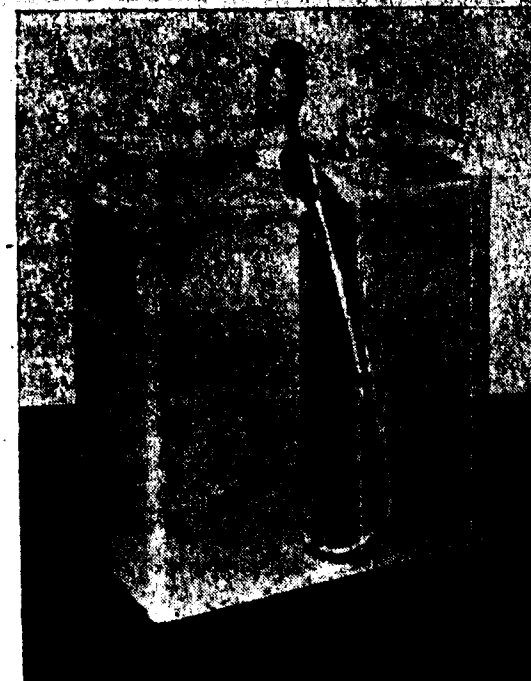
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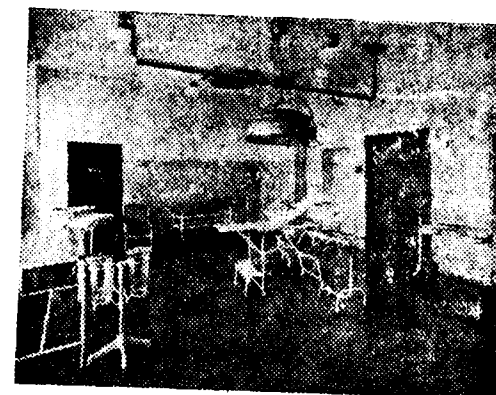
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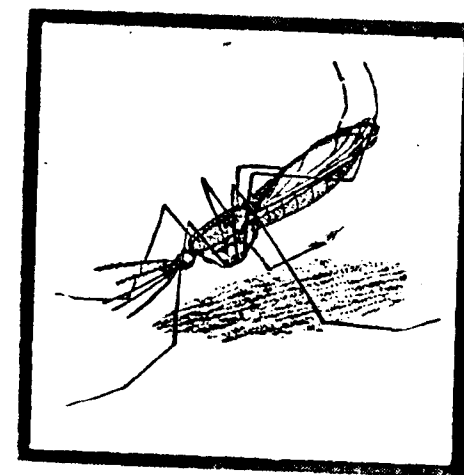
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Male-age 51, started getting mild pain in right shoulder six months back. [With salicylate and iodide for nearly a month there was no response. Lactoprotein Iodide injections with salicylate by mouth did not help. Dr..... and Dr..... advised respectively Novocaine and Percaine injection locally or other mixtures but these could not help. Lastly under general anaesthesia his joint was mobilised which after nearly three months of his illness has been much limited in movement. The matter went from bad to worse.

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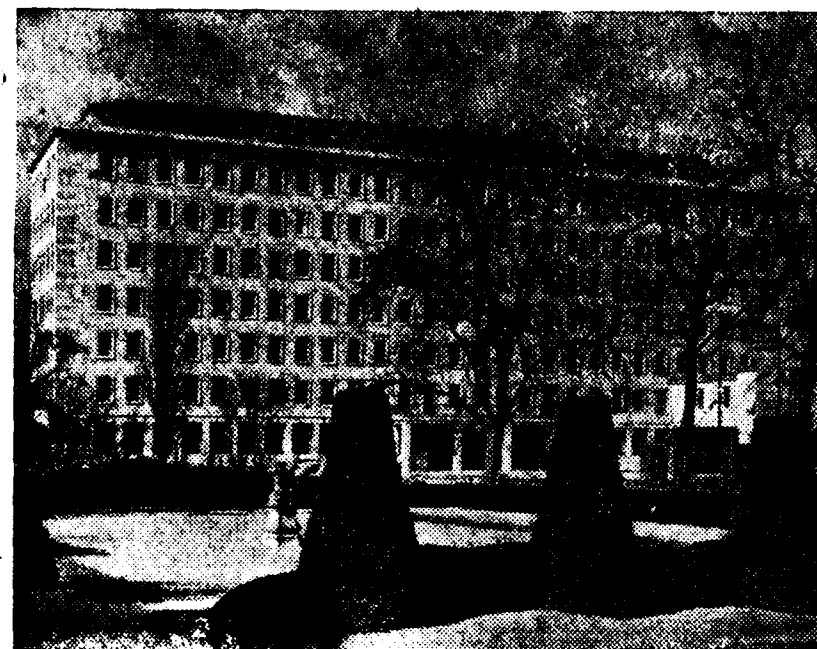
Female-48 years. Fell down on slippery ground. Got pain in the knee joint and wrist (left)—could not get up—severe pinching pain in the legs and hand—Allopathic and Ayurvedic drugs given (With Tablet RHEUMOPHAN COMPOUND) I treated my mother. Now she moves her hands and legs, Relieved of pain in the whole body—takes her bath regularly—can sit in bed and stand by the help of the wall for two minutes.

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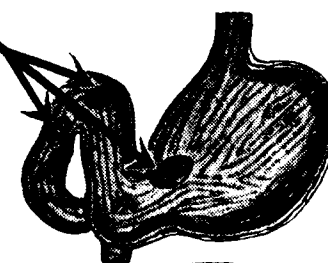


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Nicotinamide	30 mg.
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Calcium	300 mg.
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Alcohol	15 c.c.
Syrup and Aromatic	to 100 cc.

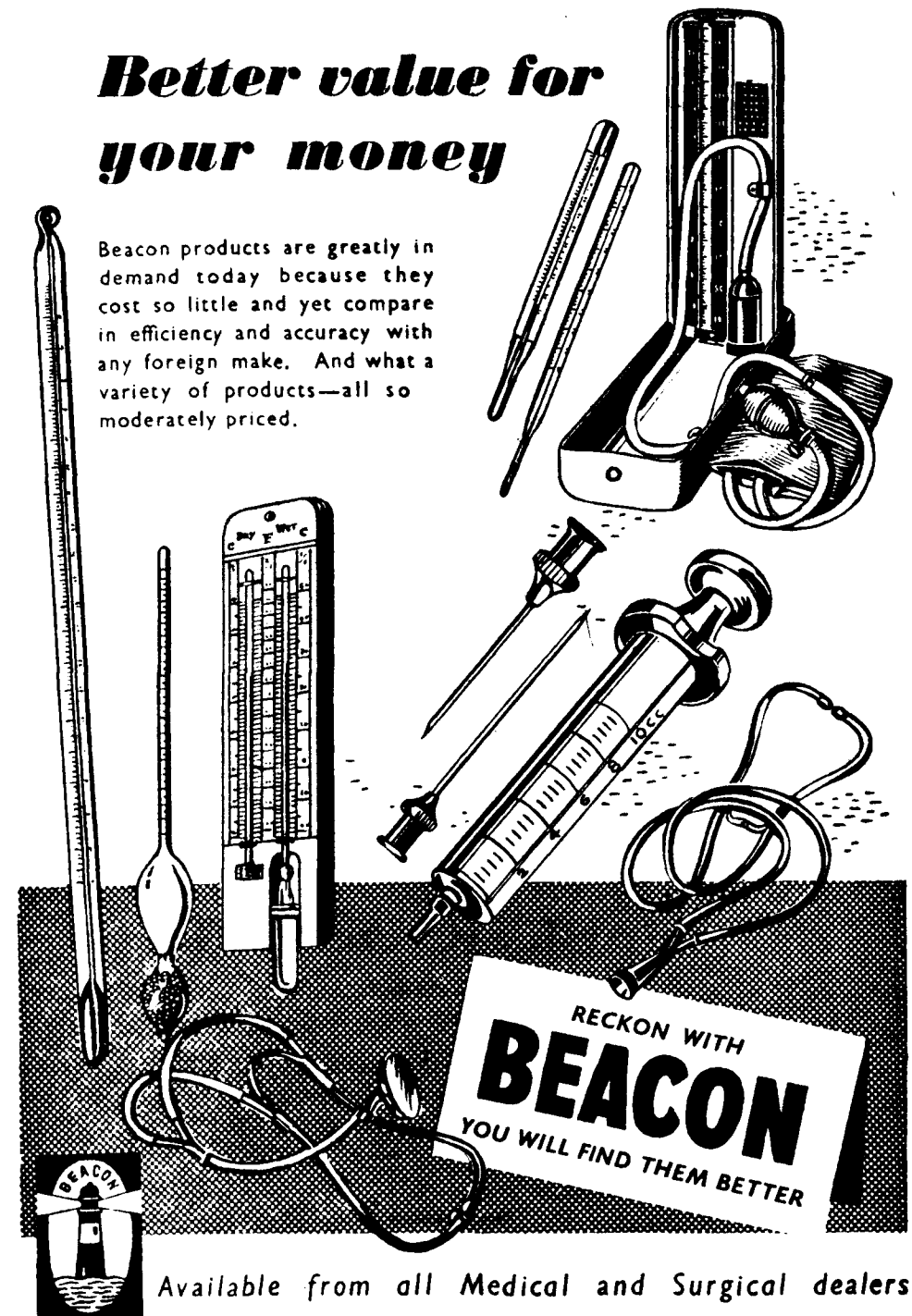
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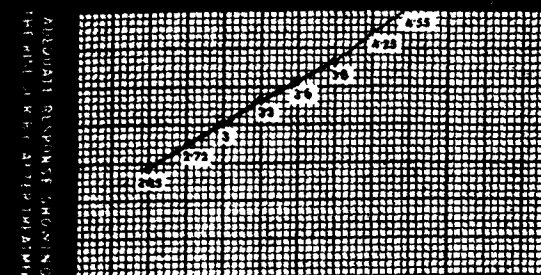
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