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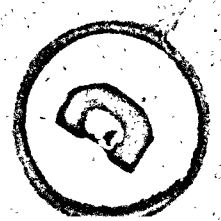

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Edited by

Dr. U. Rama Rau & U. Krishna Rau, M.B., B.S.

CONTENTS.

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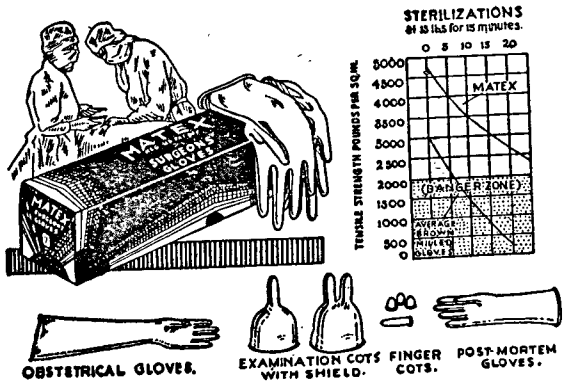

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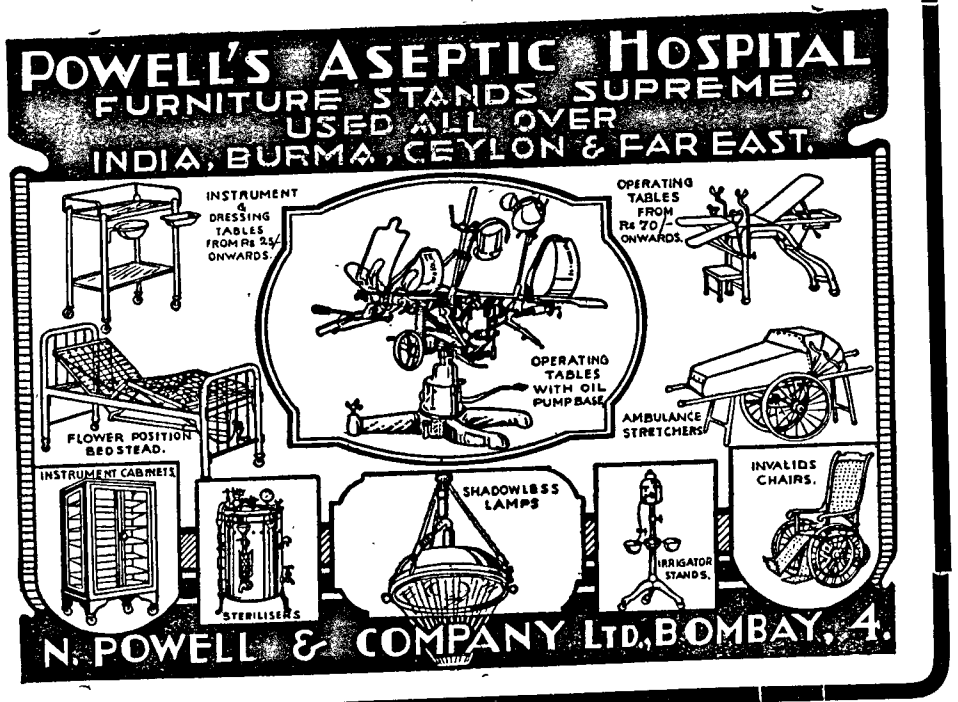

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ORIGINAL ARTICLES

TREATMENT OF TYPHOID AND PARATYPHOID FEVERS *

BY

LT. M. L. GUJRAL, M.B., B.S., M.R.C.P., (LOND.), I.M.S.,
Indian Military Hospital, Nai Sarak, Delhi.

THERE is no specific therapy and the treatment resolves itself into skilful nursing and dietetic-hygienic measures.

Rest.—Absolute rest is of paramount importance. The patient is isolated and put to bed comfortably in a well ventilated room. The use of bed pan and bed urinal is strictly enforced. The patient is fed lying.

Diet.—The only real advance that has been made in the treatment of typhoid fever in recent years is the use of a liberal diet. Liberal diets are now being used in Europe and America for over a decade, but alas! Medical practitioners in this country still continue to starve their typhoid patients. This paper is written only to emphasize and encourage the use of liberal diets in India.

Coleman who was the first to use it in typhoid fever has shown that a liberal diet has actually reduced the mortality from the disease. Deaths from toxæmia, haemorrhage, or perforation are fewer in number and tympanites, delirium and stupor are less common ; convalescence has been shortened and patients made comfortable on a diet which they can relish.

Following are among the foodstuffs that may be permitted:—

All soups (meat or vegetable) carefully strained.

Fruit juices.

* Specially contributed to 'The Antiseptic'.

Oatmeal with cream, boiled rice, custard, well toasted bread, cream crackers, mashed potatoes.

Lactose in very liberal amounts, sugar, milk, eggs (raw, soft boiled or lightly scrambled), butter, cream.

Ice-cream, sherbet, jelly, lemonade.

Foods that can be reduced to a pulpy consistency and do not leave irritating residue behind, are alone given. With a judicious and skilful nursing it may be possible to get as many as 3,000 calories into the patient. Here is one of Coleman's lists:

Typhoid diet which will furnish 3,000 calories:—

Breakfast:

Farina, (4 tablespoonfuls, cooked)	...	100
Toast (1 slice 30 Gm. before toasting)	...	80
Cream, 3½ ozs. (20%)	...	200
Butter, 8 Gm.	...	60
Lactose, 1¼ ozs; to add lactose to milk boil 1 oz. in 2 ozs. of water, and add to milk.	...	160
Sugar 20 Gm.	...	80

10 to 10-30 a.m.

Milk 6.2/3 ozs.	...	140
Cream 1.2/3 ozs.	...	100

Dinner.

Eggs, 2	...	150
Potato, 1 medium, about	...	100
Bread, 1 slice, or roll 1	...	80
Butter, 30 gm. (1 ounce)	...	234
Apple, 1 medium sized (pared and Cored).		75
Sugar, 15 gm. (half oz.)	...	60
(Potato baked served with butter. Apple baked with 15 gm. sugar and about 8 gm. butter. Some patients will eat more butter if the unsalted is used.)		

3 to 4 p.m.

Tea, 1 cup	...	00
Lactose 50 gm.—(1.2/3 ozs.)	...	200
Sugar 5 gm.	...	20
Cream 50 c.c. (1.2/3 ozs.)	...	100
Crackers, toasted	...	75
Butter 8 gm,	...	62

Supper.

Rice, 1 oz. boiled	...	100
Milk, 100 c.c. (3 1/3 ozs.)	...	75
Toast, 1 slice	...	80
Butter, 8 gm	...	62
Sugar, 5 gm. (for Cereal)	...	20
Cream, 60 c.c. (2 ozs.)	...	120
Orange, 1 sliced	...	100
Sugar, 5 gm. (with orange)	...	20

8 to 9 p.m.

Cocoa, 5 gm.	...	25
Sugar, 10 gm.	...	40
Milk, (5 ozs.)	...	105
Cream, (1 oz.)	...	60
Lactose, 25 gm.	...	100

Suitable diets can easily be improvised that will meet the needs of all classes of Indian patients.

Water, orangeade or lemonade should be freely given. (Lactose, though its caloric value is just the same, is far less sweet than cane-sugar and large amounts can be consumed in lemonade without making it distasteful).

Care of teeth, tongue and throat.—The patient's teeth, tongue and mouth are regularly cleaned for him. The teeth are brushed, the tongue and the mouth kept clean, by use of cotton swab and boric lotion. The lips if cracked and sore are anointed with boro-glycerine. The throat is sprayed three times daily with Dobell's solution. (Glycerine of phenol m 100, borax and soda bi-carbonate āā gr. 60, Aq. ounce 10).

Care of skin.—The skin is cleaned with soap and tepid water once every day. This is followed by an alcohol rub and free use of powder. The patient's position in bed is changed from time to time to avoid hypostatic congestion and to prevent formation of bed sores. If bed sores are already present when a patient is seen, an ointment containing 1 part of balsam of Peru and 30 parts of lanoline is used.

Care of Bowels.—The use of bed pan is rigidly enforced. No cathartic is given after the first few days of fever. If the patient is constipated the amount of cream and lactose in the diet are increased. If this is not enough a tablespoon of liquid paraffin at bed time is ordered. An enema of normal saline (soap suds irritate) given every other day clears the bowel and is recommended as a routine measure.

Control of temperature.—The use of antipyretics is not advisable. Tepid sponge baths are indicated whenever the temperature rises above 102.5° F. Barker advocates sponging with iced alcohol.

Medicinal treatment.—No drug is known which will cut short the course of the disease. Dilute hydrochloric acid in half dram doses in water, may be given thrice daily after food as a routine measure.

Treatment of symptoms and complications—Diarrhoea—It usually yields to a readjustment of diet—Cream and lactose may be reduced or temporarily stopped. If more is needed, tannigen gr. 7 t. d. s., or tannaloin gr. 30 t. d. s. may be ordered.

Another useful prescription is :—

Bismuth carbonate	gr.	xv.
Tincture Zingiberis	M.	xv.
Mist. Creta	dr.	iv.

Label. Take every two hours for six doses. Opiates should be avoided as far as possible.

Tympanites.—It is not as frequent with the liberal diet as it used to be when milk was the sole article permitted. When it occurs the cream and the lactose should be stopped and the daily quantity of milk reduced. Bowels should be kept clean with a daily enema of 1 per cent sodium bi-carbonate if the distension still persists. Turpentine stupes (turpentine 1 dr. to water 1 quart) should be used for the abdomen. Carminative enemata of a dr. of turpentine emulsified with the white of an egg and added to a quart of water or a couple of drs. of the emulsion of asafoetida added to a quart of water are often valuable. In no case should pituitrin or eserin be injected.

Toxæmia.—In cases where toxæmia is profound fluids must be pushed. Where the patient will not swallow, fluids are recommended to be given by rectal or intravenous routes. A 5% solution of glucose administered intravenously is often very valuable.

If the patient does not sleep properly or is delirious an ice cap to the head and a mix. containing Bromide grs. xv, and chloral hydrate grs. X to an ounce of water is indicated. In refractory cases a hypodermic injection of Morphine gr. $\frac{1}{4}$ is called for.

Circulatory failure.—When the pulse is weak and the pulse rate is 120 or over, or the first sound at the apex is feebly heard circulatory stimulation is indicated. Coleman is of the opinion that in enteric fever alcohol is the drug par excellence, to bolster up the circulation. Half an ounce of brandy in water or soda should be given every 4 hours.

Caffeine Sodium benzoate grs. $7\frac{1}{2}$ by mouth and hypodermic injections of cardiozol ephedrine thrice daily are also recommended.

Perforation.—Every practitioner must familiarize himself with the symptoms of this complication. As soon as a diagnosis is made, a competent Surgeon should be called in.

Hæmorrhage.—Inject Morphine sulphate gr. $\frac{1}{6}$ to gr. $\frac{1}{4}$ every four hours.

2. Do not give any food by mouth for 2 days, giving only cracked ice or at most 1 or 2 ounces of iced milk every 4 hours. On the 3rd day the quantity of milk is increased to 1 pint, on the 4th day 2 eggs are added and after the 6th day a more liberal diet is gradually allowed.

3 Apply ice bag to the abdomen continuously.

4. Calcium gluconate (Albert David) two tablets thrice daily are taken by mouth.

5. Haemoplastine P. D. & Co. is injected subcutaneously.

Phlebitis.—Keep the leg elevated on a pillow, warm and at absolute rest for a period of 3 weeks to allow the thrombus to become fixed.

Bacilluria.—Hexamine grs. $7\frac{1}{2}$ should be administered thrice daily and if the urine is not acid, give sodium acid phosphate grs. xv thrice daily also, but not at the same time with hexamine.

Convalescence.—Thanks to Coleman patients do not have to learn to walk again. The following is a useful prescription during the convalescence :—

Ferri Redacti	...	gr. 50.
Arsenii Trioxidi	...	gr. $1\frac{1}{4}$.
Ext. Nucis Vomica sic	...	gr. 12.

Make 50 pills—label, 1 pill thrice daily after food.

Prophylaxis.—It is the duty of every practitioner to advise and inoculate the contacts of a case or carrier. The excreta and linen of patients must be thoroughly disinfected.

COMMON SURGICAL FILARIAL AFFECTIONS OF SOUTH INDIA AND THEIR TREATMENT *

BY

DR. K. S. APPU MUDALIAR, M.B., B.S.,

Civil Asst. Surgeon, Kallakurichi.

I THANK the Secretary of the Association for having given me the opportunity to speak to you for the second time. I take it as a great honour indeed. When the Secretary of the Association wrote to me whether I was willing to deliver any lecture, I was thinking about the subject when a case of chyluria presented itself in the O. P. which led me to choose the subject of this evening.—Common surgical filarial affections of South India and Their treatment.

In my official wanderings whether it was delta area of Tanjore or Godavari or dry areas of Ceded Districts or coastal borders of Circars like Vizagapatam, I found that the surgical affections of filariasis were predominent. South Arcot was not behind those areas and it was as much affected as the other areas and as such I thought that I could profitably speak on the above subject this evening.

First of all let us see the pathology of the affection. All of you know the parasite is the Filaria Bancrofti, a long hair-like nematode worm 3 to 4 inches long, the female being larger and longer and occupying almost the whole length by 2 uterine tubes filled with Ova in various stages of development. The anterior end of both sexes is slightly tapered and club-shaped while the posterior end or the tail tapers to an abruptly rounded of tip. The tail of the male is sharply incurvated. Male and female worms may be coiled together in balls and are thus found in cyst-like dilation of the distal lymphatics or they may bemore loosely found in the lymphatic varices or in the larger lymphatic trunks between the glands, in the glands themselves and in the thoracic duct. All the pathological conditions included in the term 'filariasis' are due to the presence of these worms in the course of the lymphatic system. The embryos are non-pathogenic but they are of distinct importance as affording evidence of the hidden presence of the parental forms in the body.

The embryos known as F. Nocturna or micro-filaria bancrofti are slender cylindrical worms one end rounded off and the

* A paper read before the District Medical Association, Cuddaloro and specially sent to the 'Antiseptic' for publication.

other tapering, 1/20 inch long and of a diameter about equal to that of a R. B. C. Each is contained in a very delicate sheath within which it moves backwards and forwards. To demonstrate the presence of F. Nocturna in the blood films may be examined fresh or after staining with a weak solution of fuchsine. In fresh specimens the filaria will be seen in very active movements among the blood cells. Several films have to be examined. The examination must be carried on late in the evening, since the filaria seem to enter the peripheral circulation at about 5 p. m. and increase in number till mid-night and after that period they gradually decrease and at 8 to 9 in the following day none is found in the circulation. Manson suggests that they thus wander out in the hope of being taken up by the mosquito whose habits are also nocturnal and into which they must enter to pass through the further stages of life history. If however the patient alters his habits and sleeps during the day the embryos are found during that time and not in the night. These embryos are called filaria diurna. During their absence from the peripheral circulation the embryos probably take refuge in the large arterial trunks, for example, internal carotid and lungs. Manson and others have shown that transmission from man to man occurs through the agency of Culex-Fatigans, Anopheles-Niggerrinus and other mosquitoes which extract the embryo with the blood from the infected patients. In the mosquito the embryo undergoes several changes and passes from the stomach to the thoracic muscles and then to pro-thorax and finally into the proboscis, thence they are injected into a new host and reach the lymphatic system where they become sexually mature, impregnation of the female occurs and in the end Ova and their contained embryos are deposited in the lymph. In due time the embryos, still contained in the stretched out egg-capsule which forms the sheath of the embryo, pass through the lymphatic glands and enter the circulation by way of thoracic duct and left subclavian vein or by the lymphatic of the upper part of the body.

Pathological effects of filaria.—Although both adult worms and embryos are often present in large numbers without producing evil effects, they frequently do serious harm by the obstruction to lymph circulation offered by the parent worm and the Ova. The lymph is dammed back and its pressure raised and this in time leads to great dilatation and varicosity of lymphatic with lymphatic odema or lymphorrhoea in the affected area. The obstruction may be complete from the first as when a mass of worms or ova become impacted in the lumen of the

lymphatic vessel or it may be partial at first but gradually become more complete from inflammation and consequent thickening of the coats of the lymphatic owing to the irritation by the worms or ova within it. The ultimate effects in any case will depend on the efficacy of collateral circulation. Thus if the thoracic duct itself become blocked the chyle can reach the circulation by passing backwards by way of abdominal and pelvic lymphatics to the lymphatics of the groin, scrotum and on by those of abdominal wall, chest and neck into the right main lymphatic trunk and on to the subclavian vein. The whole of this tract of lymphatic vessels and the thoracic duct itself upto the actual obstruction may become hypertrophied, varicose and greatly distended with chyle which may leak from the vessel on the slightest injury or may even exude without any break of surface. The condition produced therefore depends upon the position of the block in the lymphatic system, the degree of obstruction and the state of collateral vessel. F. Nocturna is seldom seen in the blood of well-developed filariasis and least of all in elephantiasis. This is either due to the death of the parent worm or complete obstruction in the lymphatic area. So much so the embryos cannot pass into the general circulation.

Clinical manifestations of filariasis.—Filarial abscesses may be divided into 3 main groups according to their situation :

(1) in the scrotum where they may occur as

  (*a*) suppurating hydrocele ;

  (*b*) abscess in the spermatic cord ;

  (*c*) abscess below the testicle ;

(2) in the limbs occurring in the situations rich in lymphatic tissue and generally in the immediate neighbourhood of the great vessels. They are common in the axilla and popliteal space.

(3) Intra-thoracic and intra-abdominal abscesses. The former is seen in the posterior mediastinum and very difficult to diagnose and the latter more common in retro-peritoneal tissue especially in the iliac region. According to Manson symptoms seen are hectic temperature and deep seated pain in the thorax or abdomen. Symptoms of filarial abscess are prolonged rigor followed by high temperature in a filarial subject sometimes this being preceded by attacks of lymphangitis. Parent worm may be found in these abscesses.

Treatment.—Incision and drainage.

II. *Lymphangitis and Elephantoid fever.*—Signs similar to those of septic lymphangitis are present in a marked degree. High fever, prolonged rigor, inflammation and induration along the lymphatic, redness and congestion of the skin are the prominent features. Abscess formation may occur or relief may be gained by the discharge of lymph. Recovery is incomplete, some thickening of the lymphatic persists. Subsequent attacks finally induce well developed elephantiasis. Blood may show M. Filaria. Treatment local and general. Local rest, cold applications within 24 hours followed by hot applications, pig. belladonna for pain and sling. General purgative salycilates, triple sulphate mixture, later tonic small doses of salvarsan etc. Special care must be taken for massage and bandaging to promote the absorption of inflammatory products.

III. *Elephantiasis of the scrotum and penis.*—By far the most common manifestations of filariasis. It has a special predilection for certain sites such as the scrotum and lower extremities; but it is also met with in the arms, breasts, vulva, scalp and in certain circumscribed areas in the limbs, trunk and neck. It is the natural result of blocking off of the lymphatic stream. The first symptom usually being an attack of fever and lymphangitis. If the obstruction is sufficiently localised we will find scrotum more pendulous, skin abundant, softened, either quite smooth or blotted over with tiny vesicles distended with or discharging lymph. Sooner or later an attack of lymphangitis occurs which on subsiding leaves the scrotum much larger and the skin much tougher and thicker. With each attack the scrotum assumes enormous proportions. Weight as much as 225 pounds recorded. As the scrotum swelling enlarges it draws with it the skin of the lower abdomen, perineum, buttocks and thighs. The penis which is attached by suspensory ligament to symphasis pubis is dragged to an enormous length: the prepuce and the skin of the body of the organ is being pulled down to form an elongated hood which becomes buried in the mass as a long funnel. In some cases the skin is thick and rough and appears very like coarse pig skin and hair follicles often hypertrophied. In most of the cases it is associated with double hydrocele and double inguinal hernias. In some cases penis remains unaffected. In a few cases penis alone is affected giving a characteristic appearance very common in this District. On section skin layer markedly hypertrophied. Deeper to it, blubbery, fatty areolar loose connected tissue containing many blood vessels, penis cords and testicles are all embedded in this

milky white tissue which can be easily stripped off. Spermatic cords are enormously lengthened. Vessels very much increased. Testicles sometimes atrophied but in most cases healthy and surrounded by thick walled vaginal hydroceles.

Treatment.—Complete excision of the scrotal tissue and tissues covering the penis after careful dissection of both testes and cord and depositing both testes in pockets of skin made in the thigh near the groin and covering of the raw surface of the penis with Thierschis graft. This grafting may be done at one stroke or subsequently after a week. Care should be taken not to injure the urethra which catastrophe has fallen to the lot of several big surgeons.

Elephantiasis of the legs.—Common below the knee. There is a great increase in the size and the skin has the usual elephantiatic characters, nails are thick, rough, deformed and around the joints deep folds are produced so that the articular movements are still possible. Usually owing to weight of the part, walking is exceedingly difficult.

Treatment.—(1) Injection of fibrolysin and rectified Iodine by mouth. (2) firm bandaging from below upwards ; (3) Kondoleons operation which consists in long incisions through the skin and removing a broad strip of subcutaneous tissue, including the deep fascia and the facial covering of the muscles so as to expose large area of muscles. Presumably a new absorptive lymph area is thus opened up and modified collateral circulation is established. The skin is so sutured and the limb elevated till healing is complete. (4) Lange's modification of the above operatian in which in addition to the above procedures incision is made into the periosteum and drilling holes into the medulla. This operation has been performed by me in 6 cases with beautiful results ; the patients have been in touch with me for the last 6 years and they are very happy over the results. (5) Radium pack proves beneficial in certain cases but nowhere except in Madras can one ever think of this treatment. (6) Lymphangiosplasty consists of producing artificial lymph channels by introducing carefully sterilised silk threads through the subcutaneous tissues of thickened area, leaving it buried therein and carrying it up into normal tissues (Sampson Handly). I am not in favour of this operation and I have seen the results done by a surgeon in Trichinopoly on 3 of my friends at Cuddalore and the results are extremely bad. Personally I have no experience of this kind of operation myself. (7) Streptococcal vaccines may be tried especially when elephantoid fever still tends to occur.

Varicose lymphglands.—This condition is described by Manson occurring in femoral and inguinal glands rarely in axillary glands. They form at first painless soft swellings weighing considerably in size and may be unilateral or bilateral occupying above and below poupart's ligament. After sometime an attack of lymphangitis occurs and the swelling becomes tender and increases in size. They contain chyle or lymph like fluid in which embryo may be seen. They are often associated with lymph scrotum or chyluria or chylous hydrocele. On dissection they are found to consist very largely of masses of varicose lymphatic connected with large lymphatic verix in the pelvis and abdomen.

Treatment.—Never excise these glands since it will lead to interference with lymphatic collateral circulation which will result in elephantiasis of the leg or lymphorrea or enlarged dilated lymphatic in other parts.

Lymph scrotum.—Is a condition due to filariasis in which the scrotum is enlarged and pendulous. The skin is soft and smooth and may contain some dilated lymphatics from which lymph or a chylous fluid may escape. It is often associated with varicose groin glands and not infrequently becomes subject to attacks of lymphangitis and elephantoid fever which finally leads to typical elephantiasis.

Treatment.—Complete removal of the scrotum. Sequelae: elephantiasis leg or some other filarial lesion due to removal of the portion of collateral circulation.

Chylous hydrocele and filarial orchitis.—In certain cases owing to the rupture of dilated lymphatic in the wall of tunica vaginalis a hydrocele is formed which contains chyle. This will be painless but not translucent, associated with varicose groin glands or lymph scrotum of some other filarial lesion. Embryos will be found in the blood and also in the hydrocele fluid.

Treatment.—Periodical tappings.

Treatment of filarial orchitis: pig. belladonna suspensory bandage, salycilates, triple sulphate mixture, arsenic or antimony injections.

Lymphatic varicocele.—Here lymphatics of the spermatic cord are greatly enlarged, varicose and tortuous simulating ordinary vericocele.

Treatment. — Similar operations as we do for ordinary varicocele.

Filarial synovitis of the knee is common and is described by Col. Maitland, Surgeon of Madras in his book.

Treatment.—Frequent aseptic tappings, and firm pressure and rest to the joint and early passive movements.

Chyluria.—Due to the obstruction of the thoracic duct or in the main trunk near it. As a result, the abdominal and pelvic lymphatics become varicose. Great bunches of filarial lymphatic surround the whole course of urinary tract. If from any cause the rupture of the lymphatic occurs chyle escapes into the tract and will pass in the urine. The passage of milky urine perhaps preceded by lumbar pain is the characteristic symptom.

Treatment.—(1) Urea stibamine (2) small doses of salvarsan (3) Acton in his research in the Tropical Institute of Calcutta favours a course of tryparsimide injections. Danger of optic neuritis to be remembered. In addition, careful dieting; some recommend fat-free and some recommend fatty diet.

Raising of pelvis :—

Chylous Ascites.—Should rupture of a dilated lymphatic varix takes place into the peritoneal cavity, above condition results.

Chylous diarrhoea.—This condition is due to a rupture of a lymphatic varix in the lumen of the intestine.

Thus, ladies and gentlemen, I have given you an idea of the various affections. It is now proper I should close. I thank you one and all for the patient hearing.

EPIDEMIC DROPSY, ITS OUT-BREAK IN THE DISTRICT OE MANBHUM, BIHAR*

BY

A. T. ROY,

Asst. Medical Officer, Leper Colony Purulia.

"To keep an open mind and to treat each out-break on its merit" is an expression which is very difficult to follow Who would be able to ignore the theories observed by experts in so many out-breaks and in so many years and to turn every thing topsyturvy? Every one is likely to be biassed with the old theories at least to some extent. This is what has exactly happened with Epidemic Dropsy and Rice theory. Decades have passed, we have been hearing of it. So many theories in so many epidemics, but theories they are-with no head and no tail—this expression may be made boldly with reference to the epidemic of Manbhum this year.

Before describing this epidemic it appeals to the writer's mind that an idea of the disease should be given for the general information of the readers, as the disease is not a very common one and every one is not likely to be familiar with it.

* Specially contributed to 'The Antiseptic'

The disease with oedema of legs and feet, heart palpitation and glaucoma was known centuries ago in China. Of the two forms Paralytic and Dropsical described by Marshall, the latter variety was named Beri-Beri. The name, Epidemic Dropsy was introduced by Col. McLeod when the disease broke out in Calcutta and he thought it was an infectious disease and was communicable from man to man. He came to this conclusion because he observed the disease to spread in places where the people were sent from Calcutta where there was an epidemic. But his conclusion was doubted because the followers of the "Infected Rice theory" criticised Mc.Leod for having overlooked the point that infected rice was also sent with the party. So rice theory could not be annulled. It was further observed by the latest experts that the disease broke out in Calcutta and in its vicinity and where the Bengal rice was generally exported. The latter party at the same time observes that though E. Dropsy has some symptoms of its own to differentiate it from Beri-Beri, it is hardly possible to differentiate it if the two diseases break out in the same place. Fortunately enough inspite of so many deviations in theories, one point is common to all and that is-the sufferers are all rice eaters. The symptoms observed in the last out-break were—swelling of the feet, diarrhoea, vascular mottling, fever, palpitation of the heart and as its sequelæ, glaucoma. Death was caused by heart failure.

Causation of the Disease

As Epidemic Dropsy resembles Beri-Beri almost in all the symptoms, its causative factors also have been discussed in the same line. That both the diseases attack the rice eaters is undoubtedly an established fact. No causative factor of either disease has yet been found out. There is little criterion to distinguish the two diseases. So it is better to discuss these as one. Latter discussion will show that many of the symptoms which were thought to be limited to one of these two diseases, could be found in both. As a result of observations in different out-breaks some theories have been put forward, which are mainly divided into three heads :—*viz*, Intoxication, infective and deficiency theories.

Intoxication.—Of the many intoxication theories Braddon's is the most important. He was the first to think of rice. He thought toxins were formed in badly stored, overmilled rice which were infected with micro-organisms. It can be said it was he who

made the other people think of rice—rightly or wrongly. It will probably be not too much to say that his followers were biassed to some extent with this theory and tried a great deal to establish it.

Infection.—It was thought of, but no importance was given to it, probably because only infection of gut was thought to be due to the symptom, diarrhoea, which is almost always a constant symptom of the disease.

Deficiency.—Much has been done to prove this theory. This disease when breaks out affects both rich and poor. So one would wonder how this was thought of and how those brains worked with the theory for so many years. Deficiency sufficient to produce the symptoms cannot occur at the same time to so many people, poor and rich, young and old.

Its Out-Break in Manbhum.—In 1927 a family affected with the disease came from Calcutta to Chandil, a sub-division of Manbhum and thereafter 11 families were affected. In 1928 and 1929 some cases were reported but no step was taken in any form. In 1930 some cases were seen in Purulia, headquarter of the district. But as these cases were very few with no serious result, no one took any notice and thus no measures were taken to investigate the cause of the spread. In 1932 some cases were again seen in Purulia and in Nadiah, a village 25 miles off the town. In both the places there were deaths. In 1933 Nadiah was more and more affected. Some adjoining villages were also attacked and there were some cases in the town also.

In September and October 1934 there was an influx of changers affected with Epidemic Dropsy from Calcutta. In September a few cases were found among the town people also. In October and in November it seemed that the whole town was affected. Reports were also pouring from the adjoining villages of heavy number of incidences and deaths.

Symptoms.—Pain—in the extremities particularly in shins. It was marked in a number of cases.

Diarrhoea—This was a very marked feature in this out-break. Almost all the cases suffered from it. In severe cases it continued throughout the disease. In some cases again the stools were found mixed with blood and mucus (dysentery).

Oedema.—The above symptoms were followed by oedema of legs and feet which pitted on pressure. It started in the noon, became worse by the evening and subsided by the morning. In some cases swelling of the faces and hands along with the swelling of the legs and feet were found. In some cases the whole body was found oedematous.

Heart.—Palpitation of the heart started at this stage. Dilation of the heart was marked in a number of cases.

Vascular Mottling.—Small red marks specially on flexure surface were seen in a good number of cases.

Black Pigmentation—Heavy black pigmentation on the forehead and cheeks was a special feature in all the cases. Those who took greatest care at the earliest part of the onset and avoided serious symptoms could not overcome this pigmentation. In fact this pigmentation in some cases acted as a diagnostic point.

Blood Pressure.—This was taken on 44 cases. It was very high except in those cases where diarrhoea was continuing for long where it was low or normal.

Abortion.—In the early part of the epidemic, the writer attended 3 cases in a house one after another in a week. None could understand the cause of such a mishap. Afterwards it was found out that abortion was inevitable in a case of pregnant Epidemic Dropsy case. A report reached us that in a village there was no case of birth in a year but only abortions.

Symptoms as that of Piles were complained of by many cases. Bleeding through the gums, coughing of blood, Malena and hæmatemesis have also been noticed.

Knee-Jerks.—No marked difference.

Fever.—Not a common symptom.

Discussion on Symptoms.—Of all the symptoms, the diarrhoea, Oedema of legs and black pigmentations of fore-head and cheeks were most common. There were many cases again who could complain of nothing but weakness and black pigmentation. No swelling, no diarrhoea (dry Beri-Beri ?) ; these latter cases could be hardly diagnosed if the epidemic was not prevalent. Fever, exaggeration of knee jerks were told to be very common symptoms of Epidemic Dropsy, but in this out-break these two were not at all prominent. Glaucoma is being complained of by some. Death was due to heart failure.

Heavy black pigmentation, symptoms as those of piles, bleedings, abortions were never reported before. Cyst-like growth was reported in one case only. In this out-break a few cases of such growths were seen, on puncturing these bled profusely.

Climate.—Manbhum is quite unlike Bengal. It has always been considered to be one of the best health resorts for her dryness during the rains and the winter, her cool nights during the summer. No part of it becomes damp in any season.

Its Association with the rice theory.—Seldom any one of the districts use milled rice. Parboiled rice, domestically husked with

'Dhenki' are available in large quantities. Paddy (rice as harvested) is stored in the following ways: Long thick ropes are made of straw. Some paddy, a maund or so, is put on straw which cover the paddy. Then the whole circumference of it is rolled up with the rope of straw. The whole then looks like a ball. The other way to store the paddy in a bigger scale is that the whole quantity is put into a circular house on a platform with a roof. This way of storing is very hygienic. There is no dearth of ventilation and it is rat proof and rain proof if properly made. Storing in barrels and in tins are not common here at all. Storing in big godowns, by the Marwari merchants is not uncommon but the villagers of Manbhum seldom use them. In this epidemic it was very common that the cultivators who cultivated, harvested and husked their paddy at a time sufficient for a few days and cooked their own rice, also suffered. Again it was also found that the consumers of the rice of this season (new rice) also could not escape the attack. Most of the villagers used their own harvest and made paddy into rice in a small quantity at a time, but the disease broke out there in no less severe form than in the town. A striking example was its out-break at the Purulia leper colony with 800 inmates which is situated at the skirt of the town. There are different sections of this institution *viz.*, (1) Healthy boys home. (2) Healthy girls home. (3) Observation boys. (4) Observation girls. (5) Leper boys. (6) Leper girls and the wards of men and women. Rice is supplied to all these sections from the same source either from its own store or from the same godown of the Marwaris of the town but the other food stuffs are supplied by the different people to the different sections viz., a man supplies oil and vegetable etc., to the healthy boys and girls. Another man supplies these to the observation boys and girls, leper boys and girls while the inmates of the wards are supplied with pice in lieu of vegetables and other things. These inmates buy their necessaries from a shop situated in the Colony. The first supplier had been supplying the healthy boys and girls with mustard oil which is usually used here from the local oil men (Kulu) who extracted their oil in their wooden Ghani and which was generally supposed not to be adulterated. The other sections were supplied with mill-oil which were afterwards found below standard in chemical examination. There was not a single case in the first two homes. While in others 70 per cent were attacked. From the above, rice can be safely excluded to be a causative factor of the disease. One and the only one point for rice is that all the attacked people are rice eaters.

Sun-dried rice eaters for the last two years were also attacked very severely. As the people of the district are in the habit of using parboiled rice, it is difficult to distinguish between the two varieties of rice. Rice bacilli were grown from the suspected infected rice which did not show much encouraging result in agglutination with the sera of some of the cases.

Its connection with the mustard oil.—As the public cry was against the oil, the Chairman of the Municipality took samples from the local mills for chemical analysis and almost all were found to be below standard. Users of the Jail oil were least affected. An instance of the Purulia Leper colony also shows the non-mill oil user did not suffer at all. The District Engineer's story was very interesting on this point. Three families came to his house for a change. He ran short of mustard oil, which he used to bring from a mill situated 50 miles off. To meet the necessity, he brought a tin of mustard oil from the local market. No sooner was half the tin used up, than disease broke out in the whole family with disastrous result. There are many such instances. All these undoubtedly lead one to think that the oil though it may not be a cause, has certainly something to do directly or indirectly.

Its connection with the infective theory.—This disease breaks out as an infectious disease does *e.g.*, Influenza, but as all the sufferers are rice eaters one has to think so may times before stepping into the point of infection. Can it not be then an infection which grows in the medium of rice or adulterated oil or any other adulterated foodstuff? There is room, no doubt, to work in this line.

Its connection with the deficiency theory.—It has been mentioned in this paper that the old and young, rich and poor are all alike affected and deficiency cannot happen to all at a time to get the out-break of the disease. At the same time it can be said that the rich and middle class people of this district are used to diet which is not at all deficient in any vitamin. So it can be neglected.

Treatment.—Doctors were not sure of the causative factor; people were terribly frightened. So it was decided at a meeting of the Health Committee of the Municipality to pay respect to all the theories *e.g.*, to stop rice, to take good oil, and ghee, and to take sufficient quantity of good vitaminous vegetables. To the affected ones Tr. Ephedrine ½ drm. thrice daily was tried. In the case of heart trouble, Strophanthin intravenously does much good, perfect rest is essential. In fact there is no hard and fast treatment. Each case is to be treated on its own merit.

Summary.—Out-break of Epidemic Dropsy in Manbhum has been observed and its probable cause or causes have been discussed. Probable causes observed in the last out-breaks have also been discussed. In the present out-break the rice cannot in any way be held responsible as very few here use stored or milled rice. It did not break-out in all sections of the Purulia Leper Colony though rice was supplied from the same source. Though nothing has yet been found out in mustard oil, observation shows that adulterated mustard oil may have something directly or indirectly to help the causative factor. Infection may have some thing to do, but only infection cannot prove the fact as it is limitted to one section of people only *viz.*, the rice eater. It must be noticed that the rice eaters here are all mustard oil users. Deficiency theory cannot in any way stand discussion.

Acknowledgements are due to Mr. J. B. Sen the Chairman of the Purulia Municipality for lending his note written in connection with this epidemic before its publication.

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1. *Tropical Medicine. Rogers and Megaw, 1930.*
2. *A short note on the Out-break of Epidemic Dropsy on Beri-Beri at Purulia and in the District of Manbhum in 1934. By Mr. J. B. Sen, the Chairman of the Municipality—Purulia.*
3. *Epidemic Dropsy.—Indian Medical Record, Silver Jubilee Issue.*

A SHORT NOTE ON MEASLES*

(With Special reference to a few epidemics seen by the writer during the years 1928 to 1934.)

BY

JAMINI KUMAR CHAKRAVARTY L.M.P., L.T.M.,

Hilika T. E. Assam.

I DO not claim to bring forth before you anything new on the above subject. Only thing that I propse to say is just to recapitulate the old things. We, as Tea garden doctors, are confronted with cases of measles almost every year. As such, this disease is particulary familiar with us and yet worth discussing in such a gathering. Over and above the recapitulation, I am trying to produce before you a few comparative charts on various complications with deaths etc. Also incidence of the disease by months and years with relation to average rainfall and temperatures as noted in Hilika T. E. Hospital during the last few years.

* A paper read at a meeting of the Assam Frontier and Budla Beta Medical Society, and specially sent to the 'Antiseptic' for publication.

Definitions.—It is defined as an acute, highly contagious fever with specific localisation in the upper air passages and in the skin.

History.—Rhazes, an Arabian Physician, in the 9th century described the disease with small-pox and believed it to be its milder form, until Sydenham separated them in the 17th century.

Geographical Distribution.—It is widely prevalent almost in every country and appears mostly in epidemic form though sporadic cases are not uncommon.

Etiology:—The liability to infection is almost universal, if not protected by previous attacks. Direct contagion is most common. A child with only the catarrhal symptoms in the pre-eruptive stage, is quite a fertile source of lightning up an epidemic in a locality. It is very difficult to detect such a case in the cooly lines until the actual rash appears.

The causative organism is unknown. J. F. Anderson has shown that the contagion is present in the blood, secretion of the mouth and nose, and in the skin, which is propagated through the air with dust, toys, pencil etc.

In the 18th century, Monro and others have demonstrated the inoculability of the disease. Relapse is very rare but possible. The germs are said to lose their virulence soon after exposure to the sun.

Morbid Anatomy.—Catarrhal and inflammatory appearance of the lymphatic elements etc.

Symptoms.—It has got an incubation period of 7 to 14 days. The whole process of the disease is divided into period of invasion, period of eruption and period of desquamation with convalescence. The period of invasion lasts for 3 to 4 days followed by eruptive stage. During this period the patient suffers from Rhinitis, Laryngitis, Coryza with fever, slight oedema of the eyelids mostly the upper, associated with headache, nausea, vomiting and cough; sometimes diarrhoea and convulsions. In cases of children, they become very much irritable, refuse food and like to remain quiet and undisturbed. The temperature goes down for a day or two and then the eruptive stage starts. After 3 to 5 days, the temperature goes up very high 103 to 105° F. and prodromal rash appears. Very thin scattered macules can be seen by standing by the side of the patient's bed which is more easy to see when seen from a little distance, than from closer inspection. At this stage the fever becomes very high and lasts for 2 to 3 days. Along with these little red spots, something like flea-bite or prickly heat begin to appear in the face and forehead. These increase both

in size and number and group themselves in clusters, when they are slightly raised from the skin (Velvety appearance). From face they gradually spread downwards to the other parts of the body (Sydenham).

The fever drops with crisis when the rashes are all out. In uncomplicated cases the temperature continues to remain normal from 7th to 9th day onwards.

Frequently the temperature shows a daily rise of high or low degree indicating some complication or some other associated disease. The incidence of associated malaria and Ascariasis in case of children should not be overlooked, as they are so very common in tea gardens.

The buccal spots were described by Filatow in 1895 and Koplik in 1896. These spots were described as white or bluish white specks, surrounded by a red areolæ on a level with the base of the lower milk molar which I could not elicit in any of my cases. Renger states about opaque white spots on the mucous membrane of the lips. Desquamation starts just after the rash fades from 8th to 9th day onwards. In some cases it takes some considerable time, two weeks or more to have complete desquamation. Sometimes it leaves temporary marks on the skin which takes several days to disappear, irrespective of fair or dark complexion.

Atypical cases are also described as attenuated, abortive and malignant forms.

I have seen a few cases of the first type but failed to detect the other two (Attenuated means cases getting well earlier. Abortive means cases not showing any eruption and malignant—the very virulent type in which death may occur even on the 2nd day).

Complications.—They are numerous. No other disease has got so many complications as measles. Death from Measles itself was not seen by me. I had 3 cases in the last epidemic who developed gangrene of the skin and died. One of them was suffering from Impetigo. Table No. 3 will show the rate of different complications with mortality in my series of cases.

After an attack of measles some children got readmission with bowel complaints such as indigestion, diarrhoea, dysentery, etc., and debility, pulmonary tuberculosis, otorrhoea and pneumonia.

Diagnosis.—Diagnosis is easy when there is an outbreak of the disease in an epidemic form or by presence of Koplik's etc.

Differential diagnosis.—is to be made from the following:—simple coryza, influenza, small-pox, chicken-pox, drug eruptions, (vela water rash) urticaria, Flea bite, syphilitic rash.

Prognosis.—Is not so bad from the disease itself as from its multiple complications. Mortality rate in my series of cases was 3.57 P.C.

Prophylaxis.—Early detection of the first case with careful quarantine and disinfection of the clothings etc. If the first cases are not early detected and properly segregated there is every chance of an epidemic where there are non-immune subjects.

The root of an epidmeic can always be traced to an outsider who comes at the stage of invasion or desquamation and stays in the line for a few days. Some authorities state about injection of serum from convalescent or pooled parents' blood as prophylactic measure, as protective against the disease. This protection lasts for six weeks.

Treatment.—Mainly symptomatic. I always use quinine for the first four days and another mixture containing Theocal as antiseptic with ordinary diaphoretic and sedative cough mixture. Anthelmintics for the children almost always used. Warm sugar-candy solution with cold infusion of "Mothi" is also tried as drink with advantage. In certain cases of severe Bronchitis, 'Bronchitis kettle' was used. During the period of desquamation eucalyptus oil mixed with some bland oil was rubbed on the body. Daily wash of the eyes and mouths with antiseptic lotion and protection from excess of light, heat, cold and sunlight was carefully observed.

The common country practice of rubbing the body with a paste of Haldi, Neem and mustard oil before bathing in the desquamating period is not bad. Otitis media even after the attack might occur. A few cases of otorrhoea amongst the children might be due to previous attacks of measles; so one should be careful about the serious complication of Mastoiditis.

Before conclusion I should like to summarise the few underlying points which I have observed from the tables attached:—

From table No. 1.

(*a*) That the disease may occur in any month of the year.

(*b*) Spreads most extensively at change of season.

(*c*) Occurred in epidemic form in every third year.

Table No. 2.

(*a*) Males and females are almost equally prone to it. Death rate in females higher than males. (*vide* Table No. ii.)

(*b*) Children under 3 months were not affected.

(*c*) Children between 1 to 4 years suffered most.

(*d*) No age is exempted from 3 months to 50 years.

Table No. 3.

(*a*) Of all complications, Bronchitis is so common that it can be stated as a symptom and not a complication. Here I have taken into account only the severe type of Bronchitis.

Broncho-Pneumonia and Lobar Pneumonia are serious complications. Bowel disease generally starts in the stage of desquamation and comes next to lung complications. Debility and otitis media may occur after the attack. Of these debility is very common.

(*b*) Gangrene is one of the uncommon symptoms seen only in the last epidemic. They were children between 8 months to 1½ years of age. One of them was fair and the other two were of dark complexion. It started on the abdomen in one and in the thigh in another and from labia in the third. The skin and the faces were involved and the muscles became exposed. All of them died between 6 to 14 days. One of the children was suffering from Impetigo, got measles on the top of that, developed gangrene of the thigh. This happened after two weeks of measles.

(*c*) Adults suffered from Pneumonia mostly.

From Table No. 4.

From the graph it appears that rainfall and temperature have not got much to do with occurrence of measles.

In conclusion, I wish to offer my sincere thanks to Dr. W. F. Whaley and Dr. H. S. Slaughter for their valuable help and advice I got in treating the cases. Also my thanks are due to Mr. A. W. F. Henderson Manager, Hilika T. E. for his never-failing help and sympathy.

References:—

1. *Oslar's Medicine.*
2. *Hewletts Dictionary of Treatment.*

Statement showing the number of cases of Measles occurred by Month during the Years 1928 to 1934.

Years.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Grand Total.	
	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.
1928	7		3		4		19		66	1	32	3	30		37	3	7		14		51	2	36	2	306	11
1929					1								2												2	
1930							18		66	1	26	3	13		9	1			2						134	5
1931											1														1	
1932																	6		12							
1933					1						5		15		28	2					2		2		154	6
1934	7		3		2		1										1								14	
Total.	7		3		4		19		66	1	32	3	30		37	3	7		14		51	2	36	2	306	11
Percentage of Deaths.										1.51		9.37				8.10						5.55		5.55		3.57

Table No. 2. Hilika Division (A. F. T. Co. Ltd.)

Statement showing the cases of Measles by age incidence occurred during the Years 1928 to 1934.

Years.	Number by Sex.						1 to 4 weeks.		1 to 3 Months.		3 to under 6 months.		6 to under 12 months.		1 to under 5 years.		5 to under 10 years.		10 to under 15 years.		15 to under 30 years.		30 to under 45 years.		45 to under 60 years.		60 years up.		Grand Total.	
	Male Cases.	Deaths.	Female Cases.	Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.	Total Cases.	Total Deaths.
1928	1		1		2		Nil.	Nil.											1				1						2	
1929			1		1		Nil.	Nil.			1																		1	
1930	66	1	68	4	134	5	Nil.	Nil.			2		4		101	4	23	1	1		3								134	5
1931	1				1		Nil.	Nil.													1								1	
1932							Nil.	Nil.	Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.	
1933	74	1	80	5	154	6	Nil.	Nil.			1		19	3	105	2	16	1	7		4		2						154	6
1934	9		5		14		Nil.	Nil.			1				5		5		1				1		1				14	
Total ...	151	2	155	9	306	11	Nil.	Nil.			5		23	3	211	6	44	2	10		8		4		1				306	11
Percentage.		1.32		5.81		3.57								13.04		2.84		4.54												3.57

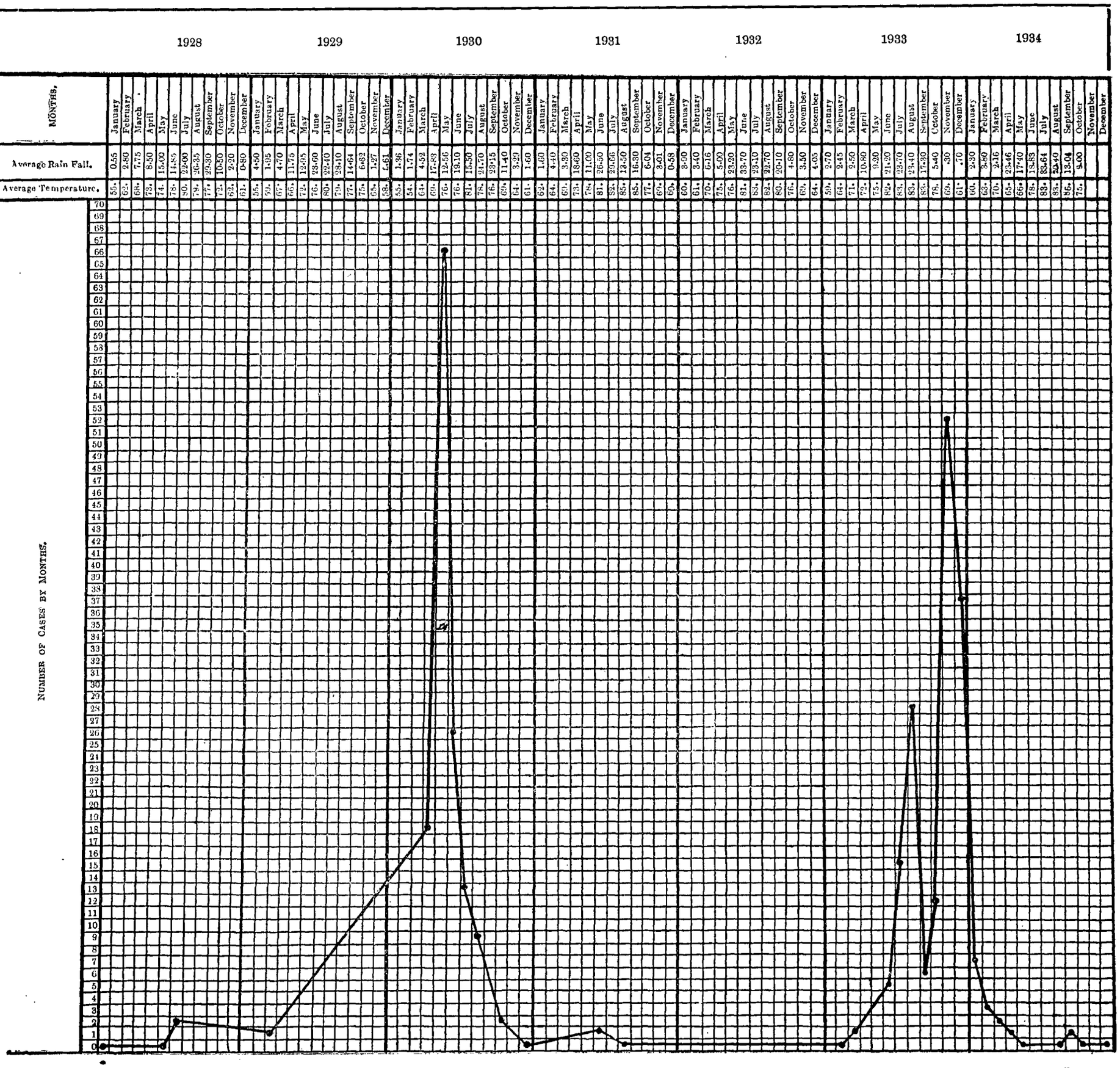
Table No. 3.—Hilika Division (A. F. T. Co. Ltd.)

Statement Showing the various complications of Measles detected during the Years 1928 to 1934.

Years.	Total number of Cases	Total number of deaths	Complications.																				Late Complications.												Percentage of deaths.
			Simple measles		Bronchitis		Broncho-Pneumonia.		Lobar Pneumonia		Stomatitis		Simple enteritis		Enteritis with blood mucus		Coma and gangrene		Meningitis		Nephritis		Epistaxis		Eye complication		Grand Total		Percentage of deaths.	Pulmonary Tuberculosis		Otitis media		Debility		Mastoiditis		Grand Total		
			Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths		Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	Total Cases	Total Deaths	
1928	2		1																				1		2						1				1		
1929	1		1																						1												
1930	134	5	64		42		5	2	2				5	1	12	1			1	1	1		1		134	5	3.51	2	2	6		24				32	2	6.25
1931	1		1																						1												
1932																																					
1933	154	6	27		94	2	4	1	2		3		4		14		3	3			1		1		154	6	3.89	1	1	10		30				41	1	2.43
1934	14		2		6		4		1						1										14						2				2		
Total	306	11	96		142	2	13	3	5		3		9	1	27	1	3	3	1	1	2		2		3	306	11		3	3	16		57				76	3	
%age		3.57				.41		23.7						11.11		3.70		100		100						3.57												3.94

Table No. 4.—Hilika Division (A. F. T. Co. Ltd.)

Graph Showing the incidence of Measles by months and years in relation to average Rainfall and Temperature.



MY OWN EXPERIENCES OF HELIO THERAPY IN SWITZERLAND*

BY

MR. KUMAR T. NARAYANA MENON,

Tinnevelly.

IN response to the very kind invitation of Colonel Shastry, I rise to address you a few words on "My experiences at Leysin". It is not for me, a layman, to place before you any medical facts and statistics. That would be presumptuous. I shall merely expound the patient's point of view, as from an ex-Leysinois, a privilege enviable or unenviable that is mine. I shall start giving you in brief the *History of my own self.*

In 1919, when I was sixteen years old, one evening, indulging in some aquatic sports, I made a swallow dive from a height and instead of falling straight into the water, I landed not too comfortably on the edge of a boat that was lying in dangerous proximity. Extraordinary, there was no outward injury, but the sacro-iliac bone had, although not known then, registered the incident.

Quite a few days later, I woke up one morning with most acute pains in my left hip that pinned me down to my bed for several months. Various treatments followed various diagnoses.—Allopathic, Ayurvedic, Unani, Mantric and Tantric and Coue's—I tried every thing:—Holy priests who sent me to Benares, palmists that saw palmy days for themselves, and astrologers galore, were all pressed into service. But to the Doctors, my disease remained like a crossword puzzle with a catch in it. The pains I complained of near my hip could not be explained. My fever persisted. Col. Elwes and my late uncle Dr. T. Krishna Menon who were brought down from Madras put my left leg on extension for six months. My pain gradually disappeared. My fever subsided. And for a short interval although looking very delicate, I resumed normal activities of life.

In 1921 a desperate attempt on my part to recover lost ground in my college studies brought about a relapse. I had high fever and a few days later a harmless-looking swelling appeared on my left side and a mofussil Doctor introduced the knife, a none too aseptic handling of the wound that showed little inclination to heal brought secondary infection and infinite trouble. I

* A paper read at the Tinnevelly Dt. Medical Association and specially sent to the 'Antiseptic' for publication,

had low fever, rise in the evening, loss of appetite, occasional night sweats. Emaciated and anaemic, I became a T. B. suspect. I was sent to Madras and placed under the care of Dr. Chandrasekhar who tried Von Pirquet's, Calmette's and other tests, all of which gave negative results. Even in my worst days I was free from cough. Nevertheless, Dr. Sekhar was definitely of opinion that my lungs were affected. X-rays gave no definite ruling. Dr. Sekhar put me on Sodium Morrhuate injections and plenty of food. He tried tuberculine which did not agree with me and followed them up with X-ray, electric and ozone treatment and artificial sunlight. Meanwhile, two more abscesses formed. Dr. Chandra Sekhar was against surgical interference but as my condition reached some crisis at one time, he called in Col. Symons the then acting Surgeon-General who came to treat me as a friend. He was for immediate operation and removed 16 oz. of thick grumous stuff under chloroform. I nearly collapsed, but Col. Symon's scrupulously aseptic dressing healed the wound in record time! My troubles were not over, however. The year that followed was eventful. My sinuses were very active. A series of aspirations proved unsuccessful. Another operation was performed (under anaesthesia) by Col. Symons, then reverted as 1st Surgeon, General Hospital, Madras. My general condition remained the same. I was weighing less than 90 lbs.

Early in 1923, both my Doctors agreed that a sea voyage would do me good, and that a few months on the Alps should complete the cure. The idea was not displeasing to me: and an over-anxious father lost no time in instructing Messrs. Thomas Cook & Son to arrange for my passage.

The voyage was pleasant. Inhaling the ozone I forgot the pansements and felt the Joie-de vivre. Three weeks later a little funicular railway puffed its electric way up from Aigle on the Simplon Orient line, and careering through vast expanse of snow and giant fir trees reached Leysin—a small Swiss village, nestling on the mountains at an altitude of 4,500 feet.

Leysin, sheltered from winds by the great Dents du midi Chamoisire and a ring of hills on all sides, affords an ideal place for Sun-cure. It records the maximum hours of sun-shine and is the least windy of all health resorts in Switzerland. Dr. August Rollier, after years of experiments finally made his choice. He established his first clinic in this obscure village for the benefit of his wife, his first patient. From that day onward for the last 25 and odd years he has been handling only surgical tuberculosis cases, and his achievements read like a page of romance. To-day Leysin is

one gigantic hospital. Dr. Rollier's clinics alone number 32 with over 600 patients and a number of other establishments-de-cure have sprung up. The climate has been found so beneficial that one part of the town, Feydey, has been handed over to pulmonary cases, who follow their own method of treatment—pine air and no sun.

I arrived in mid-winter. In a week's time, I was allowed out on the balcony to take the air cure. A thorough examination revealed *lot of bone destruction near the Sacro-iliac bone.* My lungs were declared free from T. B. infection and a scar noted, was attributed to an attack of pleurisy I had when I was a child. My hæmoglobin showed very low percentage. My weight was 95 lbs.—I had gained 5 lbs. on voyage. My temperature did not go above 103 degrees. My pulse ranged between 90 to 100. Dr. Rollier advised me complete rest until my general condition showed some amelioration. For ten months I viewed the world from a horizontal position.

I took sun-baths regularly. I fell in with the clinic's regime completely. I had taken a cook from home with provisions to last for more than six months—lot of hot stuff—Dr. Rollier turned the proposition down. I accepted the clinic's diet and put on weight. In ten months, I gained 15 lbs. inspite of various set-backs. Subsequently X-rays revealed calcification of the bones. Mine was declared to be a streptococcus infection. No medicine was given me for several months. Two specialists, one from Poland and the other from Vienna who came to attend one of Dr. Rollier's annual conferences, saw me and advised me only to eat plenty of spinach. They prescribed no medicines. After ten months I was allowed up, and I enjoyed more social amenities. Another 8 months recorded slow but steady improvement. I was sent to a Thermal station for sulphur baths—Lavey-les-bain, for a change. After a long stay on the mountains the patients are sent to the plains for a short while so that on their return they react better to the hill-climate and treatments. My further progress belied early expectations. My case was one of the most obstinate handled. My sinus refused to heal. I returned to India in December 1925 and I tried this treatment in Ootacamund for a while under the late Dr. Rangachariar's guidance. I was not able to take even 15 minutes' sunning because of the humidity in the air. After six months in India, I left again for Leysin and stayed for another two years. Within six months I was considered radiologically cured. I had no fever but one sinus continued discharging. Outwardly I looked quite healthy—my weight

increased to 120 lbs. I had a dead bone in the system which it was impossible to remove as it was too deeply imbedded. Inspite of it, I was to all appearances a healthy normal man enjoying fairly normal activities of life. It was on a third trip to Europe at the end of 1932 that my last sinus healed. I had no further trouble. Only I feel better in cold climate, Ooty and Bangalore. The heat upsets me. I made two short sea-trips to Burmah, and I took life easy for another year just lazing about, travelling as advised by Dr. Rollier. And I am happy to say I am now considered and I feel a normal man. For the last one year I have been in business with no ill effects to my health.

I shall now explain to you in a few words the method of treatment at Leysin

The Method of Treatment at Leysin

Dr. Rollier's system of Heliotherapy is very simple. It is just *graduated sun-bathing.* The ultra-voilet ray of the sun has not merely curative properties but builds tissues and improves the blood. The solar radiation first arrests the disease and then allows nature to work its marvel. Dr. Rollier has invented *special apparatus* to ensure *perfect immobilisation* of a particular affected part leaving greater freedom to other parts of human body. The patient feels happier, the movements of the body give enough exercise without further injuring the affected part.

Sun-bathing commences almost immediately after arrival, after a couple of days' acclimatisation. The first day only 5 minutes is allowed upto the ankles. The next day 5 minutes up to the knees and 10 minutes upto the ankles Thus gradually the whole body is exposed to the sun for a maximum period of three hours. While exposed an *alcohol compress* is applied to the heart and after sun-cure the whole body is rubbed with camphorated alcohol. The slightest fatigue, rise in the pulse, restlessness or head-ache is noted and sun bathing is stopped. Dr. Rollier is emphatic that an over dose of sunning is as harmful to the system as a proper dose of it is beneficial. The pigmentation of the skin is the first sign that the patient is responding well to the treatment. Some skins blister. It is a curious fact that some of us Easterners cannot stand as much sunning as some of our European friends who turn quite brown and tanned. Sunning has a palliative effect on the abscess. Pain is immediately relieved. The first few days, increased suppuration is observed. Then it completely stops. Retention often follows although the sinus is kept open with a plug and the application of cataplasm is the only thing

advised. During the period of retention, when often the temperture goes more than 38 degrees C. the sun treatment is interrupted. Every three months the patient is X-rayed and every picture tells a story. There is definite change, definite improvement marked.

Dr. Rollier is very much against surgical interference. His chief handicap, he declares, is that patients go to him with terrible deformities beyond repair caused by surgeon's knife. He has a horror for it. In every case where a surgeon had interfered the progress had been slow. He feels on surer grounds, if the patient, however bad his condition, had not seen the knife. He does not also favour the administering of drugs and medicines. He applies artificial sunlight without enthusiasm if Leysin strikes a long spell of bad weather, as she seldom does and puts all patients in bad humour. For lack of hæmoglobin he gives plenty of *spinach* to eat; and unless some complication sets in, he is averse to prescribing any internal medicines. "Montaigues La Belle nature, les suisse, Le beau soleil, Comme le soleil Indien-voila, Ce-que Vousva Guerir—Monsieur". He left everything to nature.

Regarding food, Dr. Rollier advises a *lacto-vegetarian diet*, plenty of cream, fresh milk, youghurt *i.e.*, curd, cheese, salads and fruits. Spinach containing iron, tomatoes rich in vitamin, carrots good for complexion, lettuce and radishes have all their virtues. He gives *little meat* to his patients and that only white meat. In 1929 he introduced the *salt-free* regime. *Pepper was always taboo.* But this was the limit. It was certainly not an Epicurean that invented this diet, but the palate was not given the full vote. It was observed that under a salt-free diet hæmoglobin improved considerably and weight increased and Dr. Rollier claims that it improves the power of resistance of the patient.

Dr. Rollier supplements 'sun-cure' with 'rest cure' and 'work cure'. Between 1 P.M. and 3 P.M. all Leysin goes to sleep. C'est l'heure de silence. No noise is allowed in the clinics or in the streets. Bells do not ring. The elevator stops working. The screens are lowered to shut out the glare. Outside, motor horns do not hoot, and the traffic itself is diminished to the minimum. The three o' clock strikes, sounds come as from a beehive, and Leysin is well awake. The afternoon siesta helps digestion and makes the patient more fit to enjoy such social activities as are permissible to him.

Dr. Rollier discourages any strain to the mind but he allows short lessons in foreign languages to his patients who are also induced to take up basket weaving, book-binding and similar handicrafts. The patient is taught to make something useful—

which, if he is poor will help paying for his treatment and which arouses the interest in both the rich and poor alike. There is one big clinique equipped with all kinds of devices that make work possible to a patient lying immobilised in any position.

Dr. Rollier's patients leave his cliniques not to convalesce but to *take up life's normal avocation.* They get back to their normal work. They take up threads of a broken career. They are fit. Some marry and settle down to a quiet family life.

The chief defect of the Rollier system is obviously its long duration. The patient is demoralised. After the first spurt, the condition for months looks stationary. But Dr. Rollier is quite alive to this aspect of the question. Everything is done to keep the atmosphere cheerful. Patients are not isolated. Beds gather round table of bridge, or take tea and dinner together. They are wheeled into an electric lift that take them to the solarium for a friendly open air chat or cinema hall where Maurice Chevalier or Greta Garbo give their latest. The orchestra plays twice a week. Some patients dance. *There is no suggestion of the hospital.* A healthy cheerful atmosphere prevails and Dr. Rollier's patients look *the very Picture of Health.*

Nature, and all sera and all kinds of medicines invented by science, are incapable of curing if a cheerless pessimism pervades the soul of the patient. The consciousness of being a social outcast, a Harijan among the healthy, a stranger among those who do not understand your long illness, who develop a morbid fear of infection, the feeling that one is a burden to one's own—all these, and a future that holds out no promise, kills all confidence: and the patient, without the will to fight the enemy, only wishes that he may be quickly vanquished. What a different picture of clinic-life in Switzerland!. All sanatorium life must seem on the face of it abnormal. But what Dr. Rollier has achieved is somthing really remarkable, The treatment of 'T. B.' is essentially an *adjustment of life*, that calls for a special technique, and Dr. Rollier's technique is perhaps the best. He shows to you how to make the most of life, that after all holds out much compensation as against certain definite privations. Long in bed one gets an 'objective' sense of life. There is *intense interior life* at Leysin. As you go on curing, you learn new languages, new philosophies, new experiences. You are less sorry at being unable to take an active part in the hectic experiences, effervescent superficialities and mad rush of modern life. In my clinique Miremont, there were 23 nationalities from all parts of the world. Each came with his own tradition, his faith, his philosophy. We

shared common experiences and came to a common interpretation of life. We attended the Assembly of the League of Nations at Geneva—only 4 hours from Leysin, and witnessed the amusing spectacle of world-politicians coming to grips on ephemeral issues. *We ourselves formed a healthier, happier 'Society of Nations'.*

Ladies and gentlemen, I thank you for so patiently listening to me. Before I conclude I would like to say one word. In agreeing to address you I did not want to "carry coals to New castle". My only purpose is to carry through you a message of hope, of confidence and good cheer to those who are fighting a lonely battle, living in isolation, and I appeal to the healthy to understand their life and difficulties better.

CASES AND COMMENTS

OBSERVATIONS ON THE TRYPAFLAVIN TREATMENT OF GONORRHOEA

BY

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Dacca.

IT is rather a useless thing to go into the discussion of the various signs and symptoms of Gonorrhœa, a disease which is so commonly met with now-a-days. The country is on the way to dissipation on all sides and its people are indulging themselves in various forms of luxury; and the venereal disease is one of the outcomes of the modern mode of living.

However, when the disease is once contracted one should not make any delay in undergoing treatment. People should be taught to consult a medical man for their ailments with the early advent of a symptom; when, it is easier for them to be treated and cured radically and the trouble on the part of the medical man as well as of the patient is much minimized.

Gonorrhœa is a disease which is very difficult to cure radically if the case is found late. As regards its treatment, various remedies have been put forth in the market which can only relieve the patient of his agonies but cannot eradicate the germ from the urethra.

Hereunder, a brief sketch of the line of treatment, which, I follow, together with the record of cases thus treated, is given;

and as it was found to be quite satisfactory, I would request my fellow brethren to try it in their respective cases :—

A. *A Patient found in the Acute Stage.*—Absolute rest in bed, copious drinks consisting of soda-water, lemonade, coco-nut juice, sherbut etc., and a bland non-irritating diet. As regards medicine, only an alkaline mixture with Tr. Hyoscyamus is found to be very useful.

No urethral medication—intravenous injection of Trypaflavin 2% in 5 c.c. doses on alternate days relieves the patient of all the ailments, particularly, the scalding pain during micturition, which, makes the life miserable at this stage of the disease.

B. *A patient found in the Sub-acute stage.*—Treatment is the same as that in 'A' with the addition of urethral irrigation with 1% soln. of Protargol.

C. *A Patient found in the Chronic stage.*—In addition to the treatment in the sub-acute stage of the disease, Vaccines Mixed or Combined with Non-specific Immune-Therapy continued for a long time brings about the cure of the patient.

No restriction of diet is necessary in the sub-acute and the chronic stages of the disease except alcohol, spices and acid fruits.

Cycling and riding should be stopped from the very beginning of the malady upto the stage of complete cure.

Case No. 1.—N. C. D., 36, Hindu, male, seen on the 4th day of the disease, copious discharge of pus and blood from the urethra, agonising pain during micturition, painful erection at night.

Treatment.—Soln. Trypaflavin 2% in 5 c.c. (Bayer) injected every alternate day and alkaline mixture with Bromide and Tr. Hyoscyamus.

The patient was much relieved, after a week's treatment, of the pain during micturition—the discharge from urethra much diminished: and after 10 injections of the aforesaid soln. the patient was completely cured.

Case No. 2.—N. K. G., 33, Hindu, Male, seen on the 3rd day of the disease ; discharge of pus from the urethra with pain and swelling of the whole organ.

Treatment—Injection of Trypaflavin 2% in 5 c.c. on alternate days commenced from the beginning, but on the 8th day of the disease one of the inguinal glands of the left side became swollen and inflamed.

Ichthyol and Belladonna paste was consequently applied to the gland and the injection continued. After four days the inflammation subsided and the patient felt quite comfortable,

Altogether a course of twelve injections of Trypaflavin soln. could completely cure the patient.

Case No. 3.—A. C. B., 24, Hindu, male, found on the 6th day of the disease with copious discharge of pus from the urethra.

Treatment:—The patient was given a course of injection of the Acriflavin Soln. 2% in 5 c.c. doses on alternate days. This medicine was brought from Calcutta from Messrs. May and Baker, Ltd., the Bayer's Brand of Trypaflavin being out of stock in the market.

Before commencing with the injection of Acriflavin the patient was kept under an alkaline mixture with urotropin and Tr. Hyoscyamus. No other complication during the course of treatment arose and the patient left for his house after taking only six injections and I could gather no informations about him afterwards. He had no trouble whatsoever after the sixth injection; but, I am not sure of his cure after a course of six injections only.

Case No. 4.—P. C. C. 20, Hindu, male, complained of pus from the urethra and scalding pain during micturition. The boy had a bubo on the left side.

Treatment.—The bubo was incised and dressed daily; and a course of Trypaflavin injected. The wound healed up in about ten days' time and the patient was discharged with slight serous discharge from the urethra. He had no other complication till this day than occasional serous discharge from the urethra.

Case No. 5.—N. C. S., 35, Hindu, male, a chronic sufferer from gonorrhœa. He contracted the disease some seven years back and took some indigenous medicines for the cure. He gave me to understand that the discharge from the urethra altogether subsided within a week's time after taking that remedy. But, after some time, he felt difficulty in passing urine; the course of the urine became thready and ultimately one day he had complete retention of urine. He was then brought over to me and a metallic catheter was passed and to the utter relief of the patient a sufficient amount of urine expelled from the bladder.

The patient afterwards was thoroughly examined and a slight serous discharge from the urethra could be detected, which was found to contain no gonococci. The patient was then placed under my treatment for the stricture of the urethra and gradual dilatation by passing sound was resorted to. After the passage of sound, the patient complained of pain during micturition and was given an alkaline mixture with urotropin and Tr. Hyoscyamus along with a course of intravenous injection of Trypaflavin. The pain, however, subsided within a short time and I injected

him a course of 'Fibrolysin'; and the patient was quite alright after that.

But, about six months later, he came to me for retention again, which was subsequently relieved by passing a catheter. At present, the patient has got no discharge from urethra but he needs passage of a sound once every month for the stricture.

Case No. 6.—C. C. B. 32, Hindu, male, complained of slight swelling of the penis with a sero-purulent discharge on the sixth day of contamination. The discharge contained a good number of gonococci. There was a capillary opening on the glans by the side of the urethra, through which thick pus was coming out.

Treatment.—The case was put on alkaline mixture for about a week and then intravenous trypaflavin given. The discharge through the urethra gradually subsided but that through the capillary opening continued to be the same.

After a course of six injections of the aforesaid solution the patient was much relieved and one day he got up on a cycle and ran some 2 or 3 miles. On the evening of that very day, he was seized with a violent pain on his left testis with a slight rise of temperature. The temperature went on rising gradually with severe pain in the left testis and pain and inflammation of one of the left inguinal glands.

Ichthyol and Belladonna was applied and Aolan injected intramuscularly. After 4 injections of Aolan, the inflammation subsided, but the discharge through the urethra and the capillary opening continued as before. He was again put on alkaline mixture with intravenous injection of Trypaflavin; but a few days later, he complained of supra-pubic pain and tenderness with diminution in the quantity of urine. Urotropin was then prescribed but to no effect. The pain continued as before and the urine did not improve in quantity. He was then given 'Helmitol' (Bayer) in 10 grs. doses, thrice daily. After the administration of this drug the quantity of urine increased and the supra-pubic pain and tenderness subsided.

A few days later, he was given a course of 'Gon-Arthritin' (B.I.) in graduated doses and the urethra irrigated with 1% soln. of Protargol daily in the morning.

This line of treatment at last succeeded and the patient was completely cured and the capillary opening on the glans by the side of the urethra completely healed up.

Case No. 7. S. C. G., 33, Hindu. male, had an attack of both Gonorrhoea and Syphilis some 5 years back and was then

treated by a Calcutta Physician, who treated him thoroughly for both his ailments by repeated examination of blood for Wassermann re-action, and a course of Auto-vaccine for Gonorrhoea. Afterwards, he had no other complaints than occasional discharge of sero-purulent fluid from the urethra.

This time he had a discharge of thick pus from the urethra with scalding pain during micturition and an excruciating pain over almost all the joints of the body with slight rise of temperature. He swore that he did not run the risk of contamination of the disease again and I took it for an acute exacerbation of the chronic malady.

Treatment.—In this patient too Trypaflavin soln. was injected intravenously and the pain in the joint began to subside gradually. He was also given an alkaline mixture with Pot. Iodide in increasing doses. After a course of 8 injections of Trypaflavin he was given a course of 'Gon-Arthritin' (B. I.) on every 4th day his bladder being irrigated with soln. Protargol daily, which procedure could allay all the trouble left for him.

Case No. 8. G. S., 22, Sikh. male,—this was one of the most troublesome cases a physician had to handle. He had an attack of Gonorrhoea some 10 days back with 3 or 4 lacunar abscesses, which were on the point of bursting and the whole organ was so much enlarged and swollen that the patient shuddered at the sight of it. He had thick pus coming out through the urinary meatus and the prepuce was so much engorged that the urine and other discharges could find way their out by drops only. What a horrible suffering the patient had to bear!

Treatment.—All the lacunar abscesses were incised the following morning and antiseptic dressing given. The patient was lucky enough not to develop a urinary fistula afterwards. He was dressed daily and injected Trypaflavin soln. on alternate days. The condition of the wound began to improve and the swelling of the prepuce was punctured with a sterilised needle and the forepart of the meatus cleansed.

However, after a course of 10 injections, the patient was quite comfortable and all his wounds on the organ gone: only, slight sero-purulent discharge still continuing. He was subsequently treated with mixed Gonococcus vaccine and the urethra irrigated with Protargol Soln.

The patient has got no discharge at present and there is no deformity of the penis.

Summary

(1) Trypaflavine.—The Bayer's brand of acriflavin which is now in use in general surgery for external application only, can be well tried in 2% solution intravenously also.

(2) By its tissue penetrating power, it comes in contact with the gonococci, which generally lodge in the crypts and lacunæ of the male urethra, where it is very difficult to kill by external application or urethral medication.

(3) The urine is coloured greenish-yellow immediately after the intravenous injection and the micturition which is the most troublesome task of a gonorrhoea patient is readily made easier.

(4) Almost all the cases described above, with the exception of Case No. 6, had no complication during the course of treatment with this remedy.

(5) The few cases which were not completely cured with this medicine were given injection of mixed vaccine combined with non-specific Immune Therapy; and they responded to that very nicely.

(6) There are no contra-indications for this line of treatment: only, the care necessary for intravenous injections ought to be observed.

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APHASIA IN ANGINA PECTORIS

BY

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A FORTNIGHT back I was called upon to see a case, the relations informing me that it was a case of heart disease, and my presence was urgently required. On visiting the patient, I found him to be under a great mental shock and under great agony suffering from substernal pain. The patient was 48 years old and rather fat. The man could not speak but was pointing out to me the seat of pain which was situated beneath the upper substernal region more to the right than to the left. His pulse was feeble, 85 per minute volume not uniform. Apparently he was breathing freely but any attempt to speak failed. He could not even whisper; he could understand what I asked him and was explaining to me simply by signs. I then immediately put him on one dram of liquor morphia coupled with a strong dose of Carminatives. The blood pressure was taken and it was found to be 180 m. m. systolic and 100 m. m. diastolic. It was a typical case of Angina. After a couple of hours the patient felt better and the same dose was repeated. The patient passed the night with some rest, without much sleep. The next morning when I saw him, he was better, his pain having three fourths subsided. He could let me know answers to my queries by writing on a slate, since all attempts to express himself by speech failed. He was afraid something in the chest would give way if he attempted to speak. I then injected him with a quarter grain of Morphia with 1/100 grain of Atropin with 2 C. C. of Sarcolon of Bengal Chemical and gave a carminative mixture for the day. I again attended him at 9 P.M. the same night. The patient had not much of sleep but was otherwise quite comfortable since by now there was absence of pain. Still he could not speak. Then I prescribed for him 15 grains of Chloral Hydras with 15 grains of Potassium Bromide as a night dose. The patient immediately went to bed within ten minutes. To the surprise of all the patient began to chatter in his deep slumber at about 2 A.M. When he got up at 9 A.M. in the morning he began to speak as usual.

Previous History of the Patient

The patient had acute attacks of Angina Pectoris in 1915 and 1916. On those occasions, no doctors attended on him. His speechless condition remained for about 8 days during those two attacks.

Since then he used to get these attacks off and on but of a very mild type. In 1934, he again had acute attacks when he was speechless for three days. This time he was under the treatment of a Doctor.

Dear Editor, I have not come across a case of Angina Pectoris in which the patient was speechless even when his breathing was free and otherwise completely *O. K.* Will you, Editor, please publish this in your esteemed Journal and oblige me by giving me your own experiences and invite those of other readers?

A CASE OF GENERAL PARALYSIS IN THE EARLY STAGE

BY

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IN the following pages, I shall briefly discuss a case of General Paralysis in its early stage. I shall briefly mention in passing the signs and symptoms of the disease, its pathological anatomy and its treatment.

General Paralysis of the Insane is an organic disease of the cerebral cortex caused by treponema pallida. It was Noguchi of Japan, who established the relationship of this disease with syphilis. The W. R. nearly always becomes positive in the cerebro-spinal fluid, but not quite so frequently in the blood.

Etiology.—It occurs more frequently in men than in women.

Age.—More frequently between 35 and 50 years of age. Rare in young people and in children. In children it is always the result of congenital syphilis. General paralysis usally develops about 10 years after syphilitic infection

Physical signs.—This disease is frequently associated with Tabes Dorsalis, which is an affection of the posterior column of the spinal cord by syphilis. In this disease the classical symptoms are: Loss of knee jerks, lightning pains in the legs and crisis and also the loss of pupillary light reflexes. By crisis is meant conditions of severe pain in organs with disturbance of their functions. The first indication of general paralysis may be an epileptic or apoplectic seizure. Both idiopathic and Jacksonian epilepsy may be simulated by this disease. In some attacks of general paralysis, we get symptoms resembling true apoplexy as coma, stertorous breathing etc. An early inco-ordination of the

muscles for finer movements may be noticed in inability to thread a needle. Fever is noticed in some of these cases, temperature ranging between 100° F. to 104° F. Fine tremors are noticed in the face, tongue and hands specially noticed when the patient was asked to extend and separate the fingers. A marked tremor of the facial muscles is noticeable in the lower part of the face, when the patient begins to speak. In writing, letters are badly formed due to tremulousness of the hands and later on in the disease, he can hardly hold a pen. Both knee and ankle jerks are increased, the pupils are contracted and irreugular and they react to accommodation but not to light.

Mental Symptoms:—It is a progressive disease. A successful business man fails to drive a bargain for the first time or a painter lacks the finish to his picture. His memory is lost for recent events and for proper names and a peculiar anaesthesia over the distribution of the ulnar nerve may be complained of in some cases. His power of judgment and reasoning are impaired from the first and delusion is the rule. These delusions are expansive in nature and the patient believes himself to be possessed of wealth beyond the dreams of man, or he may think that he is "King", "Emperor" or " Almighty God ".

Here is a copy of the letter written by a patient to the doctor :—

My dear——,

It is a big case and with Governor probably he will have to call Viceroy or Baldwin etc., and I have to stay here. You may send me L.....'s cycle as I am enclosed in a compound and can go round but the gate is locked. Do not come as it is not ordered and Government order is no one should come and see me.

He thinks himself to be the champion runner or a great athlete. Delusions of persecution are not uncommon. They however lack the systematization of paranoia. The sense of hearing is diminished in the later stages of this disease. The patient becomes conceited and boastful with the delusion of possession of untold wealth or powers. A new phase now makes its appearance, *viz.* he becomes destructive, and will tear up clothes or smash windows. He has no inclination now to go for hunting or play. Similarly his sexual instinct disappears. Early in the disease he was noted for the loss of sexual instinct *e. g.* he would expose himself or commit some indecent assault etc., he now becomes wet and dirty and all his former boastfulness has disappeared.

The patient now tends to smear his body with excreta instead of passing his stool in his clothes. Early in this disease the patient becomes excessively emotional, he laughs or weeps at nothing. At other times he flies into a passion of anger without any cause. In the latter stages, emotion disappears after a period of insomnia in the early stages and the paitent is liable to fall asleep at all hours of the day. As the disease advances, he again sleeps badly at night. The patient's face has an expressionless aspect and there is often some smoothing out of the usual folds running from the nose to the corners of the mouth. The speech is altered from an early stage of the disease *e. g.* at first certain words are pronounced with difficulty in a slow and jerky fashion. Later on his speech becomes slow and hesitating and often stammering and certain words are difficult to pronounce, such as Irish, Artillery, British Constitution etc. The gait is unsteady, there is a tendency to stumble over anything in the way. Difficulty in passing water leading to retention of urine is a common symptom. An annoying symptom of Cortical irritation is a constant grinding of the teeth. In the advanced stages there is progressive dementia and increased motion debility. Tremors give place to complete paralytic conditions. The patient is no longer able to keep on his feet and after a time becomes bed-fast. The power of articulation is lost and mastication of food is forgotten. Vasomotor disturbances are frequent *e. g.*, redness or bluenss of the skin, œdema, trophic changes occur *e. g.*, bed-sores are often noticed.

The course of general paresis is, as a rule, steadily progressive ; cases occur in which there are remissions, some times lasting for months, but no cases of permanent arrest of the disease have been recorded. The average duration of the disease is between 3 and 4 years and death is due to a congestive seizure or to some inter-current disease.

Treatment.—Commences with small doses of Thyroid, pituitary, thymus, corporalutea (in females) or orchitic extract (in males).

Accessory treatment, good, fresh air (out-of-door life).

Medicinal treatment.—Calomel and intestinal antiseptic *e.g.*, solol and Guaiacol Carb. may be tried.

Anti-syphilitic treatment.— Is recommended in an Asylum which will give him the required amount of rest and will at once remove him from all sources of irritation, dissipation and venereal excesses. Tryparsamide or Sodium N-phenyl glycineamide-p-Arsonate (May and Baker Ltd.)—Dosage 1-3 grm. to be repeated at intervals of one week is the treatment of choice. Injections are preferably given by intravenous route.

To combat sleeplessness.—A combination of Sodium bromide and chloral each 15 grains with 15 minims of Tinct. of Hyoscyamous may be tried. Paraldehyde is a valuable hypnotic in cases with depression. It is given in doses of 1½ drams to 2 drams in ½ ounce of whisky and syrup diluted with a little water. It usually produces sleep within an hour. Luminal is a good hypnotic in doses of 1½- 5 grs. Sulphonal—30 grains each night may be given instead. Hyoscine Hydrobrom in $\frac{1}{75}$ grain may be given hypodermically or Somnifaine (Roche) hypodermically or intravenously in intractable cases. Phanodorm—(Bayer)—Cyclohexenyl-ethyl-Barbituric acid, dose ½ to 1½ tablets or Medinal-one tablet-7½ grains (Schering), has to be tried. If any of the above drugs fail, cold wet packs with ice cap on the head.

Careful feeding is necessary specially to prevent bolting of large masses of food. Attend to regular emptying of the bladder and rectum. Cleanliness and changes of position for bed fast patients necessary to prevent bed sores.

In treating Syphilis of the central nervous system the following facts have to be borne in mind :

(i) The longer the delay in commencing treatment, the better entrenched and more inaccessible to remedies the spirochaeta becomes.

(ii) In infection of the central nervous system the parasites enjoy comparative immunity from the effect of the medicines.

(iii) The natural resistance of the patient should be increased by fresh air, regular habits and abstinence from alcohol and pleasure.

Bismuth is now the fashionable treatment for syphilis of the central nervous system.

Bismuth like Arsenic and Antimony is only parasiticidal after being acted on by the tissues. It is as active as mercury in corresponding doses but much higher doses can be tolerated so that the patient can be reduced non-infective more quickly by Bismuth than by Mercury but not so quickly as by Arseno-benzol treatment. Bismuth is excreted from the body very slowly and can be detected in all the secretions, including the Cerebro spinal fluid. The main toxic effects of Bismuth are stomatitis and Albuminuria.

The most efficient treatment for syphilis of the central nervous system and for G. P. I. would be a dual therapy with an

Arseno-benzol compound and Bismuth administered alternately. Bismuth causes less pain in therapeutic doses and is better tolerated. Bismuth is particularly useful in old cases with a persistent positive Wassermann reaction.

A useful chart is given below of dual treatment by Arseno-benzol, Bismuth and Pot Iodide by mouth for G. P. I. and nervous cases :—

Day.	Sulfarsenol (Intra-muscular.)	Bismuth (Intra-muscular.)	Pot. Iodide. (By mouth)
1	0.18	0.2	gr. xv. a day for 1 week.
8	0.24	0.2	gr. xxi. a day for 1 week.
15	0.24	0.2	gr. xxx a day for 1 week.
22	0.36	0.2	Omit.
29	0.36	0.2	Omit.
36	0.36	0.2	Omit.
45	0.36	0.2	Omit.

Suspend all treatment but test the blood serum every 3 months during the first year after stopping treatment and every six months during the second year.

Pathological Anatomy.—In the brain the vascular walls are thickened and the calibre of the vessels is diminished In the substance of the brain there is increase of the connective tissue and atrophy of the brain cells by pressure. Also close adhesion is found between the arachnoid and the surface of the brain. Minute haemorrhages are noticed into the substance of the brain. The arachnoid is generally thickened, convolutions are diminished and the fissures are wider than normal. There is cell degeneration of a fatty type overgrowth of connective tissue within cerebral substance and diffuse inflammatory changes around the sheaths of blood vessels.

"J" was admitted by order of a Magistrate, under Sec. 16 of the Lunacy Act with the following history:—

Mode of life.—Age 51, married. Temperate habits with a religious bent of mind, a bit eccentric. He would be assaulting people or trying to jump out of the windows.

Supposed exciting cause of present attack—In 1932 he suffered from insomnia for about 6 months. In 1934 he received a head injury as a result of motor car accident. In addition, business worries and loss in the Race Course.

Signs and symptoms.—Face—expressionless, speech—slow and jerky, patient excessively emotional, crying without cause and

laughing at nothing, a sympathetic word would evoke a flood of tears or he would fly into passion without cause. He was very talkative and the gist of his conversation showed that his judgment and reasoning were defective. In consequence he had delusions of grandeur. "He was a great Surgeon and a champion athlete"; he was full of schemes to benefit humanity *e.g.*, he would collect several lacs of rupees to purchase the Royal Botanical Garden of Shibpur to be converted into a maternity hospital for expectant mothers of all nationalities. At the same time he had ideas of persecution by the Police at the instance of the Secretary, Royal Turf Club, Calcutta (delusions of persecution) because he owed a million rupees to him and was evading payment. Appetite was good and bowels regular. He used to be troubled with insomnia.

Pupils immature cataract on left eye. Right eye enucleated (false eye); knee jerk increased. He gave a history of syphilis and W. R. was moderately positive even after 2 sulfarsenal injections outside.

My grateful thanks are due to the following authors from whose publications I have frequently quoted in compiling this article.

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EDITORIAL

INDUSTRIAL HYGIENE AND MEDICINE

INDUSTRIAL Hygiene, as distinguished from personal or communal hygiene is a science of recent origin. It was Ramazzini in the seventeenth century that first realised the need for the existence of such a science. In one of his writings, he wrote that "the same means which keep up the worker's life may be the means of various grievous distempers". Since that time, the science has made considerable advance, especially in big industrial countries such as England, France, Germany and United States of America where now "it aims at securing conditions which will enable workers (even in hazardous occupations) to continue their work and yet maintain full health of body and mind".

In India, industrial hygiene is still in its infancy. There are very few industries worth the name in this country and while communal hygiene itself has not grown up to its full stature, there is no prospect of Industrial Hygiene lifting up its head in the near future. It will therefore be preposterous if we attempt to say anything at this stage about "Industrial Hygiene and Medicine in India", as understood in European countries. But, the problem of Industrialization of India will have to be tackled sooner or later, as our country cannot afford to be industrially dormant for centuries and as we are sure that the Provincial Autonomy soon to be inaugurated will give a fillip to the opening up of new industries and the strengthening of old ones and this is our ground for dealing with this subject now.

Industrial Hygiene can be classified under three groups:—

(1) the establishment of health in industry,

(2) the prevention of disease and accident, and

(3) the repair, healing or cure of accident and diseases in industry.

Group I comes under Industrial hygiene, while groups II and III make up what may be called industrial medicine.

Dr. Howard E. Collier, M.B., CH. B., in an interesting lecture delivered at the University of Birmingham and reported in *The British Medical Journal* of 1st February '36, gives in a tabular form, a summary of the field of work of industrial hygiene and medicine which we reproduce below :—

HYGIENE.	SURGERY.	MEDICINE.
1. Industrial Health : (*a*) Industrial environment light, air, heating etc., ventilation. Dust and dirt control and prevention. Nutrition. Physical culture. (*b*) Personal factors : Personal hygiene.	2. Accident and injury Minor Surgery. Accident prevention and treatment. Ambulance work. Rescue work. Fractures and re-education. "Compensation". Alternative and light employment.	3. Diseases of occupation. (*a*) Special toxins for example, lead, manganese arsenic, silica, benzol etc. (*b*) Special disease risks in certain industries-for example, rheumatic disorders, pneumonia, bronchitis etc.

4. The psychology of industry.
   (*a*) Personal (fitness for work, aptness to work, etc.)
   (*b*) Social (human relationships, etc.)
5. The medico-legal aspects of industry.
6. Research and investigation.
7. An accurate knowledge of industrial processes and of the special hazards and accident risks of each process.

Dr. Collier deplores the disappearance even in England of the old self-contained village community and says that industry which was centred in former days in individuals in their own homes has been led, owing to subtle social and cultural changes to assume burdens and to discharge responsibilities which were then evaded. In order that it may be able to carry these new burdens, industry must seek the aid of those who are best qualified by experience and by knowledge to help it to do so.

Industry is already demanding and will do so increasingly that the medical profession should be prepared (*a*) to advise on all matters which affect the health of those who are engaged in

industry and (*b*) to forecast the health effects of any proposed new processes or new substances which are likely to become industrially important. To meet this insistent demand, Dr. Collier lays stress on the importance of creating ' a large body of informed knowledge' concerning the problems of the industrial worker and adds that the general practitioner of the future must have this special knowledge if he is to fulfil adequately his role as health adviser to the industrial worker.

Dr. Collier summarizes the actual 'medical' needs of the *industrial employer* thus :

(1) Intra-factory hygiene (medical, surgical, psychological, medico-legal etc.)

(2) Knowledge of special risks ; knowledge of any dangers inherent in new processes or new materials.

(3) Research or investigation into 1 and 2.

The industrial medical needs of the *worker* are said to be as follows :

(1) Intra-factory hygiene.

(2) Extra-factory hygiene at home.

(3) Personal hygiene and personal advice concerning 1 and 2 : medico-legal etc.

Dr. Collier concludes by enumerating what this newly formed Industrial medical service can do to the worker and employer. So far as the indudstrial worker is concerned it will :

(1) Assist in the choice of a suitable career (physical and psychological selection).

(2) Safeguard the worker against " health hazards".

(3) Provide early and accurate diagnosis of industrial maladies.

(4) Provide correct and early treatment of industrial illness and accident.

(5) Provide accurate medico-legal advice and assessment.

(6) Provide research and investigation.

The contribution of such a health service to the employer or industrial manager will include :

(1) Accident prevention and early recovery (rehabilitation).

(2) Prevention of special occupational diseases and control of epidemic and general disease.

(3) Advice and criticism on design and reconditioning of factories also on heating, ventilation, lighting etc.

(4) Forecast of the probable health affects of (*a*) new substances or new methods; and (*b*) hours of work, rest pauses, night work etc.

(5) Selection of personnel for all kinds of work; the examination at suitable intervals of workers, especially those exposed to "risks" and the examination on return from work or accident.

(6) The understanding and handling of personal and social relations within the industrial organism.

(7) Statistical investigation in the control of illness, "lost time", labour turn-over, accident, etc.

(8) Health education—body and mind,

(9) Medical research.

(10) Medco-legal problems, assessments, etc.

(11) The organization and training of adequate ambulance, first-aid and surgery services, rest and recovery rooms etc.

To the community, the service would contribute suggestions for soundly conceived and impartially administered industial laws of a preventive kind, and a reasonable assurance that so far as human knowledge and foresight can achieve it, the intra-industrial environment of the working population shall be favourable to health not inimical to it.

As regards the contribution of this service to the cause of medicine, Dr. Collier observes :

> "Nothing has been said hitherto of the contribution which a sound industrial health service can make to medicine. In industrial medicine there lies a vast potential field of service. We are told that the profession is overcrowded. No doubt this is true of ordinary "reparative" medicine, but the field of industrial hygiene is almost unexplored. Moreover, its gradual exploration can add great interest to the routine "grind" of general medicine. With a wider knowledge there always comes an ability to serve patients better. I have not referred to the "economic prospects" of this new form of medical practice, but it may be said that, at the worst they are not inferior to those of other branches of our profession."

GLEANINGS FROM MEDICAL PRESS

Surgery

Acute Empyema in Children.—While his paper deals with empyema in children, J. M. Mason, Birmingham, Ala. (*Journal A. M. A.*, Oct. 5, 1935), presents it with the somewhat paradoxical purpose of maintaining that the same rules should govern the treatment of the disease whether in children or in adults. The general plan of treatment that he has formulated and some of the details that he has found important are as follows: (1) After a physical examination roentgenograms are made in every suspicious case. (2) Aspiration is performed and is repeated as often as indicated in order to decompress the lung, to ascertain the character of the effusion, to determine the infecting organism and to make certain that the patient is not subjected to operation until the proper stage has been reached. Following aspiration, the patient is observed frequently to see if any curative tendencies can be detected. (3) Resection of rib with drainage by tube is carried out under local anæsthesia unless there is some special reason for the use of a general anæsthetic. (4) The tube should be of large calibre, placed at the most dependent part of the cavity. It should be so fixed to the edge of the wound that it will neither slip into nor out of the empyema cavity. (5) Following the operation the wound is covered with a large dressing of sterile gauze and this is changed as often as it becomes soiled. After the first forty-eight hours a change will rarely be necessitated oftener than once a day. (6) Irrigations are not employed in the postoperative treatment unless some special indication is noted. (7) The original tube may remain undisturbed for from seven to ten days; after that it should be changed daily, and its length and diameter diminished to conform to the needs of the lessening size of the abscess cavity. The progress of obliteration can well be observed by the frequent use of the x-rays. (8) Any sudden rise in temperature in a convalescent patient demands prompt investigation of the drainage tract. If no obstruction is found, diligent search should be made to ascertain the source of the trouble. In children this will often be found in the intestinal canal or in the middle ear. If a rise of temperature occurs after the removal of the drainage tube, it usually indicates that the tube has been removed too early and must be replaced unless some other definite cause for the rise can be discovered. When a pleural abscess has been drained and the temperature does not show a definite tendency

to subside, other areas of encysted empyema should be sought for, since recovery will be delayed until each pocket has been drained. The author employed the foregoing plan of treatment in the forty patients who were under his personal charge, with only one death. —*Medical Times, March, 1936.*

Enlarged Inguinal Glands.—Acutely inflamed glands are always painful. As the subinguinal glands obtain their lymph from the leg, the leg must be examined, and acute eczema, infected wounds, corns, furuncles, pretibial bursitis, prepatellar bursitis may be found.

A chronic less painful enlargement of the inguinal glands is met in association with a crural ulcer.

Through continuous irritation the so-called "prurigo buboes" may develop.

Next come inflammatory and suppurative processes affecting the genitals, also balanitis and gonorrhœa. In women the chief cause is Bartholinitis.

Syphilitic glands are firm and painless.

Large, very painful "packets" of glands are found in conjunction with a soft sore.

In carcinoma of the penis the glands are soon infiltrated and are hard and painless.

In lymphogranulomatosis the glands suppurate, abscesses burst and fistulæ form. The primary lesion may often be overlooked.

Through stagnation the result of obliteration of the lymphatics, elephantiasis of the penis and scrotum often develops, and through internal stagnation stricture of the rectum. In hip disease and pseudoleucæmia enlarged lymph glands are present. In pseudoleucæmia enlarged glands in the neck and axillæ co-exist.

In disease of the testicle the retroperitoneal glands are chiefly involved. When disease spreads to the scrotum swelling of the inguinal glands is observed. In carcinoma and sarcoma of the testicle glandular involvement increases the gravity of the prognosis.

In women an incarcerated inguinal hernia is often suspected where glandular swelling is noticed in adnexal affections, especi ally where there is discharge, and in certain cases of cystitis and parametritis. Even a diagnosis of appendicitis may be made in error. Periproctitis, intertrigo and the like may be the cause of glandular enlargement.—*G. Lotheissen, Wien klin. Woch., No. 15, 1935.—Thr' the Medical World.*

The Prognosis in Peptic Ulcer.—F. Klewitz and E. H. Michalowsky (*Med. Welt*, December 21st, 1935, p. 1847) examined 152 patients with clinical and x-ray evidence of peptic ulcer two to four years after treatment. They were classified according to their subjective data: symptom-free, condition better, and condition unchanged. The authors believe that even x-ray evidence of disappearance of the ulcer is no guarantee of complete cure; 42 per cent. of their patients remained symptom-free without paying attention to diet, and of these the percentage of gastric ulcer patients was slightly higher than that of duodenal ulcer patients. Treatment benefited 35 per cent. of patients, but they had to be dieted to avoid recurrence of the symptoms. In 25 per cent. there was transitory or no improvement after treatment. The authors included medically and surgically treated cases in their statistics, and found that the percentage of cures in the latter was not greater than in the former. They insist that a distinction must be made between results obtained immediately after treatment and permanent cures. Most authors agree that 80 to 90 per cent. of peptic ulcer patients become symptom-free after a few weeks' treatment, but that only 35 to 45 per cent. remain so permanently. It is essential that peptic ulcer patients remain on a diet for long periods or even permanently. The gastritis which accompanies the ulcer commonly persists even after healing of the ulcer has taken place. It must also be remembered that the peptic ulcer diathesis cannot be removed by therapeutic means, and a patient with this diathesis is always in danger of recurrent ulcers.—*B. M. J.*

Sodium Ricinoleate as a Sclerosing Agent in the Treatment of Varicose Veins.—Froehlich and Henrikson used sodium ricinoleate, prepared in accordance with the directions of Rider, as a sclerosing agent in the treatment of varicose veins. A history is obtained, drawings of the veins are made on charts and an urinalysis is done. If there are no contra-indications, 1 c.c. of sodium ricinoleate is injected in a small loop of vein in the lower leg, as a test to see whether the patient has any idiosyncrasy to the solution. With sodium ricinoleate the only reactions in a series of 300 cases have been those in which irregular purplish red blotches varying in size from 2 to 20 mm. appeared on the skin drained by the offending vein. In two patients these patches took the form of a localised urticaria. However, there were no subjective symptoms. A cramping pain in the lower leg and foot is sometimes experienced when 5 c.c. doses are used. The patient

returns for a second injection in two or three days, when from 3 to 5 c.c. is injected at the highest point possible. The needle on an empty 2 c.c. syringe is inserted into the vein while the patient sits on the edge of a table. Then the patient lies down and the leg is elevated to drain as much of the blood from the vein as possible. The small empty syringe is replaced by one containing the solution, without moving the needle. The injection is made, the operator watching for evidences of perivascular injection. A tourniquet is applied near the groin. The syringe is removed, with the needle left in place. The patient is asked to sit up with the leg hanging down. This change in position gives the solution a chance to gravitate downward. The tourniquet is removed in from three to five minutes. The needle is then withdrawn and a small compress is taped over the site of injection. By this method the authors have often been able to sclerose the veins of an entire leg by two or three injections. It is their opinion that ligation of the saphenous vein in the groin greatly decreases the possibility of recurrence in those patients having large varicosities extending into the thigh. Under local infiltration of 2 per cent. solution of procaine hydrochloride, the vein is exposed through a 5 to 10 cm. incision. A small section is excised and the cut ends doubly ligated, chromic catgut No. 1 being used. Then from 3 to 5 c.c. of the sclerosing solution is injected into the exposed distal stump and the skin is closed, with dermal or skin clips. The patient is allowed to go home at once, and may be up and about as desired. Should the leg become painful, hot applications are advised. All patients treated should be checked for recurrences at intervals of from two weeks to two months for a year.—*Froehlich and Henrikson, Minnesota Medicine, St. Paul, Sept.*, 1935, *p.* 594.—*Thr' Medical World.*

Medicine and Therapeutics

Substitutes for Blood.—Konrich points out that in severe acute loss of blood the best treatment is blood transfusion. However, blood transfusion involves a number of factors, such as suitable donors, tests and instruments, the smooth collaboration of which may be impossible in rural districts or in certain emergencies. It would be desirable to find a suitable substitute for blood, which could be kept in readiness like other injection fluids. The author made tests on 360 rabbits, employing simple bleeding as well as the so-called washout experiment. He made comparative tests with physiological solution of sodium chloride, a dry

and a fluid preparation which, in their composition, correspond to the blood salts, and Tyrode's solution and serum. It was found that the quantity of blood the loss of which is fatal varies greatly; namely, between 1 57 and 4.63 per cent. of the body weight. The isotonic solution of sodium chloride was found to be inferior to all other fluids that were tried. The solutions of the blood salts were more favourable, but even their efficacy was considerably inferior to that of serum. The efficacy of all solutions could be noticeably increased by adding to them rabbit erythrocytes removed from the serum. Death from loss of blood is not primarily due to heart failure but to failure of the respiration. The inadequate filling of the vascular system is not the cause of death, at least not the chief cause. Death is caused not so much by a deficiency of erythrocytes as by a deficiency in serum.—*Konrich: Substitutes for Blood. Archiv. fur klinische Chirurgie, Berlin. Aug.* 26, 1935, *p.* 459.—*Thr' Medical World.*

Salicylate Therapy.—R. M. MURRAY-LYON (*Edinburgh Med. Journ.*, February, 1936, p. 84), who attempts to evaluate the exhibition of salicylates in rheumatic fever, discusses a series of 139 cases treated at the Royal Infirmary, Edinburgh, and emphasizes the limitations of this form of treatment. For instance, the frequency of endocarditis was shown to be quite unaffected by the salt, and pericarditis and subcutaneous nodules might develop while it was being taken. Relapses were found to be common when the dose was reduced too rapidly or the treatment was stopped. The therapeutic and toxic doses are reputed to be too close together, but the author suggests that it might be considered reasonable to keep all cases of rheumatic fever, except the most trivial, on a daily dosage of 120 grains for a month after admission to hospital, which would prevent recurrent fever in a good proportion of them. The initial dose to be aimed at in an adult should be 200 to 240 grains daily, and this amount should be continued with double the quantity of sodium bicarbonate until toxic signs develop or until the temperature has been below 99° F. for twenty-four hours. Thereafter a reduction to 180 to 150 grains might be allowed for ten days, and after that a dose of 120 grains should be maintained until the end of the fourth week. The author recommends continuing with daily doses of 60 grains until the patient is ready to be allowed out of bed, when 30 to 45 grains of acetylsalicylic acid might be substituted for a time. The beneficial action of the salt seems to bear some slight relation

to the length of the illness before the start of treatment, and also to the height of the original temperature; improvement was slower when there was delay or a temperature of over 103°. Children can stand proportionately larger doses than adults without showing toxic symptoms.—*B. M. J*

Endocrine Influence upon the Nails.—J. Heller considers that pitting, striation, or fragility of the nails are no indications of endocrine disease, and that their alleged connection is another of the medical traditions copied by one writer from another without any test of its accuracy. He claims to have found such affections of the nails in only 1 per cent. of nearly 600 patients suffering from undoubted endocrine dysfunction and that their occurrence was nothing more than a coincidence. Heller mentions one case where persistent splitting of the finger-nails was assumed to be a symptom of ovarian disturbance until he showed the presence of tricophyton organisms. On the same premises he ridicules glandular treatment in dermatoses, quoting the apparent improvement of psoriasis in a girl under prostate extract which he administered when short of thyroid. (*Berlin: Deutsche Medizinische Wochenschrift.*)—*Thr' Medical World.*

Milk Injections in Baldness.—A. E. Marcoglou (*Arch. Derm. and Syph.*, January, 1936, p. 128) has treated seven cases of alopecia areata with injections of milk, slightly modifying the procedure recommended by Djoritch. He gives at each visit twelve to fifteen intradermal injections of a small amount of milk, just sufficient to produce one wheal, extending from the periphery to the centre of the affected area. Special attention is paid to any parts where the disease shows signs of spreading, the hairs resembling exclamation marks. Two patients had many patches of various size in the bearded region of five to six months' duration. The other five had numerous patches on the scalp which had lasted for more than six months, and in one case for more than four years. The author states that all these patients were radically cured, and that no other treatment was necessary. After four or five injections, one each week for each patch, there was a growth of new hair which gradually grew stronger and pigmented.—*B. M. J.*

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Obstetrics and Gynaecology

Dangers of Repeated Caesarean Sections.—To illustrate the dangers of repeated Caesarean sections and to emphasize the importance of intervening in such cases before complete enlargement of the pregnant uterus, preferably at eight or eight and a half months and always before the commencement of labour, L. Gerin-Lajoie (*L'Union Med. du Canada*, December, 1935, p. 1414) records a case in which this operation had been performed in the last three of five previous pregnancies. In the last confinement uterine rupture at the old cicatrices occurred, and, though the patient survived, her condition was rendered critical by shock. The child was alive when the patient was admitted to hospital, but was born dead. The author advises that patients with a history of previous Caesarean sections should be hospitalized before labour pains commence if these begin some weeks or months before the presumed date of labour. He believes that if intervention had been earlier in the present case the infant would have survived. The repeated contraction and examinations, with the time lost in operative preparation, not only brought about its death but also caused maternal haemorrhage sufficient to provoke very great shock, to which must be added the traumatic shock of the intervention and of the anaesthesia.—*B. M. J.*

Constriction Ring Dystocia.—L. Rudolph, (*Journ. Obstet. and Gynaecol. British Empire*, December, 1935, p. 992) defines two types of constriction rings: (1) a spasmodic and reversible one which relaxes under the influence of anaesthesia or incision; and (2) a permanent non-reversible one which does not relax under anaesthetics, drugs, or even after death. He has collected records of 272 cases, twenty-one from cases observed personally; the ring was situated in the neighbourhood of the foetal neck in 75 per cent. of the series. It may occur during the first or second stage of labour; if in the first stage it may relax in the second stage, but the first stage is prolonged because incoordination of the polarity of the uterus is brought about. Rudolph agrees with White that a constriction ring will not cause rupture of the uterus if the labour is not otherwise complicated, no matter how long the labour lasts. Rupture may, however, result from a condition causing pressure necrosis. The author has not been able to incriminate definitely any aetiological factors, though the mortality statistics illustrate the danger of administering an oxytocic during the first or second stage of labour. He thinks that there must be

some disturbance of the physiology of the uterus, or a localized increased irritability causing an annular spasm of the circular muscle fibres at different levels with an inhibition of the longitudinal fibres. Diagnosis consists in the evaluation of the following signs: prolongation of labour ; tetany of the uterus ; no change in the station of the presenting part, associated with a looseness of the foetal head in the pelvic cavity during the second stage of labour (pathognomonic according to Rudolph) ; laxity of the cervix during the uterine contraction ; and the absence of mechanical dystocia or exhaustion. The high maternal mortality could be improved by conservative treatment. The basic principle of treatment, according to the author, is to maintain the patient's strength in order to prevent exhaustion until the second stage is reached, when mechanical assistance can be given. A negative acetone reaction throughout a prolonged labour is a useful criterion of the absence of exhaustion ; a positive reaction indicates the need of food and liquids, and sedatives should be administered, particularly morphine and scopolamine. The author prefers chloroform to ether as an anaesthetic in this condition ; it should be administered to the point of deep surgical anaesthesia, and at times be prolonged in order to secure the maximal effect of the ring. In the second stage of labour forceps can be used when the ring is beginning to relax, though traction is dangerous, even by Willett's method, unless it is properly and cautiously performed. Manual dilatation of the ring is condemned, and version with extraction is usually unnecessarily radical.—*B. M. J.*

The Risks of Breech Delivery.—During the years 1913 to 1934 inclusive 30,655 patients were delivered on the house service of the Boston Lying-in Hospital, Massachusetts, and of these 1219 were delivered, through the pelvis, of 1242 infants by the primary breech mechanism. Dr. Thomas R. Goethals (*Surg., Gyn. and Obst.*, March, 1936, p. 525.) has used this extensive material for an inquiry into the risk to the infant in breech delivery, which, it will be observed, occurred in a fraction under 4 per cent. of all patients. Of the 1242 infants thus delivered 922, or 74.3 per cent., left the hospital alive, 13.1 per cent. were stillborn, and 12.6 per cent. died in the neonatal period. Comparable percentages for all deliveries over 1924—34 were 6.2 stillbirths and 2.2 neonatal deaths, and this shows the big increase in risk to which the infant is exposed by the circumstance of breech delivery. A part of this high mortality is due to the fact that in over a fifth of the breech deliveries either the

pregnancy was pathological—with such complications as pre-eclamptic toxæmia, eclampsia, nephritis, syphilis, or diabetes—or labour was complicated by such conditions as placenta prævia, ablatio placentæ, or prolapse of the cord. The total mortality (stillbirths plus neonatal deaths) was in these cases as high as 52 per cent. compared with 18.5 per cent. in the uncomplicated breech deliveries. It might be argued that the risk of breech delivery *per se* should be assessed only from cases in which labour is uncomplicated, but it should be borne in mind that this series shows the incidence of placenta prævia, ablatio placentæ, and prolapse of the cord to be respectively three, five, and five times as frequently associated with breech presentation as with all types of delivery. When from the uncomplicated breech deliveries those cases are excluded which resulted in the birth of macerated and grossly malformed infants and the remainder are taken as a standard for uncomplicated breech delivery, the total mortality was 13.6 per cent., this figure being derived from a rate of 53.6 per cent. for the premature, 10 per cent. for the immature, and 6.9 per cent. for mature infants. This last figure of 6.9 per cent.—based upon 691 deliveries—Goethals takes to represent "the risk to the living, undeformed, full term infant *in utero* who is destined to be born by pelvic breech delivery in the absence of pathological pregnancy on the part of the mother, and of hæmorrhagia and other accidents of labour due to abnormalites of the placenta or of the umbilical cord."—Prematurity was relatively common and contributed considerably to the mortality. Goethals takes the birth weight to the best standard and classifies an infant weighing less than 5 pounds at birth as premature, one weighing between 5 and 6 pounds as mature. In this classification approximately 20 per cent. of the breech deliveries were of premature infants, a figure which is more than three times as high as the 6 per cent. incidence of prematurity in the hospital deliveries at large. In mortality the breech deliveries did not differ from the general series until a weight of about 3 pounds is reached, but above that weight the breech deliveries suffer a substantially higher death-rate. In the breech-delivered the mortality is lowest with infants of $7\frac{1}{2}$—8 pounds birth weight, and rises steeply on either side to 100 per cent. for infants of under 2 pounds, and to 33 per cent. for those over 10 pounds, the mortality of the latter being frequently due to maceration, malformation, or to intercurrent causes rather than to an increased risk from mechanical causes.

Dr. Goethals can take satisfaction in concluding his statistical survey from the fact that in this series the mortality-rate among

mature infants born by breech delivery has declined very substantially over the years of his review. His figures are set out clearly and fully and should prove helpful both in themselves and as a standard for comparison.—*Lancet.*

PROCEEDINGS OF ASSOCIATIONS, SOCIETIES, ETC.

The East Godavari District Medical Association, Cocanada,

Minutes of the Meeting held at Rajahmundry on 21st March, 1936.

A meeting of the East Godavari District Medical Association took place this time at Rajahmundry on 21st March, 1936. Captain J. S. Mc. Millan, I.M.S., presided. 43 members from all over the District attended. Besides, there was a large number of doctors practising at Rajahmundry who also attended. After an enjoyable tea, the proceedings commenced at 5 p. m. with Captain J. S. Mc. Millan, in the chair. The president exhorted the large body of the doctors of Rajahmundry who have not yet joined the Association to make it a point to join the District Medical Association in the interests not only of themselves and the Association but also in the interests of the Medical profession and make the District Association a strong representative unit.

Dr. Md. Abdul Allam Sahib of Rajahmundry introduced a case of kala-azar. Dr. P. Adinarayana Moorty of Cocanada mentioned an interesting case of abscess of the orbital cavity wherein the case looked like one of Panophthalmitis but on opening up showed no pus in the globe and on attempt at Enucleation pus welled out and on enquiry there was a history of Pyaemic Abscesses one month previously and another case of tumour abdomen in a boy, which had been tapped elsewhere and relieved two years ago and filled up again and which on operation proved to be one of cystic kidney. Dr. Miss T. E. Stephens of Rajahmundry read a paper on " Eclampsia ". An interesting discussion followed on its treatment. Dr. Y. Ramasubramanyam of Cocanada discussed the treatment of " Retention of urine ". He also described the method of staining for Tubercle Bacilli by the concentration method with Sodium Hydroxide and liquor Sodii chlorinata adopted in the head-quarters hospital, in all clinically suspicious cases, which was giving positive results, in cases which would have been missed by the ordinary method. The president announced that the 1st issue of the Journal of the Association will be issued in April and requested the members to send contributions of articles, notes of interesting cases and news of personal items and actively cooperate in making it a success.

There was dinner at 8 p. m. after which the guests dispersed.

The Medical Practitioners' Association, Nuzvid

A monthly meeting of the above Association was held on Saturday the 29th Feb. '36 at 2 p. m. in the Government Hospital Nuzvid with Dr. D. V. Moses in the chair. After prayer and reading of the minutes of the previous meeting, the members, all standing passed a resolution of condolence upon the death of Col. Bholanath, I.M.S., (Retd.), ex-president of the Indian Medical Association. Dr. N. Rama Rao, L.M.P., read some extracts from Medical Journals and also read his clinical notes upon a case of a long continued fever in a school boy of 14 years which started with ear trouble, ran a course like enteric fever for a couple of weeks and then manifested signs and symptoms of kala-azar with a double daily rise of temperature, liver and spleen enlargements and an unaltered appetite and complicated by a tubercular infection of the lungs from about the middle of its course and ultimately ended in death after $1\frac{1}{2}$ months. He also made mention of a peculiar soft fluctuating tumour over the forearm of a male which revealed nothing except vacuum on exploratory puncture

Dr. P. Anjaiah Naidu, L.M.P., narrated the case history of a case of toxaemia of pregnancy in a young primi-para with severe hyperemesis gravidarum that started about the 7th month and resisted all treatments and finally resulted in a premature labour with a dead fœtus and developed convulsion and coma within 24 hours of labour with other symptoms of toxæmia and finally died of a weak heart. He also mentioned about a case of intermittent acute dilatation of the stomach in one of his own relatives coming on suddenly and aggravated by the smallest amount of water taken in. The patient was quite hale and healthy previously and was an active athelete. The dilatation was relieved to some extent by injections of pituitrin. He was taken to the Government Head Quarters' Hospital, West Godavari where no definite opinion could be given.

Dr. D. V. Moses mentioned a case of sudden death of a male while playing on which he conducted post mortem and found cerebellar haemorrhage.

Light refreshments and tea were offered by Dr. T. Satyanarayana, L.I.M., who was at home to all the members during and after which the members entered into active and lively discussion upon the above cases and on many other professional topics and the meeting came to a close by 6-30 p. m.

The Tinnevelly District Medical Association, Palamcottah

Nanguneri, 29th February, 1936.

The Tinnevelly District Medical Association held its monthly meeting on Saturday the 29th February 1936 at Nanguneri. A Health Exhibition was arranged at the Board High School, Nanguneri, at 12 noon. The Exhibition was opened by Lieut. Col. T. S. Shastry, I.M.S. The Exhibition was thrown open to the public till late in the evening. The exhibits consisted of posters relating to Cholera, tuberculosis, malaria, small-pox, Fly-danger. etc. About 300 School Teachers and School Mistresses of the Nanguneri Taluk attended the Health Exhibition which was held in the same place as and along with the Educational Exhibition of the Teachers' Conference.

The monthly meeting of the Association began at 4-30 P.M. with tea at the Traveller's Bungalow, Nanguneri, under the Presidentship of Lieut. Col. T. S. Shastry, I.M.S.

Resolutions regarding:—(*a*) the late King George V (*b*) King Edward VIII. (*c*) the late Colonel Bola Nath, C.I.E., I.M.S. (Retired). were passed unanimously.

The Secretary read the minutes of the last Annual Reunion which were passed.

The draft Rules of the Tamil Nadu Medical Federation was also read by the Secretary for the information of the members.

The following clinical cases were demonstrated:—

BY WHOM	CASES.
1. Lieut. Col. T. S. Shastry, I.M.S., District Medical Officer, Tinnevelly.	A case of "Cancer Breast" which was successfully operated by him at the Govt. Head Qrs. Hospital, Palamcottah.
2. Do.	A case of fracture of the leg which was treated at the Govt Head Qrs. Hospital, Palamcottah.
3. Dr. G. S. Narayana Iyer, L. M. P. Rural Medical Practitioner, Moolaikaripatti.	A case of Leprosy.

Dr. G. S. Narayana Ayyar, L.M.P., read case notes of a case of Leprosy which was treated by him. Dr. R. V. Padmanabhan, M.B.B.S. delivered an interesting and exhaustive Lecture on "The Scheme of present-day-treatment of Leprosy."

After discussion Lieut. Col. T. S. Shastry, I.M.S., summed up the salient and important features of all the cases. He offered his cordial thanks to all those members who helped for the success of the function.

Thereafter an excellent dinner brought the happy gathering to a close.

The Tinnevelly District Medical Association Palamcottah

Neyyur, 21st March, 1936.

By the kind invitation of Dr. I. M. Orr, M.D., CH.B., F.R.C.S. (Edin), The Tinnevelly District Medical Association held its monthly meeting at Neyyur, on Saturday the 21st, March 1936. Members numbering forty-five including two lady doctors were present on the occasion. The members were treated to demonstrations in the Operation Theatre by Dr. I. M. Orr, from 9 A.M. to 1 P.M. The following interesting operations were demonstrated on the occasion :—

(1) Bonegraft for the spine.
(2) Transplantation of Ureter.
(3) Gastrectomy for duodenal Ulcer.
(4) Cancer of the lower Jaw.

The technique of these operations was shown clearly and explained to the visitors. There was lunch at 1-30 P.M.

About twenty members attended the Leper Asylum, where lecture demonstration on Leprosy diagnosis and treatment by Dr. Abraham, in charge of the leper hospital was given. The rest of the members attended the clinical demonstrations in the wards by Dr. I. M. Orr. Tea was served to the members in Dr. Somervell's Bungalow at 4-30 P.M.

The meeting began at 5 P.M. under the presidentship of Lieut. Col. T. S. Shastry, I.M.S. Dr. Noble of the Salvation Army Hospital read a very infoming paper on "Glaucoma". Dr. I. M. Orr, M.D., delivered an interesting lecture on the Etiology, Pathology and Surgery of Peptic Ulcer.

Lieut. Col. T. S. Shastry, I.M.S., brought the meeting to a close by his remarks on the subjects of the learned addresses: and in a very inspiring speech proposed a vote of thanks to Dr. I. M. Orr, and his staff for the excellent demonstrations in the wards

and in the Theatre and for their splendid hospitality. Cheers all round brought the grand meeting to a close at 6-30 P.M.

The Trichinopoly District Medical Association, Trichinopoly, (Registered)

A monthly meeting of the above Association was held at 5 p. m. on Saturday the 29th March 1936 in the E. R. High School Trichinopoly, when about 35 members were present. Rao Sahib Dr. T. C. Joseph, Municipal Health Officer, Trichinopoly, presided on the occasion. Dr. N. S. Krishnamurthy was 'At Home' to the members.

Fraternal greetings on the occasion of the Annual gathering of the Chettinad Medical Association was moved from the chair and carried unanimously. The Secretary welcomed Dr. T. R. Subramanya Iyer of Manapparay who had newly joined the Association. Dr. V. Subramanyam, Hon. Dental Surgeon of the Government Head Quarter's Hospital delivered an interesting lecture on 'Oral Hygiene'. He impressed upon the necessity of having a clean mouth with healthy gums and teeth. He also explained the various methods of keeping them neat and clean. He traced the various diseases which were due to the unhealthy condition of the mouth. Dr. T. S. Balasubramanyam spoke a few words on the necessity of having a balanced diet with adequate vitamins and said that hand-pounded rice was not only more useful for general health than mill-polished rice but also for the gums and teeth. The lecturer answered a few questions raised by a few members and the treatment of various diseases of the gums and teeth. With a few remarks from the chair and a vote of thanks to the host, lecturer, president and the manager of the E. R. High School for lending the premises, the meeting terminated.

The Trichinopoly District Medical Association, Trichinopoly, (Registered)

A monthly meeting of the above Association was held at 5 p. m., on Sunday the 26th April 1936, in the Coronation Gardens, Trichinopoly when about 30 members were present. Rao Sahib Dr. T. C. Joseph Municipal Health Officer was 'At Home' and Dr. T. S. Balasubramanyam, M.B., B.S., presided.

Dr. M. Balammal, M.B., B.S., delivered an interesting lecture on 'Placenta Praevia' in which about half a dozen members took part.

The meeting terminated at a late hour with a vote of thanks to the host, the lecturer and the owners of the gardens.

BOOK REVIEWS

Reports on Neurology and Psychiatry from the Neurological Clinic of The Stephen Tisza University, Debreczen, Hungary. Memorial volume published in memory of Hughlings Jackson. (Reviewed by the late Dr. E. Jacobowicz, M.D., (Germany), Bombay.

Not only for Neurologists but practically for every doctor interested in Neurology and Psychiatry this book furnishes abundant information and suggestions. All reports are of a very high standard and give evidence of the research work done at the Neurological Clinic of the Stephen Tisza University. To discuss all reports collected in this volume would lead too much into details, but I strongly recommend a close study to all, who are interested and I would only like to draw attention to a few of the reports in the following :—

In the introductory preface, Prof. Ladislaw Benedek appreciates the life work of Hughlings Jackson and rightly calls him the greatest Neurologist of all times. All doctors are acquainted with the symptoms of Jacksonian epilepsy, which, as Jackson proved by experiments, is caused by a lesion of the brain. Zoltan V. Pap reports on statistical and clinical investigations relating to deceptions of the senses (illusions) in patients suffering from paralysis and draws attention to the frequency of chronic hallucinosis after inducing fever in the patients for the treatment of paralysis. The author refers to the development of unsystematic paranoidal ideas and hallucinations, which in the more advanced stage become stationary. Gerstmann tried to find an explanation for the development of these symptoms by assuming that on account of fever treatment the paralytical process is converted into a brain-syphilitical process and that this causes the development of the same kind of symptoms known in Neuro-syphilis as luetic psychosis. The results of dissections, however, have not proved the correctness of this assumption.

Pap's opinion is that an individual tendency towards schizophrenia is responsible for the appearance of these paranoidol hallucinatory conditions. I am inclined to believe that in the case of progressive paralysis, considering its rapid course, all symptoms are superficial and alternate and that arresting the course of the diseases by means of curative fever therapy also settles the psychic correlations of the disease. It is well compatible with this point of view that a tendency towards schizophrenia possibly may also be of some importance.

Benedek reports about experiments of active immunisation in Neuro-syphilis with apathogenic spirochaeta pallida. He refers to the experiments carried out by Roggenbau in the Nerve-Clinic of the Charite Hospital, Berlin with pallida strains of Hilgermann. Benedek treated 96 cases with spirochaeta vaccine and the results he achieved are so encouraging as to make further experiments recommendable.

Michael Nagy and George Markovits report on different methods of treatment for dementia praecox. (Schizophrenia) They are right in stressing the fact that many theories lead to to many therapies in view of the numerous methods of treatment suggested. The aetiology of dementia praecox (Schizophrenia) is unknown, but there are numerous theories for it. Some authors believe in auto-intoxication; Dr. Cotton (America) resorts to the rather out-of-date theory of focal infection; others say lesions of the brain or degenerative processes, particularly of the basal ganglia and the frontal brain are responsible. Also disturbances of the endocrine system are said to be the cause, especially, however, hereditary factors. Probably dementia praecox is not one uniform complaint, but represents several diseases of different aetiology, which so far could not be distinguished from each other. Amongst the different methods of treatment are gland therapy, especially the treatment with extracts of testes, fever therapy and besides as a new therapy Insulin treatment. According to the report of the two authors, the latter treatment has led to satisfactory results.

Michael Nagy reports on a case of Raynaud's disease caused by a cervical rib, which was cured by operation. The patient suffered from a tingling and stinging sensation in the right arm accompanied by increasing weakness of the limb. An examination of the right arm revealed the following: Power of pressure of the right hand was considerably weaker than of the left. The right forearm, hand and fingers have a cool feeling. The nails show a livid discolouration. The skin of the palm and fingers when resting shows a red colour. After slight movement or after applying pressure the skin turns pale and shows a white colour. The pulse of the arteria radialis is not perceptible. An X-ray photo showed the presence of a cervical-rib. An operation, in the course of which a piece of the cervical-rib, 5 centimeters in size, was removed, resulted in considerable improvement of all symptoms.

Of special interest to medical practitioners will be a simple method indicated by Benedek and V. Thurzo for avoiding the very disturbing after-effects of lumbar puncture. The procedure suggested is to cause a congestion in the jugular veins when performing the lumbar puncture, for which purpose the authors constructed a simple apparatus consisting of a tape and two pads.

The Pregnant Woman.—The Art of becoming a Mother.—*By Porter Brown*, M.D., Published by the Eugenics Publishing Co., Inc., New York, 1933. Price $ 2.00.

Maternal mortality is high enough in every civilized country in the world and America is no exception. The author puts it rather forcibly when he says: "When we realise the place our country occupies in relation to other civilized nations concerning maternal mortality, we bow our heads in shame". Education of the pregnant mother is therefore a great desideratum and if only she is instructed to observe the rules of health and how to take care of her own health and that of the foetus in the womb, half the battle is won. The book consists of nine chapters, the most important and interesting among them being those relating to (1) A program of education for marriage, (2) Child bearing, birth control and abortion, (3) Coitus, conception and birth, (4) Complications of pregnancy, (5) Care of the mother and the new-born infant and (6) Common infections and preventive hygiene. There are 22 illustrations. This is a book which doctors, especially lady-doctors, nurses, midwives and laywomen can profitably read and digest.

The Treatment of Venereal Disease in General Practice.—*By T. Anwyl Davies*, M.D., M.R.C.P. (Lond.), 1935, 202 Illustrated. John Bale Sons and Danielsson, Ltd., London—Price 7/6 net.

The amount of literature and knowledge on Venereology has grown so enormously of late that it is not in the power of a busy general practitioner to keep abreast of the problems that arise in the treatment of Venereal diseases.

This book is based on the lectures delivered to the students of the London Hospital during the past five years and contains the essentials on the treatment of the venereal disease embodying all the latest improvements in methods that have proved to be of value.

The book is mainly divided into three sections—Syphilis, Gonorrhœa and allied conditions.

The therapeutic effects of arsenicals, Bismuth, Mercury and Iodides have been so exhaustively written that it is well worth our readers' consideration. The treatment of Gonorrhœa in its various stages have been well discussed.

The book is handy and printing good. We recommend this useful book to all our readers.

Pocket Monographs on Practical Medicine.—Foolscap 8vo, 2/6 net. John Bale Sons and Danielsson Ltd.—**The Early Diagnosis of Malignant Disease**—*By Geoffrey Kenyes*, M.D., F.R.C.S., (Eng.).

Careful observation on malignant disease has led us to believe that for a successful treatment of these conditions the diagnosis must be made very early. It must be realised that every carcinoma presents a stage during which it is a localised lesion for even the most malignat types are not disseminated to lymphatic glands or other parts of the body immediately after they start to grow. Therefore every cancer history has a latent period during which no dissemination has taken place. Treatment during this stage with all our modern cancer equipments viz. X-ray, Radium and Surgery would go a long way in the alleviation of the suffering individuals. The object of this little monograph is to examine the basis for early diagnosis of almost every form of malignant disease arising in epithelial tissues.

The monograph deals in a concise form the early diagnosis of cancer in the breast, uterus, the alimentary canal, respiratory tract, genito-urinary tract, the thyroid gland and the skin. It is bound to be of great use to the general practitioners.

PREPARATIONS AND INVENTIONS

The Glaxo Laboratories.—The transfer, from cramped and adapted town premises to a spacious semi-rural site, of a manufacturing concern based on scientific control is a vast undertaking. The Glaxo Company is to be congratulated on the succesful way in which they have done this. A site of 15 acres at Greenford—that classic spot where Perkin discovered the first aniline dye—has given opportunity for considered and ordered design, an opportunity which has not been lost. A long well-lighted very modern building with only one floor above ground level is arranged so that raw materials brought in at one bay, adapted for easy unloading of lorries, pass through the various processes in their way across the factory part of the building to a dispatch bay, without confusion or unnecessary handling.

The chemical laboratory consists of one large room where research and analytical control goes on side by side. This arrangement which, although not usual, is followed in some other large laboratories, such as those at County Hall, has the advantage of enabling the scientific staff to survey the whole of the work and ensures the pooling of knowledge, experience and initiative, besides easing the dislocation caused by sickness or holidays.

The occupation of the new laboratories was carried out very carefully; an illustrated pamphlet was distributed among the workers before the move was effected, and every one could see from it where he would be working and how to get there, besides finding his way to any part of the building which might concern him. When a visit was paid to Greenford, a few weeks after the move, everyone seemed as "native and to the manner born"; the obvious newness of the building and some plant erection which was going on were the only signs that the place had not been running smoothly for years.

Stellidin.—"*May and Baker* have just introduced *Stellidin* in India. *Stellidin* is a 4% aqueous histidine monohydrochloride intended for the treatment of Gastric and Duodenal ulcer. It is given intramuscularly or subcutaneously daily for three weeks. A second series of injections is given after an interval of six weeks with a view to preventing possible relapse. It is claimed that the results are better than those of the more orthodox methods and quicker of achievement. Enquiries are invited by *May and Baker* (India) Limited, 11, Clive Street, Calcutta".

Collosol Mercury Sulphide.—(Crookes' Colloidal mercury sulphide—0.5%) A Colloidal suspension of Mercury sulphide protected with gum Arabic. Manufactured by 'The Crookes Laboratories'. (British Colloids Limited—incorporated in England.) Office in India: 10, Graham Road, Ballard Estate, Bombay.

Mercury has always been and still remains the most certain treatment for syphilis. Organic arsenic compounds give rapid results in cleaning spirochætes from the blood and rendering a case non-infective, but they do not, except in conjunction with mercury, effect a cure.

Within the last few years bismuth has been found of use in cases where mercury fails or cannot for various reasons be employed, but the vast majority of cases of syphilis are still best treated with mercury.

Mercurial treatment, however, is neither easy nor pleasant since the large intramuscular injections of Lambkin's Cream or grey oil are painful and the patient must be watched for symptoms of mercury poisoning.

Collosol Mercury Sulphide represents an advance in mercurial treatment. The association of mercury with sulphur assists the absorption and elimination of the toxic metal, so that satisfactory results (as judged by the reversal of a positive Wassermann and healing of the lesions) can be obtained without any symptoms of mercurial poisoning. The substance, too, being in the colloidal form, is very rapidly and completely absorbed.

Since the colloid is stabilized with a carbohydrate protective

colloid there is no risk of protein shock in the use of this solution. It is isotonic and may be given either intramuscularly or intravenously without pain being caused.

(1) *Syphilis.* It is well tolerated both by injection and by the oral route. As many as 50 injections can be given with impunity; symptoms of mercurial poisoning are rare.

Pulmonary tuberculosis is generally taken to contraindicate the use of mercurial drugs.

The injections should be given once or twice weekly, and if administered orally, one teaspoonful two or three times daily. There is no need for any rest period. So far there appears to be no cumulative action on the kidneys, and biological experiments indicate a very low toxicity.

(2) *Psoriasis.* Injections should be given twice weekly. As a local application to alleviate irritation, an ointment containing 5% of salicilic acid in combination with chrysarobin should be applied nightly and a lotion containing chrysarobin is also helpful for application during the day.

Collosol Mercury Sulphide 0.5% is supplied as follows:

Injection: Ampoules (boxes of 6) 2 c.c. Rs. 4-10 each.
Oral: Bottles 4 ozs. Rs. 4-2. 8 ozs. Rs. 7-13.

NOTICE

Madras Medical Council

The Registrar, Madras Medical Council, in his letter No. 2/36, dated 1st May '36, desires us to publish the following notification:

"The Madras Medical Council at its meeting held on the 3rd March 1936 resolved that the following notice be published in all possible Medical Journals:—

"It is a grave breach of professional propriety for a medical practitioner to take any part in the manufacture, or sale, of a proprietary food or medicine or to have his name in any way associated with it. Medical men should also be cautious how they lend themselves to the puffing of these articles.

(Extract from the Code of Medical Ethics—Section 22)".

CORRIGENDUM

"The Antiseptic" page 256, April '36 issue, first sentence of the last paragraph should read as "To a c.c. or two of the diluted urine mix 5 to 10 drops of 1—1000 solution of pot. permanganate in one of the test tubes and shake it well".

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The Antiseptic

A Monthly Medical Journal

Edited by

Dr. U. Rama Rau & U. Krishna Rau, M.B., B.S

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Subscription Rs. 5, Foreign 10 sh. a year. Post paid. Single Copy As. 12. In advance.

Index to Advertisements, see page 54.

The Merits of Detoxicated Vaccines

The principle of detoxication has now been thoroughly proved to be of value, not only with regard to vaccines, but in other fields of immunity; thus, for example, the diphtheria toxin is detoxicated by the Ramon process before it is injected into horses for the production of anti-diphtheritic serum. This is sufficient to show that the process of detoxication does not destroy the immunising value of the antigen.

The obvious advantage of Detoxicated vaccines is that large doses can be administered without causing serious reactions or illness. This is of great value in the treatment of cases where any given bacterial disease is already established. In such cases toxic vaccines are apt only to aggravate the symptoms, whereas moderate doses of the appropriate detoxicated vaccine can be given safely without further aggravation of the disease.

Practitioners sometimes point out that Detoxicated Vaccines are more expensive than the ordinary toxic vaccines. This is so, for the obvious reason that the dosage is nearly one hundred times greater, so that much larger quantities of bacteria are used in their preparation. Bearing this fact in mind, the comparatively small difference in cost will be found to be greatly outweighed, as the dosage given is sufficiently large to produce the desired therapeutic effect without harmful reactions.

In order to obtain the original and genuine Detoxicated Vaccines which are prepared in the Pickett-Thomson Research Laboratory, St. Paul's Hospital, London, it is essential to specify "*Niltox Brand*" when prescribing.

***Niltox Brand* Detoxicated Vaccines are supplied to medical practitioners by the Indian Agents of GENATOSAN LTD., who will gladly furnish further information upon request :—**

MARTIN & HARRIS LTD.

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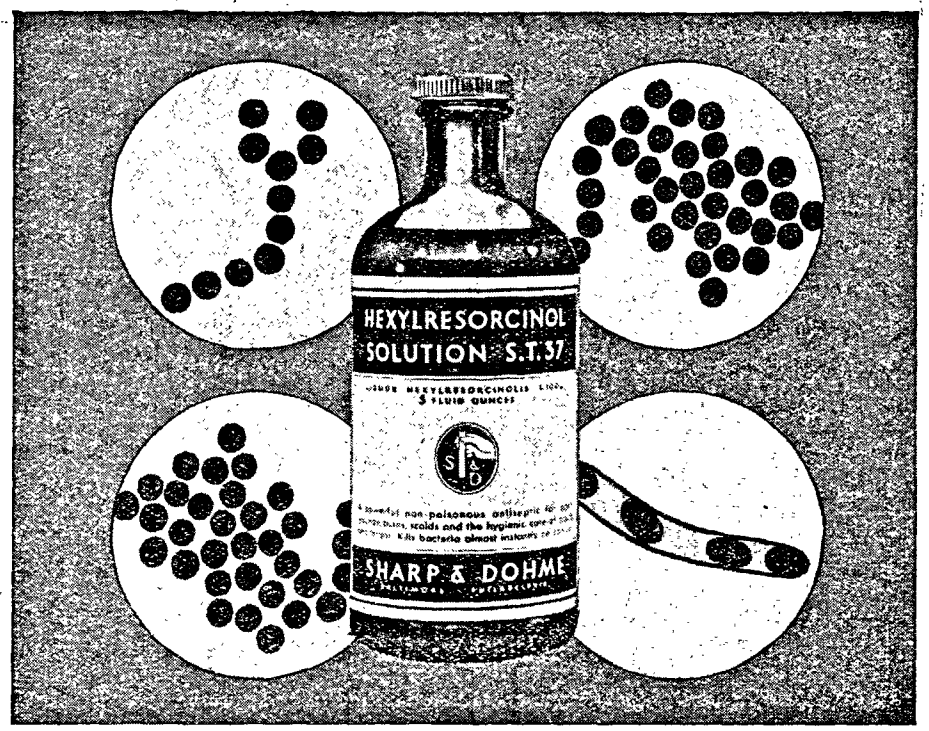

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ORIGINAL ARTICLES

THE ZONDEK-ASCHHEIM TEST FOR PREGNANCY*

BY

DR. E. ACHYUTHA MENON, F.R.C.S., (ED.),

Surgeon, Antenatal Department, Govt. Hospital for Women and Children, Madras.

THE Zondek-Aschheim test for pregnancy is one of the most notable advances in the field of Obstetrics and Gynaecology in recent years. Unlike several other laboratory tests for pregnancy which have been described in modern times, the Zondek-Aschheim test has been found to give uniformly accurate results in the hands of workers even other than those who originated it. The technique is simple and the test can be done by any competent medical practitioner with a small laboratory and so is of particular value to the doctor who lives away from a well-equipped laboratory.

I dare say most of you have, in the course of your practice, come across cases where it has not been possible to come to an immediate decision as to whether a patient is pregnant or not, and you have had to ask the patient to call again after a fortnight or a month for another examination when you hoped to be able to discover one or other of the sure signs. This of course causes inconvenience and in some cases, anxiety to the patient and to some extent loss of prestige to the practitioner.

* This paper, read at a recent meeting of the All-India Mission Medical Conference, is published in response to enquiries received by the Superintendent, Government Hospital for Women and Children, Madras, for details of the test.

In the early months of pregnancy, for instance, amenorrhoea which is an important symptom, may be absent in some cases. Some women continue to menstruate in the first few months of pregnancy ; and there may be other causes of bleeding during these months from conditions such as erosion of the cervix, cervical polypus, cancer of the cervix, double uterus with pregnancy in one—all conditions in which the patient may attribute the bleeding to ordinary menstruation. Again, amenorrhoea may be due to constitutional conditions like tuberculosis, anaemia, heart and kidney diseases etc., endocrine disorders, or to local causes in the genital organs. Other subjective symptoms, such as morning sickness, giddiness, loss of appetite, salivation, frequency of micturition, and constipation are not always present, or are not observed by ignorant patients and so are not to be relied upon individually or in some cases collectively for a diagnosis. Softening of the vaginal walls and cervix, pulsation in the fornices, and bluish discoloration, are also sometimes not recognisable, and when present, may be due to other causes of congestion of the pelvic organs. Enlargement, with softening of the uterus, generally a most valuable sign, may also be due to other causes, and is occasionally difficult to obtain in primigravidae or in women with very fat abdominal walls. Hegar's sign, when elicited, is also a very valuable probable sign but is likewise not always available. So also the breast sign and the intermittent contractions and Ballottement. It is a consideration of all these and other symptoms and signs taken collectively that generally enables one to arrive at a conclusion in any particular case. The necessity for an immediate decision may be urgent due to several causes which need not be gone into in detail now. The Zondek-Aschheim Test comes in handy in such cases.

Even in the later months, difficulty is sometimes met with. Extreme adiposity of the abdominal wall, tenseness of the uterus from hydramnios or twins, ascites, tenderness of the abdomen, large cystic or solid tumours, may all cause difficulty in diagnosis. Foetal movements may not be perceptible, foetal parts may not be felt ; the foetal heart may not be audible as in hydramnios or vesicular mole, or when the foetus is dead. Visualisation of the foetal bones in a well taken skiagram cannot be obtained earlier than about 12 weeks and often not until much later.

The Zondek-Aschheim test is based upon the fact that large quantities of a substance resembling in its action some of the hormones of the anterior part of the pituitary gland are excreted in the urine during pregnancy. It has been known for some time

that the anterior lobe of the hypophysis undergoes hypertrophy during pregnancy and some portion of the excess of its secretion circulating in the blood is excreted by the kidneys. Experiments on animals have shown that total or partial removal of the anterior lobe results in a state of adiposity accompanied by a secondary hypoplasia of the genital organs in adults and in persistence of sexual infantilism in adolescents. Administration of the extract by injection into such animals produced very definite changes in the reproductive organs. Transplantation later of the anterior lobe into hypophysectomised white rats were seen to bring about restoration of normal growth with partial repair of the injury to the sex glands and the ovaries show signs of ovulation. Zondek and Aschheim succeeded in inducing precocious sexual maturity in infantile mice by such transplantation. They therefore came to the conclusion that one important function of the anterior lobe of the hypophysis is to act as a motor to the ovary and that such activation produced ovarian hormones which act upon the uterus and other genital organs. They took advantage of the presence in the urine of pregnant women of large quantities of the gonad stimulating hormone of the anterior pituitary to evolve the test which is now well known. What brings about the hypertrophy of the hypophysis is still not definitely established, but it is surmised on reasonable evidence that the presence of chorionic tissue bears a causal relationship to it. Other authorities think that it is the chorionic tissue itself that directly stimulates the ovaries.

Technique

The original test of Zondek and Aschheim is done as follows : A morning specimen of the patient's urine is obtained and injected subcutaneously into five or six infantile mice about three weeks old and weighing six to eight grammes. Varying quantities are injected—0.2 c.c. into mouse number 1, 0.25 c.c, into number 2, 0.3 into numbers 3 and 4, and 0.4 into number 5. Six injections are given—three on the first day and three more on the second. The urine should be preserved in ice to prevent decomposition. One hundred hours after the first injection, the mice are killed and the ovaries examined. These organs are found to be bigger and congested. Large ripe Graafian follicles and blood spots and recent Corpora Lutea are seen. These latter constitute a positive reaction. If they are not evident to the naked eye, microscopic examination will show them. The presence of one such Corpus Haemorrhagicum or Corpus Luteum

in any of the test animals is sufficient for a positive reaction, their absence indicating a negative reaction.

Results

Out of over one thousand cases examined by the authors, the Zondek-Aschheim test gave accurate results in 98.6 per cent. of cases. These included 470 controls where urine from normal healthy women, those after menopause or with irregular bleeding, healthy men, cases of internal diseases, disturbances of internal secretions, inflammatory gynaecological conditions, benign ovarian tumours, fibroid uteri, carcinoma and amenorrhoea due to causes other than pregnancy, all these being negative except in two cases where further test also gave negative reaction and two cases of carcinoma. (In carcinoma, the reaction is limited to cornification of vaginal epithelium, congestion and enlargement of the genital organs and the formation of a large number of ripe follicles). Four hundred and ten cases of pregnancy ranging from five weeks to full term, all gave positive reaction, except eight, most of which again on further test proved positive.

It must be remembered in interpreting the results that the reaction depends upon the presence of living chorionic tissue in biological contact with the maternal circulation and so the reaction is positive in cases of ectopic gestation as long as the embryo is alive. It becomes negative some days after its death. Both in these cases and in cases of missed abortion or in later months in cases of intra-uterine maceration, it becomes negative about the eighth day after delivery. The test is found to be strongly positive in hydatidiform mole and chorion epithelioma. The detection of the hormone in weak dilutions is availed of to diagnose these conditions.

This technique has been improved upon by the authors in certain respects. It has been found that a certain number of the test animals died probably due to the presence in the urine of some toxin, the nature of which is not well known. This has been reported to be obviated by a process of detoxication which has been reported to be giving good results. Thirty to forty c.c's. of early morning urine is weakly acidified with acetic acid and filtered. 120 c.c. of ether is added and the mixture is shaken for about three minutes. After allowing it to stand for a little while the supernatant ether is decanted off and the urine is then placed in a hot water bath at 45 degrees C., till all the remaining ether is evaporated off, taking particular care that the temperature does not rise above that. The urine that is left is free from toxicity and is used for the injection.

Aschheim and Zondek further tried to shorten the period of the test by a process of concentration of the hormone to accelerate the reaction. This is done by shaking up for five minutes 66 c.c's. of urine with 240 c.c's. of alcohol and after standing for half-an-hour, the sedimented hormone is separated by centrifugalisation and is then detoxicated by the addition of thirty to fifty c.c's. of ether. The resultant urine, though a little cloudy in appearance, can be safely injected and found to contain about six times the concentration of the hormone. The result is obtained in fifty hours instead of hundred hours, but only positive reactions are of value. When negative, the test should be re-done.

Modification of the Zondek-Aschheim Test

The test has been modified by Friedman and Lapham and by Schroderer by substituting the rabbit as the test animal. The original test requires five or six animals of a particular age and weight, which are not to be had except when special arrangements are made for the breeding of large families of them. Besides, it takes as long as four days to obtain a reliable result. It has been found that the rabbit is more suitable because only one animal is required and the results can be made out with the naked eye always. Besides, the rabbit is one of the few animals which do not go into a natural oestrus. Its ovaries do not show any ripening of follicles, ovulation etc., except after copulation, and then these changes occurred as early as eight to ten hours after the act. The same result occurred after injection of the pregnant woman's urine. Hence the result is obtained in a much less time. Any adult female rabbit of any age may be used, the only precaution needed being that the animal should be kept isolated from male rabbits and even from female ones for a period of about thirty days.

Technique.—Friedman and Lapham inject the urine into the marginal vein of the rabbit's ear thrice daily for two days ; and forty-eight hours after the first injection, a laparotomy is done and the ovaries examined. 4 c. cs. are injected each time. The urine which is preserved in ice to prevent decomposition, is first filtered to remove any gross sediment and then warmed to the blood heat by immersion in warm water at a temperature not higher than 45 degrees C. for a minute or two, and is then ready for injection. The veins are rendered prominent by mechanical irritation and proximal pressure and the injection is done slowly. Technical difficulties are few in number and can be easily got over with a little experience. Toxicity of the urine sometimes kills the animal when the test has to be repeated. Smallness of

the veins of animals kept encaged for a long time due to mange, and thrombosis due to previous injections, are minor difficulties which can be got over.

Still more recently, auto-transplantations of the ovary into the anterior chamber of the rabbit's eye has been done, so that the result may be visible by inspection, without having to open the abdomen of the test animal.

Results.—The modified test has been found to give quite as good a degree of accuracy as the orignal one. I have been myself using this method for over four years and am satisfied with the result. I injected 5 or 6 c. cs. twice daily for two days. Out of over 130 cases I have done, inaccurate results were seen only in two instances, in one of which the animal was too weak to react, being emaciated from prolonged captivation. A repetition of the test gave accurate result in this case. The earliest time when a positive result was obtained was fourteen hours after the first injection.

What constitutes a positive reaction? The presence of one at least recent Corpus Luteum or a recently ruptured Graafian follicle with haemorrhage into it indicated by red elevation of a conical form, a millimeter or two in diameter with a small depression in the centre. It should be distinguished from unruptured Graafian follicles which sometimes appear red when the vessels over them are engorged. These, however, are paler and clearer and are rounded, rather than conical, and do not show a central stigma or depression. There are sometimes seen also unruptured follicles with haemorrhage into them (peculiar to rabbits) likely to be mistaken for corpora haemorrhagica. These are dull red, smaller and less prominent. Unruptured clear follicles sometimes seen are suggestive of ovarian stimulation, but are not characteristic of pregnancy.

Uses.—(1) For the diagnosis of early pregnancy, whether uterine or extra-uterine. It must be distinctly understood that the test is meant only to supplement information obtained by clinical examination, and not to supplant it. It becomes negative when the ovum is dead. It may be positive even as early as one week after a missed period.

(2) For the diagnosis of vesicular mole and chorion epithelioma. In these conditions, the reaction is available in weak dilutions of the urine, a quantitative method having been evolved.

(3) For diagnosis of intra-uterine death of the foetus early or late.

(4) For diagnosis of uterine pregnancy complicated by fibroids and of pregnancy from degenerated fibroids and from ovarian and other pelvic tumours.

ERYTHROCYTE SEDIMENTATION RATE IN RHEUMATOID ARTHRITIS AND ALLIED CONDITIONS*

BY

DR. GOVIND LAL SHARMA, M.B., B.S., (HONS.), M.D., (MED.); M.D., (PATHOLOGY).

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THIRTEEN years have elapsed since Fahraeus first published his discovery of a decrease in the suspension stability of citrated blood obtained from pregnant women. This test for the pregnant state at first seemed to offer great promise and naturally attracted a good deal of attention because the need for a sure indication of early pregnancy had long been evident. As the test became more widely used, it soon became clear that many other conditions besides pregnancy could cause an increased sedimentation rate, for example, acute and chronic infective processes and malignant neoplasms.

Various views have been advanced to explain the phenomenon of erythrocyte sedimentation. Sometime ago, hypercholesterolaemia was thought to be the responsible factor in certain conditions of increased sedimentation rate. Increase in the fibrinogen content of blood is another. A third view is that the phenomenon is due to an increase in the serum globulin with a corresponding decrease in serum albumin. Increased sedimentation rate is usually associated with certain degree of leucocytic increase. Stoke's law explains all the variations in the S. R. According to this law, the speed of sedimentation V, is directly proportional to F, the force of gravity and inversely proportional to n, the viscosity of dispersion medium as well as to r, the radius of the particle in accordance with the formula :—

$$V—F/6\ \pi\ nr.$$

It will be understood that alteration of one of these factors may produce changes in the S. R. In Addisonnian anaemia, the radius of R. B. C. is increased and consequently F. will also be affected. In chlorotic anaemias where the haemoglobin is much decreased, it is reasonable to expect that the viscosity of the medium will be considerably altered as also the force of gravity F of the cells. It will be seen therefore that the problem of determining the factors underlying the speed of sedimentation of R. B. C. is an extremely complex one and probably dependent on a mixture of physical and chemical factors. These considerations will however shake us from the belief that it is not " infection " alone that modifies sedimentation rate.

* Specially contributed to 'The Antiseptic'.

I have investigated the value of erythrocyte sedimentation rate estimation in chronic arthritic conditions, using students working in K. G. Hospital Lucknow, as normal standards.

Technique

1. *Apparatus.*—(*a*) Sedimentation tubes—These are 100 m.m. long, 3.5 m.m. in internal diameter and the bottom of each tube flat. These are fitted in a special rack so that the tubes may be held vertically during sedimentation. This rack contains a series of holes in its upper platform and corresponding slots in the base so that the tubes should fit snugly when inserted.

(*b*) A 2 c. c. syringe.

2. *Reagents.* — (*a*) a sterile solution of sodium citrate 3.8%. It is kept tightly corked so as to prevent evaporation and thereby getting concentrated.

(*b*) Normal saline solution.

3. *Method.*— With a clean and dry 2 c. c. syringe 0.3 c. c. sod. citrate sol. is sucked up and then blood is drawn in it from the antecubital vein up to the mark 1.2 c.c. in the syringe, taking care not to produce any unnecessary degree of venous stasis; because, otherwise in a rapidly sedimenting blood some erythrocyte fall in vivo will occur. The sedimentation tube is held in the horizontal plane and the blood is gently forced into it from its lower end so that it reaches up to the zero mark. Then by closing the upper end with index finger, it is inserted into the rack. After $1\frac{1}{2}$ hours the level of R. B. C. is read out and recorded.

Table No. I

Erythrocyte sedimentation rate in healthy people.

No.	Age.	Sex.	Sedimentation rates in m.m.
1	24	M	1
2	22	M	2
3	25	M	4
4	22	M	7
5	22	M	2
6	25	M	5
7	20	M	2
8	23	M	2
9	25	M	4
10	22	M	6
11	40	M	5
12	30	M	5
13	18	M	5.5
14	30	M	4.5
15	28	M	3

Table No. II

No.	Age.	Sex.	Diagnosis.	S. R.
1	12	M	Rheumatoid arthritis.	37.8
2	45	F	do.	35.5
3	35	M	do.	30
4	25	F	do.	29.8
5	18	M	do.	25.5
6	40	M	do.	21.8
7	25	M	Fibrositis.	20.2
8	60	M	Sciatica.	15.2
9	40	M	Spondylitis Ankylopoietica.	55
10	35	M	Osteoarthritis (shoulder).	15
11	40	M	Oesteoarthritis (knee).	16
12	30	M	Rheumatoid arthritis.	60.5
13	22	F	do.	36
14	42	F	Chr. villous arthritis.	20
15	42	M	Osteo-arthritis (knee).	17
16	50	M	Sciatica.	12.5
17	45	M	Osteo-arthritis. (Knee).	42
18	35	M	Fibrositis. (Shoulder).	10
19	45	M	Lumbago.	40
20	40	M	Rheumatoid arthritis.	70
21	22	M	do.	75
22	40	M	do.	50.5
23	50	M	do.	50
24	40	M	do.	45
25	40	M	do.	48

With regard to the figures for normal, males and females should be taken separately for the latter are reported to show slightly higher rates of sedimentation. In my series of cases, in no proved normal adult male was a sedimentation rate of more than 7 m. m. ($1\frac{1}{2}$ hour) recorded. Normal figures of different workers is given below.

Table No. III

Author.	Males.	Females.
A. G. Walton.	0—5.5 m.m	0— 5.5 m.m.
Kreindler & Popper.	3— 6 m.m.	4— 8 m.m.
Westergren.	1— 3 m.m.	5— 7 m.m.
Gram.	2.5— 6 m.m.	2.5— 7.2 m.m.
Fahraeus.	3.3—10 m.m	7.4— 13 m.m.

In investigating the phenomenon of the varying sedimentation rates in different chronic arthritic conditions, the object was to ascertain if such would give any assistance in understanding the so called nonspecific arthritides.

In my series of cases all the Rheumatoid arthritic subjects gave readings above 21.8 m.m. in 1½ hour. The above figure is the lowest obtained; usually the figures ranged between 40—60 m.m., the highest rate obtained being 75 m.m. and 20 m.m. except one case which gave a reading of 42 m.m. This, on investigation, was discovered to be a case of Rheumatoid arthritis in which osteoarthritic changes had taken place and skiagraphy suggested a diagnosis of osteoarthritis. In cases of fibrositis, myalgia and sciatica, the figures obtained are variable, but they seldom attain the rates observed in Rheumatoid arthritis. In one case of spondylitis ankylopoietica that I had the good fortune to study the reading was 55 m.m. This is in agreement with the suggestion that the aetiological factors responsible for this condition are the same as in Rheumatoid arthritis.

It seems to me that the sedimentation rate of R. B. C. can be used as a means of differentiating the various forms of inflammatory affection of the joint from the purely degenerative or traumatic states. I have found the sedimentation rate a useful guide in the differential diagnosis of chronic arthritides with rates reaching from 40—60 m.m. in inflammatory arthritis but only slightly increased in osteoarthritis—a degenerative state. Forestier in a recently published report summarizes his experiences with the sedimentation rate in the differential diagnosis of arthritis. In 57 cases of polyarthritis of the inflammatory type not a single one had a normal rate. Several cases of 10—15 years' duration attained a sedimentation rate of 80—100 m.m. In 55 cases of Osteoarthritis 62 % showed a normal sedimentation rate. In 30 % the rate was slightly elevated and there was only one with a rate above 20 m.m.

Therefore we may conclude that though sedimentation rate is a nonspecific reaction it can render definite diagnostic service in the recognition of two important varieties of chronic joint disease—Rheumatoid arthritis (Atrophic, infective) and Osteoarthritis (Hypertrophic degenerative).

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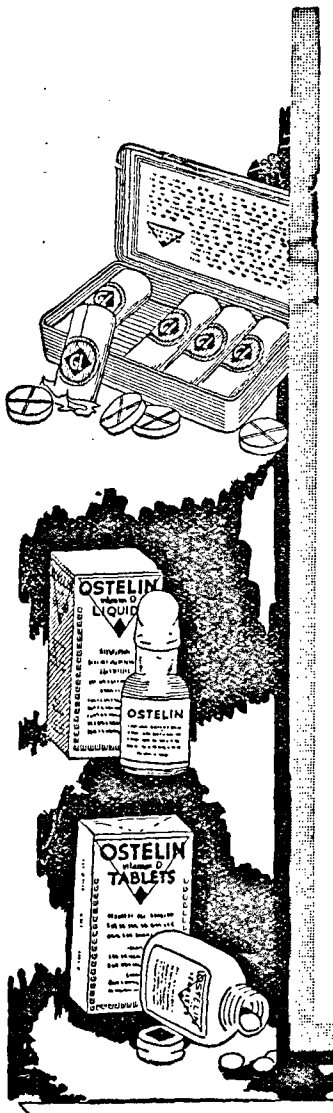

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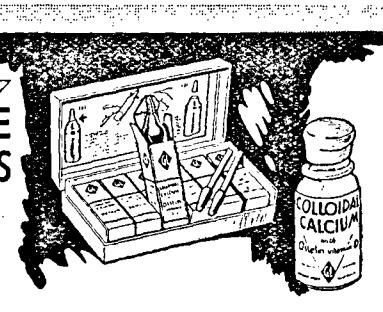

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LOBAR PNEUMONIA AND ITS TREATMENT*

BY

A. K. BHATTACHARYA, M.S., (CAL.)

Moradabad.

PNEUMONIA is such a common disease and so well known to the medical profession that I like to discuss, briefly, only some practical points with regard to it.

Incidence and Aetiology

Though Pneumonia is an infectious disease and Frankels Pneumococcus, the causative organism, communicable from one person to the other—whether diseased or healthy carrier—in many instances it seems to be some sort of an auto-infection *i.e* the pneumococci, normally residing in the throat of such persons, flare up, somehow or other, due to lowering of body resistance. Investigation in recent years, has proved that blood infection is secondary to Pulmonary lesion in pneumonia—which is contrary to the former belief.

Pneumonia is a disease of all climates but seasonal incidence is well marked. Though mostly a disease of winter it is usually more common towards the beginning and end of winter when daily variations of temperature are well marked. Cold only predisposes by lowering the resistance exactly like other debilitating conditions.

The pathology, symptoms and physical signs of a typical case of pneumonia are too well known to be described here.

Crisis.—With crisis there is a dramatic change in the general condition of the patient though the physical signs of the lungs are not much changed so suddenly. We have as yet no explanation as to why crisis should occur more often on uneven days. Sometimes before the crisis the temperature falls to a considerable degree with little or no improvement in the general condition. This is known as Pseudocrisis. It is interesting that if the fever persists beyond the 12th day the fall is likely to be by lysis. This occurs more frequently in asthenic cases or when any complication supervenes. In case of delayed resolution the temperature may take 6 to 8 weeks to clear up.

Pneumonia in Children

Varies in certain characteristic features from that of pneumonia in adults. Broncho-pneumonia constitutes 3/4th of all cases of pneumonia occurring under 2 years of age but after third

* Specially contributed to 'The Antiseptic'

or fourth year Primary Broncho Pneumonia is seldom found. Lobar Pneumonia is more common after third or fourth year and the incidence rate increases with increasing years while with Broncho Pneumonia it is the reverse. The onset in children is in many cases with vomiting and convulsion. Apical pneumonia is much more common in children and cerebral symptoms marked. In children, often symptoms and physical signs are not definite particularly for the first few days Characteristic rusty sputum is not found. As children usually swallow the expectoration, diarrhoea as a complication occurs more frequently.

Certain atypical varieties of Pneumonia

Massive Pneumonia.—When together with the alveoli the broncheoles are also plugged with fibrinous exudate the physical signs to a great extent resemble pleurisy with effusion. Cough is often absent and prognosis worse than an ordinary case. The position of the cardiac impulse decides a diagnosis from pleurisy with effusion or empyema.

Central pneumonia.—The seat of lesion may be so deep-seated that it may take several days to get the characteristic physical signs or they may not appear at all. The onset, persistent rapid breathing, high fever, altered Pulse Respiration ratio and X-ray examination may help the diagnosis.

Apical Pneumonia. — The apex or upper lobe of one lung only may be involved. This occurs more frequently in children and in asthenic cases *e.g.* old persons, alcoholics etc. cerebral symptoms often predominate in these cases. Expectoration and cough may be slight. In adults Apical Pneumonia is in many cases streptococcal. Prognosis is grave.

Creeping Pneumonia.—The inflammation gradually spreads irregularly in one or both lungs. The temperature chart is irregular and usually falls by lysis.

Post operative pneumonia.—Most of these cases are in fact, massive collapse of lung and not pneumonia, though the latter sometimes supervenes after general anaesthesias and in that case it follows the usual course.

Terminal pneumonia.—In long continued disease, in old age, in diabetes and in nephritis etc. sometimes an attack of pneumonia may carry the patient away. Physical signs of pneumonia are ill defined in these cases and death is rapid and comparatively painless. There is often no leucocytosis.

Afebrile pneumonia.—is sometimes seen in old persons and alcoholics. Constitutional symptoms are less marked.

Complications

Pleurisy, empyema, abscess and gangrene of the lung, heart failure, pericarditis, endocarditis, meteorism, meningitis, arthritis, etitismedia, parotitis etc.

Diagnosis.—In an aesthenic case, the history, mode of onset, temperature chart, pain, cough, dyspnoea, rusty sputum, altered pulse respiratian ratio, movement of accessory muscles of respiration, diminished movement of the lung involved, dull percussion note, increased vocal resonance and fremitus, diminished breath-sound, tubular breathing, moist sounds, high leucocytosis all these give the picture of a clear cut case.

Occasionally, however, difficulty arises in arriving at a diagnosis when the case is not so clear cut. When the lower lobe of one lung is involved, the referred pain in the abdomen through the lower thoracic nerves may, very easily, give the impression of acute abdomen at the onset. The history, altered pulse, respiration ratio, absence of tenderness on rectal examination, and presence of pulmonary signs are distinguishing features.

Acute pulmonary tuberculosis may start like pneumonia but the subsequent course and sputum examination may enable one to come to the right diagnosis, though late.

Pulmonary tuberculosis T. B.—May rarely simulate delayed resolution, of a case of pneumonia specially at the first examination, the history, sputum examinati on, presence of cavities in the lung, if any, may give the clue.

A *child with apical pneumonia* may simulate a picture of meningitis. Pain, cough, altered pulse respiration ratio, physical signs in the lung, are diagnostic features.

Massive collapse of the lung has to be distinguished from pneumonia by the position of the apex beat which is displaced towards the lung involved whereas in pneumonia there is no displacement. Labial herpes if present and rusty sputum are found in pneumonia and not in collapse. When in right sided collapse there is marked distension of left lung with obliteration of normal cardiac dullness the signs superficially resemble those of a left sided pneumothorax but with careful examination no such error should be made.

Secondary pneumonia sometimes occurs in plague, typhoid fever and influenza and can be diagnosed from the history, the associated symptoms and signs and bacterial examination. In influenza the consolidation is usually lobular and not lobar.

Infarction of lung in cardiac disease, causing cough, blood-

stained sputum and dyspnoea may simulate pneumonia. Absence of fever, presence of cardiac condition and localised physical signs generally distinguish.

Prognosis in pneumonia.—Pneumonia is one of the most fatal of all acute diseases. In declaring prognosis one should not be too pessimistic or too optimistic as the course of pneumonia is very uncertain. It is never fatal in children except in the first year of life. Whereas it is really a 'friend of the aged'. Debilitating conditions, alcoholism, chronic vascular disease, nephritis and diabetes lead to a bad prognosis. Toxaemia is an important prognostic feature in deciding the prognosis. Death rate is most heavy in type III. Prognosis is usually good if the patient is young, not addicted to alcohol, with history of no previous chest disease, when one lung only is involved, has a sharp febrile reaction, moist tongue and leucocytosis. The following indicate a bad prognosis :—

(1) A low temperature in the presence of a definite lobar consolidation. (2) Profound toxaemia; (3) Pulse rate persistently 130 or more and it is soft, compressible and irregular. (4) Pulse respiration ratio 2:1 or so. (5) Excessive cyanosis. (6) Low leucocyte count. (7) Meteorism. (8) Fever termination by lysis. (9) Dilatation of the right heart. (10) In children, convulsion developing late in the disease. (11) Early delirium. (12) Meningitis.

Death in pneumonia.—Usually due to circulatory failure due to toxaemia. The toxins act directly on the cardiac musculature and on the medullary centres thereby depressing the cardiac, respiratory and vasomotor centres.

In double pneumonia rarely the function of respiration is interfered with.

Observation in a case of Pneumonia:

1. Both the lungs must be very thoroughly examined daily as a routine procedure to follow up the course of pathological process.

2. The heart must be daily examined carefully to find out if the area of cardiac dullness is increased towards the right and if the mitral first sound and Aortic second sound become feebler. Pulmonary second sound which must always be accentuated, if begins to become feebler, the indication is that the case is taking a hopelessly serious turn. Cold extremities, a feeble first sound, a soft, compressible, irregular pulse are grave signs of cardiac

failure. Excessive cyanosis and dyspnœa speak of respiratory failure.

3. A daily systematic examination is essential to safeguard the approach of any complication whatever.

4. Particular care has to be taken during crisis. Definite instructions have to be left with the nurse for any emergency during crisis.

Treatment

To combat a self limited disease like Pneumonia for which we have yet no specific the best thing we can do is to arrange for a proper care of the patient in order to help the body resistance and this is certainly of more value than expectorants, poultices etc. Of paramount importance in the treatment of a case of pneumonia is rest, good nursing, care of the heart and sleep. Slightest exertion on the part of the patient brings about increased depth of breathing resulting in cough and pain. Hence the less the patient is disturbed the better, whether for examining or nursing Regarding general management and diet the usual regime for any acute febrile illness is sufficient except that more particular care has to be taken for a proper ventilation of the room as plenty of fresh air is, perhaps, the first essential to such a patient. Plenty of fluids also very necessary. High temperature consumes much of the tissue fluids and this must be replaced to prevent dehydration. Plenty of fluids also help in diluting the toxins and in eliminating the waste products of increased metabolism by way of kidneys.

As regards medicinal treatment at least up till now we have no drugs that have any slightest influence on the course of the disease. In the first 2 or 3 days a simple saline diaphoretic mixture is perhaps the most suitable. During the stages of congestion and Hepatisation, the use of expectorants is irrational unless there is associated bronchitis. Even during resolution most of the exudate is observed rather than expectorated. Expectorants *e.g.*, Ipecac, antimony and squill, etc., that act reflexly by irritating the gastric mucous membrane, should be used with a proper attention to the condition of the stomach, ammon. carb. and Pot. Iodide may conveniently be added to the mixture subsequently.

Regarding the use of digitalis in pneumonia there are two different opinions. Those who forbid its use think that high temperature, toxins or the invasion of the Heart by specific organism exerts an influence over the Heart which digitalis cannot overcome. Many eminent authorities, however, advocate its use

on the ground that besides the toxic action on the Heart in Pneumonia there may be present more or less obstruction of the Pulmonary vessels, through pressure, resulting in overwork and dilatation of the right heart and digitalis improves the general circulation by slowing the accelerated heart and increasing the extent of systole. If auricular fibrillation or flutter supervenes digitalis is certainly the drug of choice. But it seems reasonable that there is no use of digitalis from start and its full therapeutic action on the circulation should be availed of as soon as there is any evidence of circulatory failure. Strophanthin gr. $\frac{1}{200}$ intravenously followed by Tr. digitalis or digifortis per mouth may bring about a quick action if required.

Local application to the chest.—Counter irritants may certainly give relief from the pain but are not of any dependable value so far as the underlying inflammatory condition is concerned. In the later stages of the disease when there is not much pain it matters little if they are used or not. Regarding the much advertised clay poultices so long as they are comfortable to the patient they are all right, with the advantage that once applied they do not require frequent changing but at the same time they occasionally offer difficulty in the proper examination of the chest besides an additional weight is to be raised with each respiratory movement which is already troublesome.

Oxygen inhalation—Unfortunately administration of oxygen in pneumonia, when taken recourse to, is usually at the last moment and is too late. When the patient is moribund or there is evident Heart failure, oxygen is useless. When a considerable amount of lung tissue is involved as evident from the cyanosis and increased compensatory dyspnœa oxygen inhalation is helpful and should be administered at the earliest indication for it. The funnel method of oxygen administration practically leads to all of it being wasted and in the absence of an oxygen tent, it should be administered through a rubber catheter, the oxygen should better be passed through a Woulf's bottle containing warm water and passed at the rate of three bubbles a second.

Symptomatic Treatment

Pain and sleeplessness.—Counter-irritants often give relief and comfort for the pain which is usually present in the early stages. Dovers powder or Hypodermic morphine gr. 1/6 is very useful and effective during the early stages. But in the late stage when there is cyanosis, profuse secretion, excessive dyspnœa and delirium, opium or its derivatives are contra-indicated. Tepid sponging, Ice cap, Paraldelyde ℥ii. in an ounce of olive oil slowly per rectum, or medinal per mouth are usually sufficient to combat insomnia.

Bowels.—Should be moved regularly, if required, with the help of mild laxatives or glycerine enema.

Stimulants.—During crisis if there are signs of collapse adrenalin ½ c.c. with atropine sulph. gr. 1/100 hypodermically is the sheet anchor. For advancing circulatory failure, Hypodermic strychnine, pituitrin, caffeine, Sod. Benzoas, adrenalin, camphor in aether, cardiazol etc. should be had recourse to.

As regards the use of Brandy in pneumonia there is again difference of opinion and it is very difficult to decide between the two views.

Meteorism.—Turpentine stupe and enema, flatus tube injection of pituitrin etc. usually succeed.

Toxaemia and Hyperpyreia.—'Water in and out' as the old saying goes. Tepid sponging, Ice cap, rectal saline etc. Intravenous glucose 30 % sol. ℥ii. intravenously daily is a very effective and tried friend to combat and tone up the heart in pneumonia.

Felton's serum.—Its disadvantages :—

(1) Useful only in type I cases.
(2) Very costly.
(3) Technic of injection and repetitions not easy.
(4) Requires typing of the organism and hence the services of a bacteriologist.

Intravenous alcohol therapy. It is now too early to say anything about it.

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EPIDEMIC DROPSY*

BY

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EPIDEMIC dropsy is a disease which resembles beri-beri and related to the ingestion of diseased rice, charactarised by localised oedema and cardiac disturbances, moderate pyrexia and erythematous eruption of the extremities. Gastro-intestinal features *e.g.*, diarrhoea, vomiting are marked and anaemia is frequently present. Glaucoma is a common complication. Glaucoma is caused by increased fluid pressure inside the eyes and leads to partial or total blindness. When rain-bow colours and haloes around lights are seen, then, we know that patient has got Glaucoma.

According to Greig—Epidemic dropsy of Calcutta resembles ship beri-beri and the oedema due to deficiency of calcium salts. Diminution of the circulating protein, by decreasing the osmotic pressure may lead to oedema of the tissues. Ship beri-beri is a deficiency disease due to avitaminosis and is intermediate between beri-beri and scurvy. Acton and Chopra regard epidemic dropsy and beri-beri caused by ingestion of toxins formed usually in damaged rice. The three main signs are oedema, hypertrophy followed by dilatation of the heart and peripheral neuritis. In epidemic dropsy usually only two of these signs are present. Rice whose vitality is damaged by parboiling and which has been stripped of its entire pericarp and germ by overmilling is further damaged by fungi and other bacteria which grow on it when it is stored in damp dark godowns. Some of these toxins are water-soluble and affect the heart and others, alcohol-soluble and affect the nervous system.

Food deficiency theory and avitaminosis :

Neuritis is due to the deprivation of something essential to its healthy nutrition. It is the sequel of a diet in which over-milled rice enters as the principal element. The rice deprived of pericarp and germ fails to supply proper nutrition to the nervous system of man.

Vitamins are widely distributed among various food-stuffs. Though small in quantity they act as stimulants or catalysts to food and called accessory food factors. Their chemical natures are not known with certainty. Recent investigations have made

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it increasingly clear that faulty diets are in a very large measure responsible to subnormal health and lowered resistance to infections.

The physiological importance of vitamin B_1 which is present in cereals and especially in yeast and rice polishings will be apparent when we know that beri-beri or epidemic dropsy in human beings is in many cases a direct result of dietary imbalance and inadequacy of vitamin B_1. This vitamin appears to have a definite influence over the nervous system. Moreover, it has a profound influence on appetite. Deprivation of vitamin B, causes the animals to consume less and less food and ultimately to starve themselves. It is also important to remember that vitamin B_1 cannot be stored in the body for a long period and daily intake of this vitamin is therefore essential for normal health.

J. W. D. Megaw has shewn the association between the consumption of badly stored rice and the sudden occurrence of a number of cases of epidemic dropsy thereby disproving that this is a deficiency disease at all.

According to Acton and Chopra there is no close connection between avitaminosis and this disease because if it were so it would occur in an epidemic form when famine condition prevails.

Is epidemic dropsy infectious or not ?

Many features seen in this disease are typical of infectious diseases like measles, diphtheria, enteric fever etc. and hence it is probably of infectious nature. There are indirect evidences that Epidemic Dropsy spreads.

Kavirages consider beri-beri as another name for secondary anaemia (pandurog). By this disease appetite becomes weakened, bile increases and blood is polluted. Vegetable diet, fruit juice milk and large amount of substance containing bitter and astringent juice are required.

Geographical distribution.—The area of the epidemic distribution of beri-beri, an allied disease, is extensive. It occurs where monsoon prevails. Epidemic dropsy was first noted in Calcutta in 1877—8. In Mauritius in 1879, in Fiji in 1926, in Benares in 1934—35, and in Calcutta from 1927—35, it broke out in an epidemic form.

Both sexes are attacked but children under five and old men are slightly affected because young children usually consume small amount of affected rice and large amount of milk and so get mild attack of epidemic dropsy.

All cases of epidemic dropsy of Calcutta took place amongst

rice eaters. A spore forming proteolytic bacillus of the vulgatus group has been isolated in the diseased grain by Acton and Chopra and the same workers were successful in isolating this bacillus in the urine and stools of some of these patients. Toxins of this organism have a powerful effect on the capillaries. The diseased rice grains were found to be opaque and to float on water test.

Physical Signs and Symptoms

In some of my cases, there was a burning sensation limited to the soles and feet with aching of muscles increased during night preceding the appearance of dropsy in the legs. In some, itching sensation and a feeling of distension of the skin of the soles and feet.

Dropsy.— This occurs in greater or less degree in all cases and is one of the earliest symptoms, the affected part being pale, painless and leaving pits on pressure. The oedema is of the solid type and the affected skin is dusky-red hot and tender on pressure. According to Chopra and S. C. Bose, the swelling consisted of a small amount of transudate and a net work of capillaries. The patients used to complain of a feeling of heaviness in the legs.

Anaemia is a prominent feature and hence the Kavirages call it "Pandurog". A marked pallor of the face and mucus membranes is to be found almost from the beginning of the attack. Blood pressure in my cases recorded low reading. A low systolic 105—110 m.m. of Hg, a low diastolic 55—65 m.m, was noted.

Fever.—Moderate fever 99° F. to 102° F. was a constant symptom except in one case with severe diarrhoea where there was no fever but subnormal temperature (97.6° F) It was caused probably by absorption of toxins from the gastro-intestinal tract. According to Acton and Chopra marked damage of intestinal mucus membrane takes place as to allow cocci and bacilli to invade blood stream and produce fever. Diarrhoea and vomiting were more frequent in some epidemics than others. Patients pass from 8 to 10 stools a day at the beginning of an attack brought about by the congestion of the intestinal mucus membrane by dilatation of blood vessels (according to Chopra).

Patients complain of griping and pass several loose yellowish stools with indigestible matter and slime. Acton and Chopra claim to have found in the stools large numbers of gram positive bacilli. Toxins may be formed by this organism.

Palpitation is due to two factors *viz*:—

(1) toxins act on the accelerator mechanism of the heart and increases the heart beats and

(2) structural changes in the heart wall *viz.*

(*a*) increased vascularity and

(*b*) oedema which separates muscle fibres.

Dyspnoea is an early symptom.—It is rather mild or spasmodic due to toxins acting on the respiratory centre. Dyspnoea may be due (according to Chopra and U. P. Bose) to structural changes in the cardio-vascular apparatus, dilatation of the heart and oedema of the upper respiratory passages or lungs. Prae-cordial pain is chiefly produced by oedema of the heart muscle and is entirely of cardiac origin. This is frequently complained of by E. D. patient. Cardiac asthma, I have noticed, in two of my cases who complained of feeling of constriction in the chest and gasping for breath coming on suddenly at night.

Pulse.--Soft, small and rapid 110 to 130 p. m.

Heart.—The apex is displaced downwards and outwards and the impulse is diffuse, the upper margin of dulness goes up to 2nd costal cartilage.

Abnormal cardiac sounds and bruits are heard. A systolic bruit is heard over the apex and is conducted to the axilla. Pulmonary bruit over 2nd left costal cartilage and interspace is the earliest to appear. The first sound is short sharp and resembles the 2nd sound (tic-tac).

Tachycardia is constant and an occasional extra systole may develop. A—V bundle of HIS may be irritable but there is never any delay or block of the main bundle.

Seguelae.—Patients are susceptible to palpitation of the heart and swelling of the feet and their capacity for exertion is diminished. Urine of those patients was copious, of low specific gravity but no albumin present in it.

Prophylaxis and Treatment

The use of white rice in families where epidemic dropsy has broken out should be stopped and either bread made from whole wheat flour should be substituted or the brown under-milled rice furnished.

Germinating peas and beans have special value in treatment as well as prophylaxis. Fresh vegetables and fruits as well as beans, peas, peanuts barley or oatmeal should be served out as frequently as possible. Potatoes, fresh meat, curd (chana) and

onion should be served once daily. Eggs as valuable sources of food are indicated. Fat and milk must be added for general nutritional purposes. Yeast has reputed curative value and an extract of yeast known as marmite may be given twice weekly in 20 grains doses.

Treatment.—We know that toxins are supplied by Gram positive bacillus partly formed outside the body and starts with the ingestion of affected rice and partly manufactured in the human gut. The absorption takes place through the liver which shows typical lesions and finally the toxin reaches the general circulation. Treatment should commence with the elimination of the toxins by the bowels. Neutralise the toxins in the bowels.

Prevent absorption of the toxin

Stimulate the antitoxic power of the liver and eliminate toxins by the kidneys. Add to the diet appropriate vitamins. Support the heart. Rest is enjoined. If much oedema the following may be of use:—

℞

Liq. ammon acetas	...	ʒ i.
Pot Nitras	...	gr. x.
„ acetas	...	gr. xv.
aqua camphor	...	℥ i. tds.
or		
Ext. Punarnava Liq.	...	ʒ i. B.D.

To control diarrhoea, Tin ferri perchlor m xv. may be given t.d.s. or some binding medicine mist pepsinae co cum Bismuth (sineopii) (ʒ i. t.d.s.). Do not allow a patient with any cardiac involvement to sit up in bed. The cardio-capillary crisis is dealt with by:—

(1) calcium lactate gr x. B. D. (this will decrease permeabiltiy of the capillary walls).

(2) Ephedrine—In tinct ephedra in ½ drachm doses. B.D. or T. D. S. We have a powerful drug whose seat of action is in the capillaries.

If heart shows signs of failure ingestions of small doses (3–4 m) of adrenalin chlorid sol. give temporary relief.

The following mixture may with advantage be tried.

Tinct Digitalis	...	♏ xv.
Ammon carb	...	gr. v.
Spt. Aether Co.	...	♏ xx.

My grateful thanks are due to the following authors from whose works I have frequently quoted in compiling my article:—

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SOME PRACTICAL POINTS ABOUT "DISCHARGE FROM EARS."*

BY

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WHEN a case, with history of discharge from Ear, presents itself the first thing that a general practitioner generally thinks of is "Middle Ear" infection and invariably he starts treatment on that assumption: his usual treatment for such conditions being syringing the Ear, Hydrogen peroxide and some ear drops, containing Iodoform or spts. rectificatus. I am positive that the diagnosis though it may be correct in some cases, is more often a wrong one and it is needless to mention that the treatment is bound to fail, if it does not produce harm in some cases.

Every purulent discharge from Ear need not necessarily be from "middle ear". If one keeps in mind the various causes of it, one is not likely to commit the mistake in diagnosis. The importance of correct diagnosis and treatment in "discharge from Ear", is more apparent when we remember that 75% of cases attending Ear, Nose and Throat clinics in Hospitals are for Ear troubles and the Ear, an important organ of hearing, if neglected might lead to permanent impairment of hearing, which could have been perhaps prevented, if prompt measures were taken at the beginning of the trouble.

Discharge from Ear, purulent or otherwise, though in every case can produce a certain amount of impairment of hearing, can be caused by factors present either in external ear, middle ear or outside the ear.

* Specially contributed to 'The Antiseptic'.

External Ear.—Among the common diseases of external ear, are wax, external otitis, furuncles and chronic dermatitis. Though external otitis and furuncles can be easily diagnosed by shooting pains, inflammation of the canal, presence of furnucles (here the discharge if present is watery, except when furuncles burst) the diagnosis and treatment of so called wax needs a few practical words. Dry hard wax by itself does not give rise to any discharge but when once it gets decomposed by contact with water etc, the discharge starts. At first it is watery and gradually changes consistency and colour due to decomposed matter coming out. Although clear cases of wax are easily diagnosed, the long-standing cases with decomposed matter, coming with a history of discharge from ear are likely to confuse a young general practitioner. Of course by the nature of the purulent discharge, he syringes the ear and prescribes some "Ottorrhoea" drops. But the patient returns after a few days, with discharge continuing but to a lesser extent The doctor is satisfied with the progress and repeats the process and perhaps some more matter is brought out and it goes on for some time until perhaps by some chance, all the matter comes out and the discharge stops and it is said "Ottorrhoea" is cured. This is the usual course but of course, there is the other side of it *i. e.* the decomposed septic matter slowly spreading the mischief to the drum which gets infected and later, secondary middle Ear suppuration is added. In this connection, what I wish to emphazise is the various possibilities that might misguide a general practitioner. In one syringe the whole of the septic matter may come out and the patient relieved the next day or in some cases septic matter may stick up to the wall of the external canal and sometimes so close to the drum, that it can't be dislodged by any amount of syringing (and forcible syringing is harmful, lest it may injure the drum). It is these cases that give a lot of trouble to the practitioner. It is also necessary to remember that most of these cases are not straight cases of wax but the result of a fungoid infection of the walls of the canal, known as "Otomycosis", a sort of scale formation, very adherent and sometimes painful exposing a raw and ulcerated under surface on removal. As these cases are frequent in Hospital practice and as they are the despair of a general practitioner, since he is unable to get out the matter by any amount of syringing, a few words about handling these cases, will not be out of place here. These scales are sometimes so very thick and spread all over the canal walls, even completely obstructing the canal itself, that it requires two or three sittings

for complete removal. What one has to do is patiently to separate the scales from the walls with a probe, (and sometimes it peels off surprisingly easily) and then take it out with a pair of forceps. Where it is very hard and dry, soaking with glycerine carbolic drops for a few days, makes it soft. Sometime back I had a case. An European of middle age, was referred to me by a general surgeon. He was convalescing from Typhoid and complained of watery discharge, and stone deafness in left ear. The surgeon pain, syringed the ear for one week with no effect. One could easily see even with the naked eye, the dirty looking matter completely filling the ear. With a probe, I gently attempted to separate it from the walls. It was of course a very painful process in this case, because for one thing, the ear was very much inflamed and secondly, the patient was too weak to withstand the ordeal. Once or twice he even swooned for a few minutes. It took me three sittings before I could completely remove the scaly growth. On the final day, when I just separated the scale close to the drum, the patient cried out "Now, doctor your voice is like thunder" and from that day, his hearing was normal and a few days' attention cured the ulceration of the canal, by plugging it with gauze dipped in Icthyol-glycerine (10%). As these cases are likely to recur, it is better they are examined once a fortnight or month, until the canal walls seem to be normal.

Causes outside the Ear.—An abscess in the proximity of External Ear, in the soft parts of the mastoid region behind the Ear or a suppurating preauricular or subauricular gland, can easily discharge into the external canal, through its membranous part and simulate a middle ear infection. But if one takes a careful note of the local condition of the neighbourhood of the ears, and after carefully cleaning the ear of its discharge, presses upon the swelling outside, one can see pus filling up the canal and one can also notice, a perfect normal drum, if it is not obscured by the inflammatory swelling of the canal. Here the treatment is evident, opening the abscess from outside and frequently cleaning the external canal, of its accumulated pus.

Middle Ear suppurations.— After eliminating the above possibilities, the one cause that remains is "Middle Ear". Of course a typical case of middle ear suppuration, is easily diagnosed. The rule that "no perforation, no middle ear suppuration" should be borne in mind. In chronic cases, the perforation is easily visible, in many cases the drum being completely destroyed. If a perforation is not visible, it is because it is covered with granulations, polypus or cholesteomata and the presence of any of these is a sure

sign of middle ear trouble. In acute cases the perforation may be so small and sometimes overlapped by the inflammatory swelling of adjacent parts, that it is not easy to locate it. But here the inflamed drum, with obscurity of its landmarks and the absence of other extraneous factors in external canal, will help one to safely diagnose the condition.

These are a few points, that I have observed in my humble practice—points which are not dealt with clearly in any text book. Hence I ventured to publish them in the hope that these may be of help to at least a few young practitioners. A head mirror and an electric torch light which is focussed by the attendant from behind the ear of the patient, are all that are required to diagnose these cases.

As different conditions require different treatments which it is not possible to mention here, I will endeavour to deal with them some other time. As this article is intended only as a guide for a busy general practitioner, I may be pardoned for not dealing with it exhaustively as the specialist would like it done.

SPINAL ANAESTHESIA *

BY

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I. Introduction

PRESENT day the demand for the modern scientific surgery is on the increase in the mofussil, as well as in the cities. Formerly, a patient may keep an inguinal hernia, or a peptic ulcer years together without any proper medical aid, till he meets his death, either by strangulation of the hernia, or by perforation of the ulcer. This situation has greatly changed; people have realised the necessity for and have been convinced of the advantages of a proper early medical aid, and they seek it accordingly. So many operations that were being done only in the big hospitals of the cities, by a few reputed surgeons in olden days, the general practitioner is now called upon to do in the mofussil places. Evidently, there is greater demand for, a wider and a better application now of the general practitioner's skill. A working knowledge and a practical ability in spinal anæsthesia, are therefore essential for a general practitioner in the mofussil, to meet with this growing demand. This article is written mainly based on a review of

* Specially contributed to 'The Antiseptic'

170 cases of spinal anæsthesia done at the Scudder Memorial Hospital, Ranipet, during June 1934 to March, 1935.

Spinal anæsthesia, rather analgesia, inspite of its limitations and disadvantages, is gaining an ever increasing popularity among the modern surgeons of the west. It is not the case in our country; it has not yet received such a popularity here. There seems to be great hesitation and suspicion, in its routine use. When a proper dosage of a potent drug of low toxicity is used by a correct technique, spinal anæsthesia, is as safe as any other form of anæsthesia.

2. Advantages and Disadvantages of Spinal Anæsthesia

Spinal anæsthesia offers certain distinct advantages both to the surgeon, as well as to the patient. Very good relaxation, great freedom from shock, tissue damages, and pulmonary complications, and absence of cardiac, renal and hepatic irritation, are the foremost among them. The comparative ease in its administration, diminished movements of the diaphragm and of the diminished peripheral bleeding and a quiet abdomen, offer the surgeon a better chance to perform the operation, cleaner and quicker. Since the peristalsis is increased, and the sphincter is relaxed, under this form of anæsthesia, it is useful in the case of intestinal obstruction due to paralytic ileus, which will be relieved within about 20 minutes of its administration. Unlike in general anæsthesia, patient can take some fluid, an hour before operation, and also post-operatively, patient can retain fluids and some solid food materials much earlier, in spinal anæsthesia. Far more important than these is that it can be used in patients, in whom the other forms of anæsthesia cannot be used, such as patients suffering from advanced cardiac, pulmonary and renal diseases, cirrhosis of liver and hypertension etc. However its limitations and disadvantages cannot be overlooked. It cannot be used for operations above the diaphragm. Its time of action is limited, and sometimes it will be necessary to supplement it with the other forms of anæsthesia. Fall of blood pressure is common and cerebral anæmia, with its sequelæ, is liable to arise at any moment during the course of this anæsthesia. Where it is intolerant, the mortality is sudden and dramatic. It cannot be used in patients, who are in severe shock, and whose blood pressure is below 70. Nervousness, altered mental condition, and local infection of the spine of the patient all contra-indicate its use.

3. Anatomy and Physiology of the Spinal Cord

The spinal cord, as elongated from the brain stem, is a cylindrical shaped column of nerve substance about 45 centimetres

long, situated in the vertebral canal. It presents a cervical and a lumbar enlargement, and it ends below in a cone shaped part called "the conus medullaris". A fine filament extends from this, as far as the coccyx.

The cord is ensheathed by three covers, each is separated by an interspace. The outermost is a fibrinous membrane "the dura mater" inside of which is the "arachnoid", a thin transparent sheath. In between these two covers, is the "subdural space". The inner most cover is called the "pia mater", and around this cover and inside to the arachnoid, is the "subarachnoid cavity" which contains the cerebrospinal fluid.

The cerebrospinal fluid, is a clear, watery alkaline fluid, secreted by the choroid plexus. It escapes into the subarachnoid space, through the Foraminae, Magendie and Luschka. Here it acts as a cushion for the spinal cord. It has a specific gravity ranging from 1005 to 1007, and exerts a pressure of 120, mm. of water. The total quantity is estimated to be about 150 c.c.

The spinal cord sends out spinal nerves, on either side at various intervals. Each nerve has two roots, the anterior and the posterior. The anterior root fibres outgrow from the nerve cells in the cord, and the posterior root fibres come from the spinal ganglia. The anterior nerve roots conduct motor impulses from the central nervous system to the periphery, while the posterior roots conduct sensory impulses in the reverse direction, from the periphery to the central nervous system.

4. Mechanism of anaesthesia

In spinal anaesthesia, the anaesthetic solution is introduced into the subarachnoid cavity, where it either diffuses or remains as such, in the spinal fluid. Here the solution comes in contact with the spinal nerves, and a physio-chemical solubility reaction takes place between the solution and the lipoid substance of the nerve, and the solution is absorbed and fixed. Immediately after this, the transmission of the sensory impulses by the posterior roots, is completely interrupted. No sooner is this done than the conductivity of the anterior roots also is affected resulting in a motor paralysis.

When the conductivity of the nerves is completely blocked, the vasoconstrictor impulses that come from the vasomotor centre are stopped from reaching the musculature of the blood vessels. Normally these impulses keep the blood vessels partially constricted, and when they are kept blocked, the blood vessels naturally dilate, resulting in a fall of blood pressure. This fall of blood pressure is mainly dependent upon the number of vasoconstrictor

nerves affected. Besides this, the vasomotor centre is kept stimulated constantly by the sensory impulses, that reach it from the periphery. When the sensory nerves are blocked, these impulses will not reach the vasomotor centre. A reduction in activity of this centre takes place, resulting in a fall in blood pressure. When this drop in the pressure of the peripheral blood is very marked, then there is the greatest danger in this form of anaesthesia.

The brain always requires a constant quantity of blood supply for its regular normal function. Whenever this quantity is reduced, the usual function of the brain also is interfered with. The pressure of the blood in the peripheral arteries maintains a velocity, by which sufficient blood is supplied to the brain, through the cerebral circulation. When this peripheral blood pressure is lowered, the blood-flow to the brain is reduced, resulting in "cerebral anaemia". The vital centres are affected, and they cease to function; respiratory and cardiac failure results. In most cases this fatal complication can be avoided by keeping the patient in good Trendelenberg's position, when by gravity sufficient blood returns to the heart, to be pumped up to the brain, and to the vital centres of the cord. So immediate and constant use of this position, is very important in almost all forms of spinal anæsthesia.

5. The Basal Principles of the Technique

The technique in spinal anæsthesia, is based on either of the two principles, diffusion or gravity. When a solution neither heavier nor lighter than the spinal fluid, is introduced into the thecal cavity, that solution diffuses or mixes with the spinal fluid and absorption and fixation take place in the nerves that come in contact with it. In such cases immediate Trendelenberg's position is necessary to prevent the solution from going up to the upper dorsal and cervical nerves which lead to the respiratory embarrassment. For example, the neocaine crystals when dissolved in the spinal fluid, form a solution more or less equal in specific gravity to the spinal fluid.

On the basis of gravity, two solutions, one lighter and the other heavier, than the spinal fluid, are used:—

(1) *The light solution.*—In most cases of the spinal anæsthesia, lighter solutions such as, Spinocain, novocaine, and percaine are used. Lighter solution does not readily mix with the spinal fluid, but floats and remains at the highest level in the spinal fluid. The spinal nerves that come in contact with the solution, at this level will absorb the solution and

get fixed. So by tilting the position of the spine, the anæsthetic solution can be brought in contact with the required spinal nerves, and thus the level of the anæsthesia, can be altered according to the necessity. This solution is most useful in abdominal surgery, especially that of the upper abdomen. Immediately after the injection of this solution, the patient is turned into the prone position with the lowered head and the dorsal portion of the vertebra is kept arched upwards. Owing to this position most of this solution, floats up to the lower dorsal, and the lumbar nerves, and these nerves absorb and fix the solution. The patient is kept in this position for several minutes, till the solution is completely absorbed and fixed. Then the patient is turned on his back and is kept in Trendelenberg's position, during the operation as well as post operatively for two hours. If there is any portion of the solution left without being absorbed and fixed, that will float to the sacral region, and will not go to the dorsal, or cervical region, due to the Trendelenberg's position of the patient. The advantages of using such solutions are that, as the intercostal nerves are not affected, the respiration is not interfered with as when the diffusion method is used, and it is possible to place a larger portion of the dose in the region of the nerves that supply the upper abdomen.

(2) *Heavy Solution.*—When a heavy solution is introduced into the thecal cavity it does not mix with the spinal fluid, but remains separate as a ball in the lowest level of the fluid. When using such solutions, patients must not be put in Trendelenberg's position, for the solution being heavier than the spinal fluid, will gravitate to the upper dorsal and cervical region, and cause instantaneous death. The solution is kept to act on sacral nerves only. The advantages of this solution are: (a) there is more certainty and accuracy of anæsthesia; (b) it is much easier to use. But it is unsuitable for abdominal operations. Great disadvantage of this solution is that the patient cannot be put in Trendelenberg's position in the event of vascular depression.

6. The Drugs Commonly used in Spinal Anæsthesia

The drugs that are commonly used in spinal anæsthesia are, spinocain, neocaine, stovaine, percaine and novocaine. Each drug requires a separate description for the proper understanding of the same.

1. *Spinocain.*—This was introduced by Pitkin. It is a 10 percent solution of novocaine, which is made viscous, by the addition of amyloprotamin. Amyloprotamin helps the slow absorption of the novocaine. A small quantity of strychnine also is added to this solution, which helps to counteract the fall of blood pressure. It is made lighter by the addition of ethyl alcohol. When it is introduced into the spinal canal, it floats in the spinal fluid, at its highest level. So this solution cannot be injected while the patient is in the sitting position, for it immediately escapes to the upper dorsal and the cervical nerves, and causes respiratory failure. This solution is administered by Pitkin's method, a description of which is given in another page.

2. *Neocaine.*—This drug was introduced into the market by the Anglo-French Drug Co. Ltd. It is a synthetic product, and is not a derivative cocaine. It is not irritant to the tissues, and is of a high potency and of a low toxicity. It is supplied in sealed ampoules, as accurately weighed, sterile stable form of crystals. These crystals readily dissolve in the spinal fluid. Different dosages are available, in differently coloured ampoules, each colour denoting a definite weight of the drug. They are;

Colour.	Dosage denoted in	
	Gramme	or Milligramme
Dark blue ...	0.05	50
Green ...	0.08	80
Light blue ...	0.10	100
Crystal ...	0.12	120
Amber ...	0.15	150
Mauve ...	0.20	200
Yellow ...	0.30	300

This drug is administered by the technique advocated by Gaston Labat, a description of which is given below.

3. *Stovaine.*—A light and a heavy solution of this drug are in use. They are available in sealed glass ampoules.

(1) *Light solution.*—It is put in ampoules containing one c.c. of stovaine in 10 c.c. of normal saline. It is of the same specific gravity as that of the spinal fluid. So as soon as this solution is introduced into the spinal cavity, the patient must be put in Trendelenberg's position. This is continued during operation, as well as post operatively for two hours.

(2) *Heavy solution.*—Each ampoule contains, 2 c.c. of a 5 per cent stovaine with glucose. 2 c.c. is injected, and the level of the anaesthesia can be adjusted by tilting the spine of the patient. This drug takes 10 minutes to fix in the nerves, and so the patient's head and shoulders must be kept raised for more than ten minutes, till the drug is fixed by the nerves. Then the patient is put in Trendelenberg's position. The disadvantage of this solution is that the operation can start only after a certain time after giving the injection. Stovaine is comparatively irritant and toxic.

4. *Percaine.*—This drug is a derivative of quinoline. It is highly toxic but as it is used in very great dilutions, the toxicity is minimised. It is available, in sealed ampoules containing 20 c.c. of a 1 in 1500 solution, in normal saline. (*Note.* Such a solution can be prepared and kept in bottles, and is sterilised before use. But this deteriorates by keeping and so the solution more than two weeks old should not be used). Usual dose is 12 to 15 c.c. This is lighter than the spinal fluid. The injection of this is made, with the patient lying on one side. After the injection the patient is put in the prone position with lowered head, and slightly raised buttock. Percaine requires about ten minutes to be fixed by the nerves, and so the patient must be kept in this position for about ten minutes. Then the patient is turned on his back and is kept in Trendelenberg's position, both during operation and post operatively for 2 to 3 hours. This fluid being lighter than the spinal fluid, floats and remains at the highest level in spinal fluid.

Another solution of this drug also is in use 2 to 4 c.c. of a $\frac{1}{2}$ per cent in 0.7 per cent salt solution; it is neither heavier nor lighter than the spinal fluid. After the injection the patient should be kept in Trendelenberg's position.

Advantages of percaine over stovaine:—1. anaesthesia remains very much longer and at a much higher level, allowing the performance of all abdominal operations, although sometimes it will be necessary to supplement it with little general anaesthesia.

Post anaesthetic headache is said to be more common after percaine.

5. *Novocaine.*—Two solutions of this drug are used.

(1) *Light solution.* — This is a one percent solution of novocaine in normal saline. About 12 to 15 c.c. of this solution is injected, into the thecal cavity. The patient is put in slight Trendelenberg's position after the injection.

(2) *Heavy solution.*—A 5 per cent solution to which 1 or 2 per cent saccharose is added, is injected. Here the Trendelenberg's position is not assumed.

7. The Technique in Spinal Anaesthesia

In all the techniques of spinal anaesthesia, lumbar puncture is common, and it shall be described first. The success of a good lumbar puncture, is mainly dependent upon two factors namely, the correct position of the patient, and the nature of the needle used.

Position of the patient.—Generally two positions are used in making a lumbar puncture in a patient. It can be made, with the patient, either in the sitting or in the lying position. In the former case the patient is seated across the table, with the body curved forward and the vertebra making convexity backwards. In the latter case, the patient lies on one side near the edge of the table, with his knees drawn up, and the body arched forward. In both these positions, the patient must be kept steady, without making any deviation of the spine to either sides. The aim of these two positions is to make the intervertebral spaces as wide as possible.

Lumbar puncture needles.—The needles, must be 3 to $3\frac{1}{2}$ inches long, fine and flexible. The calibre of the needles must be small, and possess locking and removable stilettes. They must be well polished and must not break easily. Pitkin size 20 or 23; Labat size 80/11, and nickeloid French lumbar puncture needles, 80/8; 80/9; and 80/11 are found good. (We have used the French needles).

The site of lumbar puncture.—Lumbar puncture can be made through any interspace in between the 12th dorsal and 4th lumbar spine. The level of the puncture point is regulated, according to the degree of anaesthesia required. For upper abdominal operations, the puncture is made in between the 12th dorsal and 1st lumbar, for lower abdominal operations, it is made between 1st and 3rd lumbar. For operations involving the lower extremities, the puncture is made between 3rd and 4th lumbar, spine. In practice these rules are not exactly followed. The higher the puncture is made, the greater the chance for danger.

The lumbar puncture procedure.—The patient is prepared as usual, as in giving general anaesthesia. An injection of morphine sulphate gr. $\frac{1}{4}$ with atropine gr. 1/200, is given. The patient is

made either to sit up or to lie down on the table, according to the position required. The patient's cloth is stripped as far as the sacral region. The lower half of the back is sterilised with liquor iodine. The surgeon washes his hands, and prepares them with sufficient aseptic precautions, that are necessary for an operation. The patient is kept steady in the correct position by the assistants. The puncture point is selected, anywhere between the 12th dorsal and the 4th lumbar vertebral spine. This point is marked with the thumb nail, in the depression of the interspinous space, exactly in the middle line. In a sterile 10 c.c. syringe (Record type) with a fine hypodermic needle, 2 to 3 c.c. of a one percent sterile novocaine is taken, and a portion of it is injected into the puncture point marked, so as to raise a cutaneous wheal. Then the needle is carried into the interspinous space, and that area is anaesthetised by infiltrating the remaining solution A fine good and sterile lumbar puncture needle is taken in the hand with its stilette locked, and with a firm grip it is thrust vertically at the centre of the wheal with a force sufficient to push the needle through the skin, muscle and the interspinous ligaments. Then the needle is slowly pushed in till a sudden cessation of the resistance is felt. Now the stilette is withdrawn, and if the needle is exactly in the sub-arachnoid space, the spinal fluid will escape out through the needle. In case no fluid comes out, the patient should be asked to take a deep breath, and even then no fluid is found coming, the stilette is reinserted in order to dislodge any obstruction, present inside the cannula. After the removal of the stilette, if still no fluid is found coming, the needle is either too far or too little has entered, and this error must be corrected. Occasionally it will be necessary to withdraw the needle completely, and to make a puncture at another point. Further proceedure is based on the technique followed and the nature of the drug used. The most common techniques are described below.

1. *Labat technique*.—Neocaine is the drug used in this technique. The ampoule containing the required dosage is selected. (We used to sterilise the outside of the ampoule by immersing it in 1 in 40 carbolic for 30 minutes). The lumbar puncture is made as described above with the patient in the sitting position. Immediately after the lumbar puncture, the neck of the ampoule is filed off, and after removing the stilette, the spinal fluid is allowed to flow into the ampoule, till it is almost full. The capacity of the ampoule is 3 c.c. The stilette is reinserted in the needle, in order to prevent the escape of the spinal fluid. A clean

sterile 10 c.c. syringe is taken, and with a spare spinal needle, the contents of the ampoule is well stirred by repeated aspirations, till the drug is completely dissolved. Then this solution is aspirated into that syringe, and by holding the syringe vertically all the air bubbles are expelled out. Now the stilette of the spinal needle that is in the spinal column is removed, and the syringe with the solution is locked with the needle. By steadying the spinal needle and the syringe, with both the hands, the spinal fluid is aspirated into the syringe and half of the resulting solution is injected. Again the spinal fluid is aspirated and half of the solution is again injected. This process is repeated till the whole of the fluid is finished. Immediately after the injection and without wasting a moment the patient is put in Trendelenberg's position, and the operation is started. This position is continued, throughout the operation, as well as for 2 hours post-operatively.

2. *Pitkin's method*.—Pitkin uses spinocain for his technique. He injects 2 c.c. of the spinocain for operations of the pereneal region, with the patient in the lying position on one side, with the pelvis raised to five degrees. He aspirates the spinal fluid, and mixes with the solution and reinjects, for the production of higher anæsthesia. For operations of the lower extremities, 2 c.c. of the solution, with 2 c.c. of the spinal fluid, is injected keeping the patient with the sacrun raised five degrees for five minutes, and afterwards 10 to 15 degrees. He uses 2 to 3 c.c. of spinocain with an equal quantity of spinal fluid, for lower abdominal operations. For upper abdominal operations, he uses 3 c.c. of spinocain, with 5 c.c. of spinal fluid. All the time the patient is kept in the pelvis raised position, and this position is continued 2 to 3 hours after the operation.

3. Damel and Burke have modified Pitkin's method. In this method the spinal injection is done with the patient in the lying position, taking ten minutes for the injection. Immediately after the injection, the head end of the table is raised to 20 degrees, and is kept in that position for one minute and twenty seconds. This is followed by Trendelenberg's position 5 degrees for five minutes and then ten degrees throughout the operation.

8. The Clinical Notes

During the course of 10 months, there were 170 cases of spinal anæsthesia, in the Scudder Memorial hospital. Neocaine was the drug used throughout. As we have found this drug very satisfactory, we have never attempted to change it. It was

given by the technique advocated by Gaston Labat, with very little modifications. The result was uniformly good, the anæsthesia was rapid, deep and effective for sufficiently long period. However in seven cases, it was necessary to supplement the spinal with general anæsthesia. In these cases the operations were prolonged more than the expected time. Unfortunately there was one death due to spinal. But the spinal was not wholly responsible for this death. This patient was in extreme shock, with intestinal obstruction. Immediately after the injection, the patient was put in Trendelenberg's position, and before the operation started, his respiration stopped suddenly. His death was so dramatic and instantaneous that we could do very little for him. In this case the spinal anæsthesia aggravated his condition, and caused him to die a little earlier. There were no post anæsthetic ill effects except slight puncture headaches in a few patients.

Unless there was sufficient contraindication, our tendency was to give spinal, in every case that required operation below the diaphragm. We did not do much in the way of selection of the cases for spinal anaesthesia. But we had the hesitation to give spinal, to patients, whose systolic blood pressure was below 70. As a rule, very old and catchetic patients were given before operation, 1000 to 2000 c.c. of normal saline by hypodermic clysis. Wherever possible, the weak and anæmic patients were given, about 300 to 500 c.c. of blood by direct transfusion, before the operation.

Immediately after the spinal injection, there may be a feeling of heaviness and numbness over the lower extremities. No sooner than this, the movements of the lower extremities, and the sensation as far as the nipples are lost. The pulse may become first rapid, slightly irregular and weak, but it becomes slow, regular and steady within a short time. In the same way respiration also may become shallow, and fast first, regular and deep afterwards. At this stage, the patient lies down, is calm and quiet on the table, and the operation can be performed without any difficulty Sometimes, there may be slight nausea and vomiting. The patient is quite conscious and he understands what is going on around him. He may be little over anxious about his condition, and he may feel very thirsty. In badly tolerated patients, the pulse becomes slow and weak, respiration is very shallow and slow, and in severe cases, patient suddenly collapses and dies with respiratory failure.

If any sign of collapse or respiratory failure is noticed in any

patient after the spinal injection, the following measures were taken, to treat these conditions.

(1) Further lowering of the patient's head,

(2) An injection of Adrenalin (Tabloid, 0.0003 gm. hypodermically).

(3) An injection of 1000 to 2000 c.c. of normal saline by hypodermic clysis.

(4) An injection of Ringers solution about 100 to 300 c.c. intravenously, (Sometimes the strength of this solution is increased up to ten times). The formula for Ringers solution is as follows.

℞

Sodium chloride	grs.	...	100
Pot. chloride	grs.	...	45
Cal. chloride	grs.	...	4½

Aqua Destil add 2 pints (1000 c.c.)

(5) Blood transfusion, about 300 to 500 c.c.

(6) Hypodermic clysis post operatively.

(7) Brandy by mouth. ½ to 1 oz. of brandy is given diluted with water.

(8) Trendelenberg's position is continued for 3 hours, post operatively.

Nausea and vomiting of the patient during the operation, are treated by further lowering of the head, and drawing the attention of the patient away from the operation, by conversing with him. For the post anaesthetic headache, a headache pulvis consisting of, (acetanilid grs. 5, phenacetina gr. 3 and caffein citras gr. 2) or calcium lactate grs. 10 s. o. s. is given.

Sex and Age.—Out of the 170 patients, 127 were males, and 43 were females. Both males and females have tolerated the drug well. Very young and very old patients were given spinal. The youngest patient was aged 12, and the oldest was aged 74. Among these, 51 patients were aged between 12-29 ; and 5 between 70-74.

Dosage.—Mainly four different dosages of this drug were used. 100 patients were given 50 milligrams. 34 patients 80 milligrams, 25 patients 100 milligrams, and two patients 120 milligrams of neocaine. For operations requiring less than 45 minutes, we require 50 milligrams, one hour, 80 milligrams, and where more than this time is required, 100 to 120 milligrams.

The nature of the operations and their dosage.—With 50 milligram dose, 7 abdominal operations including appendecectomies, and laparotomies, 4 hernia raphies (herniotomies), 6 operations for hydrocele, 36 operations involving the genito-urinary tract, including, external urethrotomy, suprapubic cystotomies, posterior colpotomy and prostatectomies and 53 miscellaneous operations such as amputations, dilatation of the male urethra, radium applications, operations for osteomyelitis etc. were done. With 80 milligram dose, 3 posterio-gastro-entrostomies, 8 laparotomies including appendecectomies, gasterectomies and histrectomies, 7 operations for hernia, 6 for hydrocele, 3 for genito-urinary, and 8 for miscellaneous, were done. 100 milligram dose was used for 5 posterio gastroentrostomies, 9 laparotomies (appendecectomies and intestinal obstructions, etc.) 6 operations for hernia, 4 genito-urinary operations and one sarcoma of the breast. 120 milligram dose was used for posteriogastroenterostomy and for a laparotomy.

Out of the 170 cases, 11 were posterio-gastro-entrostomies, 13 laparotomies, 2 operations were for reduction of the intestinal obstruction, 22 operations were for hernias, 8 for hydroceles, and one for Caesarean section, one hysterectomy, 3 external urethrotomies, 8 prostatectomies, 7 gynaecological operations, 5 plastic operations, 16 dilatation of the male urethra, and 69 miscellaneous operations.

Conclusions

1. Spinal anæsthesia offers certain distinct advantages both to the surgeon as well as to the patient.

2. When a correct technique and a proper drug is used, in selected patients, spinal anæsthesia is as safe as any other form of anæsthesia.

3. Fall of blood pressure, and the liability of a resulting cerebral anæmia, is a potential danger in spinal anæsthesia. To prevent this, immediate and constant use of Trendelenberg's position is important.

4. Spinal anæsthesia can be used in patients irrespective of their age and sex.

5. Spinal anæsthesia is dangerous in patients with a low blood pressure namely a pressure below 70.

My sincere thanks are due to Dr. John Scudder, B. SC., M.D., F.A.C.S., the then chief medical officer of the Scudder Memorial Hospital, for permitting me to make use of the charts of the hospital for writing this paper.

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CASES AND COMMENTS

A CASE OF UNILOCULAR CYST OF OVARY AND A MULTILOCULAR CYST OF THE BROAD LIGAMENT

BY

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Case 1.—Ratna Kumari, the patient, the younger of the two (Fig: No. 1), aged 24, by race of Newarni, nullipara, gave a history of gradually increasing painful swelling of the abdomen four years ago. She was extremely weak and emaciated and could not even walk a few steps without support. The abdomen was uniformly enlarged.

Operation.—Patient was anaesthetised with ether and olive oil per rectum. I have tried this form of anaesthesia for the last two years, it has given me perfect satisfaction, and it is specially suitable for operation on face and neck, but can be used in any case except that of the rectum. At the end of operation, the rectum must be thoroughly washed with plain warm water, and an ounce or two of olive oil should be injected per rectum, otherwise the ether might cause some irritation.

The patient having been placed in Trendelenberg's position, as usual, the abdomen was opened by a right paramedian incision about 12 inches in length. The tumour was found to fill up the

whole of abdomen from the vault of the diaphragm upto the floor of the pelvis ; so the opening was enlarged from the ziphoid appendix to the symphisis pubis, as I wanted to remove the tumour without aspiration. The hand was passed all round, and the tumour was found to be connected with diaphragm, parietal wall, pelvic floor, uterus, omentum and intestines also by thick adhesions. All thin recent adhesions were severed by the *sawing motion* of the gloved fingers, but those very thick and vascular ones were divided with scissors between two ligatures. But still I could not dislodge the tumour and remove it from its bed by ordinary means, so I was obliged at last to tap it and remove about a gallon of fluid, then brought the uppermost part of the tumour out from underneath the diaphragm and then the lowermost part out of the pelvis. At this time suddenly the blood pressure fell, and the patient was almost pulseless, so pituitrin and camphor in ether were injected subcutaneously and an intravenous injection of solution of glucose and saline started immediately. Just then the pedicle was clamped by strong forceps and divided in between. As soon as the patient revived, the ligatures of 20—day catgut were applied and the forceps removed. Next, all other bleeding points were secured and the raw surfaces were peritonized. All blood clots were then removed and the omentum was brought down over the intestines upto the level of uterus, and lastly the abdomen was closed by two layers of stitches of catgut within, and silkworm gut outside. The patient made an uneventful recovery. The longest diameter was $14\frac{1}{2}$ inches and the broadest 8 inches. The tumour is held upside down and seen with the patient. (Fig—2.).

Case 2.—Hira Maya, the next patient was aged 45, mother of 6 children, gave a history of 5 years when she first noticed a small lump at the right inguinal region. It grew very slowly attended with much pain. The abdomen was extremely enlarged and umbilicus was protuberant. Percussion was dull everywhere, and a thrill was palpable at the sides and even at the fornix per vaginum. She was admitted and operated upon after a week's stay. As soon as the peritoneum was incised below the level of umbilicus it was noticed that the bladder which was intimately adherent to the peritoneum was divided and about a few drams of urine were poured out, although the bladder was emptied just before the operation, so probably the upper segment of the bladder contained some urine. Bladder was at once stitched up with catgut and Lembert suture applied over it again. Next, the incision was enlarged and as soon as the real abdominal

Fig. 2
After operation

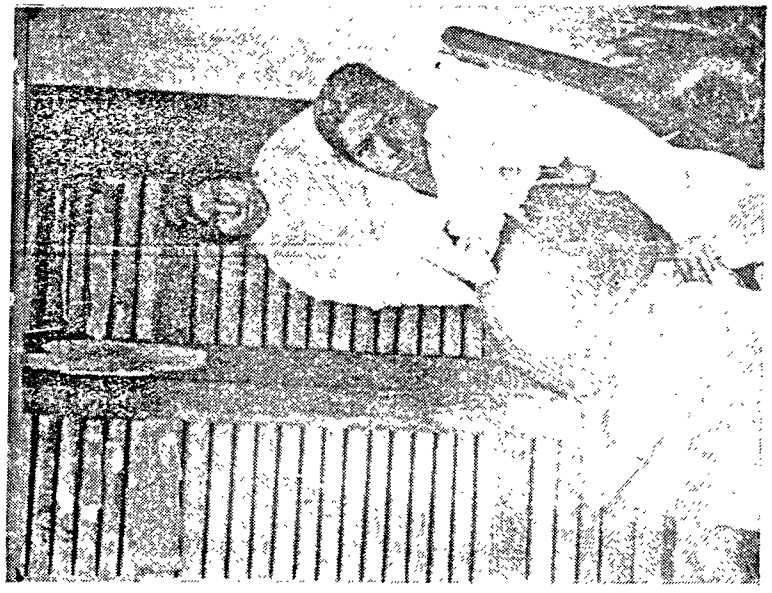

Fig. 1
Before operation

Fig. 4
Cyst of the broad ligament.

Fig. 3
Before operation

cavity was opened there was a gush of thick brownish fluid measuring not less than a gallon from inside the abdomen. Next the tumour was felt, and found filling up nearly the whole of abdomen; and it was lifted out and seen arising from the right side of the uterus and there was no pedicle, and the Fallopain tube was stretched over the cyst and in intimate connection with it, and an ovarian-like mass was found at the back of the cyst.

A linear incision was made along the junction of the tumour with the uterus, and the tumour was carefully dissected and shelled out. At the posterior aspect the ureter and the iliac vessels were seen passing down. I could not, however, save the ovary. The tumour was multilocular dermoid cyst and had a bunch of hair about the size of thumb and two distinct teeth on the external surface. In order to show the tumour in detail I took a separate photo of the same and gave cross (x) marks to note the position of the bunch of hair, and arrow marks for the teeth. (Fig. 4.)

The big vessels having been thoroughly ligatured and all bleeding points secured, the superfluous portion of the broad ligament was snipped off and the ends sutured after peritonising the underlying parts. Fortunately there was no trouble with the patient, and she left the hospital completely cured after 5 weeks.

Comments.—The operation of ovaritomy is perhaps the simplest and easiest of all abdominal operations. But notwithstanding there may be failures or even deaths, and they are also not quite uncommon. I think surgeons in India are called upon to operate at a very late stage and in moribund condition, of which European or American surgeons have no idea or who can not even dream of such conditions, as people there come for medical aid quite in the early stage of the disease.

To guard against shock, haemorrhage and collapse we must take the following preliminary steps:—

(1) Infusion of saline or preferably intravenous injection of saline and glucose just at the beginning of operation.

(2) Calcium chloride by mouth or intravenous a few days before operation.

(3) All anaesthetics except nitrous oxide causes a fall in the blood-pressure and lowering of the body temperature; so we should make a choice of anaesthetics and be prepared always to combat with them by proper means at our disposal, such as pituitrin, adrenalin, cardiozol, camphor in ether, and hot-water bottles, salines etc., kept ready for

the emergency. I have found ether and olive oil anaesthesia per rectum is very suitable for weak and delicate patients.

(4) All bleeding points should be carefully secured and the ligatures *re-examined* just before closing the abdomen.

(5) After the operation the foot of the bed should be raised and hot water bags and blankets be used till the patient recovers from shock or reaction sets in.

MEMOIRS OF A MEDICAL MAN

BY

S. A. SUBEDAR, L.C.P.S., (BOM.),

Chief Medical Officer, Thana, Devli.

To attempt to write the Memoirs of a Medical Man's career is to describe a trail of woes and miseries. But there are moments in this career which make these memoirs all the more interesting reading. In these few following lines, I have endeavoured to write about the humerous aspect of my Medical career extending over a period of 14 years.

One has to face novel experiences while serving in a Native State. I was attached to the Medical staff in attendance to the Chief Minister in a leading Muslim State. The occasion was the circumcision ceremony of the Minister's son. Arrangements were accordingly made befitting the position of the patient.

The Chief Medical officer with foreign qualification, a European Lady Doctor now in limelight in Quetta district and two Anglo Indian nurses imported from Bombay, were ordered stand by.

The C. M. O. made elaborate arrangements for the operation which he expected he will be delegated to perform. Clamps of the latest designs, knives, and other elaborate instruments gleamed on the table. The operation was however performed by a local barber who throwing every aseptic precautions to the wind drew out a seemingly old razor from his pocket and proceeded to sharpen it on his forearm. He then produced a wooden chip with a cleft in it which as it proved later on served the purpose of a clamp.

In the meantime, the patient, a boy aged about 3 years, dressed in costly silks was coaxed to sit on a low square wooden

stool. A man sat behind the boy, and passing his hands from behind, kept the legs in position apart. The clamp was duly applied and the barber rubbing his fingers on the floor to secure a firm hold on the razor cut the foreskin with a show and flourish which would have put a Continental Surgeon to shame. The boy was left to bleed. Congratulations were offered to the parents.

The patient was now surrounded by a host of servants all waving fans over the patient. At length the bleeding stopped. The barber evidently satisfied with the success of the operation retired with a profound bow. The Lady Doctor expressed indignance, feared that Tetanus would set in and described the operation as horribly orthodox. The Bombay nurses threatened to leave. The barber used to visit the patient twice a day when he would do nothing but dust Calamin Zinc Oxide and Talc powder. After he was free from his professional duties he would chase an elusive fly with his eyes or scratch his clean shaven scalp and when he got tired of this pastime, he would placidly retreat to a corner to dose and yawn. The patient made an uneventful recovery, was allowed to put on clothes and come out on the 6th day.

The lady Doctor once inquired of the barber whether he had ever cared to boil the razor to which he nonchalantly replied that it was unnecessary. The only thing that was of importance to him was whether it was adequately sharp or not. He said he had to shave about a dozen scalps before he could impart the necessary sharpness to the blade. He got about Rs. 900 in cash in addition to silks, brocades, gold ornaments and a monthly pension of Rs. 15 for life.

I was once an Assistant Medical Officer in the out-door Dept. of a well equipped Hospital. One morning, a Muslim gentleman drove in a luxurious car. He wanted his tooth extracted. My senior colleague closetted himself with the patient. After a time an uproar was heard which echoed through the entire building of the Hospital. The door of the closet was hurriedly opened. Out came my senior colleague hotly pursued by the patient holding his jaw with both hands apparently in great agony. A wrong tooth was extracted. The Muslim threatened to take legal steps against my senior colleague. He was pacified with great difficulty. The miscreant wanted free treatment. He was served right.

In 1923, I was working as M. O. onboard a passenger steamer. No sooner we laid anchor at Koweit, an Arab territory than a number of wild Arabs climbed up the sides of the ship. They were very inquisitive and when they came to know that

there was a medical man on board, their ailments which upto now had remained dormant, made their appearance with double vigour. The Police Commissioner an important bloke with a fierce look armed to the teeth begged me to feel his pulse. I gave him a sugar coated quinine pill. That the pill could be sweet yet could treacherously conceal bitterness within was a matter of great astonishment to them. I was invited on shore where I was treated with that hospitality for which these Arabs are well known. A rumour went round on the ship that the Sheikh had offered his two daughters in marriage to me.

A few days ago, I was examining patients in my office when a blind Fakir stopped on the door mat. He was accompanied by a boy who whispered something in the blind Fakir's ears whereupon he asked me if I could shave his beard. He mistook my office for a barber's shop. I was so much overwhelmed with the compliment that he paid to me that I was unable to reply. He would have been better informed had he been told that we not only could shave our clients but at times skin them also.

A CASE OF VIOLENT DELIRIUM AFTER TAKING QUININE

BY

HARIDAS, DE. L.M.F.,

Late Senior House Physician, Campbell Hospital, Calcutta. Raiganj P. O, Dinajpur.

On the morning of 18th November 1935, I was sent for to see a Hindu girl, about 15 years of age, who was suffering from sudden attack of hyperpyrexia attended with slight headache and bilious vomiting of twenty-four hours' duration. Her temperature was 105.8°F. The liver and spleen were both enlarged ; bowels not constipated. Tongue slightly coated and dry. Heart and lungs—both normal.

I applied ice bag over the head and sponged the whole body with tepid water. I gave her an ordinary diaphoretic and diuretic mixture.—

℞	Sodi citras.	...	gr. xv.
	Sodi Bicarb	...	gr. xx.
	Tr. Digitalis	...	♏ viii.
	Liq. Ammon Acetas	...	ʒ i.
	Aqua chloroform ad.	...	℥ i.

Sig. Fiat mist send 4 such ; one to be taken every 2½hrs.

When I went to see her in the evening her temperature had come down to 99.6 F. From the malarious climate of the place and onset of fever with severe rigor, I thought it to be a case of malaria and gave her the following mixture.

℞

Quinine Bi Hydrochloride	...	gr. iii.
Acid N. M. dil.	...	♏ vi.
Spt. chloroform	...	♏ xv.
Aqua ad.	...	℥.

After 15 minutes of taking the mixture suddenly she became very violent and delirious and became semi conscious. I was really at my wit's end to account for this sudden change. However I applied a cold compress to the head and gave a fever mixture with Pot. Bromide (in 15 gr. dose). After taking 3 doses of the Bromide mixture all the symptoms disappeared and the temperature also came down to 98° F.

Next morning I found her condition much better. Temperature was 97°6 F. The general condition of the patient was good. I now again tried quinine in small doses (two grains). After three quarters of an hour, the patient was attacked with the same symptoms. This time the patient was fully unconscious and very restless and boisterous. Temperature shot up to 100° F. Again I gave her Bromide mixture and after eight hours, the patient was all right—temperature came down to normal. This time I did not administer quinine and gave her cinchona mixture. Cinchona mixture was continued for 3 days thrice a day and the patient was given rice diet on the 4th day. She is doing well at present.

Point of interest.—Though the patient was suffering from malaria she could not bear even small doses of quinine while she could easily tolerate cinchona fibrifuge mixture.

VITALITY VERSUS SEPSIS

BY

S. D. KATAREY, B.A., L.M.P., L.C.P.S.,

Medical Officer, Baroda.

A BAIRAGI woman, multipara, while travelling on foot in a jungle, had a precipitate labour in the 8th month of pregnancy. The police suspecting this to be a case of criminal abortion sent her to my dispensary for examination and treatment. She had to travel some eight miles in a bullock cart with severe jerks and joltings on a kutcha stony road to come to the dispensary.

On admission, the dead foetus was still attached to the mother by the cord, the placenta being retained inside the uterus, which had firmly contracted on it. The whole of the cervix and a portion of the lower uterine segment was presenting outside the vulva like a cauliflower and was much inflamed and badly abraded on its exterior on account of the joltings and rubbing of the parts against the framework of the bullock cart which was not provided with cushions or anything approaching thereto. The abraded surface was covered over with dirt and dust. The general condition of the patient was however, quite good and satisfactory.

She was given a hot vaginal douche and the placenta was normally removed under chloroform after gradually dilating the contracted os. The parts were thoroughly cleaned but the cervix could in no way be pushed back into the vagina on account of its inflammatory increase in size. It was covered over with a clean, sterilized gauze and cotton and supported with a T Bandage. Hot douches and fomentations were continued daily with the administration of Ergot and quinine mixture by mouth. With the gradual involution of the uterus and subsidence of the inflammation, the cervical portion gradually retracted into the vagina in about a week's time and the patient was discharged cured after some days.

Inspite of the gross sepsis the patient was in, her uneventful recovery is really surprising and this can be attributed only to her vitality.

She was a woman with a husband and there were no incriminating circumstances about this sudden delivery. Presumably, this was a case of precipitate labour.

A TOOTH ERUPTING IN NOSE

BY

S. D. KATAREY, B.A , L.M.P., L.C.P.S.

Medical Officer, Baroda.

AN eight year old female child was brought to me with the complaint that a bone was for some days growing in her right nostril. I examined her and in fact a tooth was seen erupting high up from the floor of the right nostril. The whole fang was fully erupted and the root was firmly embedded in the maxilla. It required hard pulling to extract it by a tooth forceps and a regular 'socket' was left behind. Morphologically it was an 'Incisor'. I do not exactly remember whether any of the incisors in the upper jaw was really missing from its proper place.

It may also be made clear that this was not a case of foreign body inserted from without. I do not know of any embryological or pathological explanation for this condition. Was it a mere 'freak of Nature?'

A CASE OF VESICULAR MOLE

BY

HARIDAS DE, L.M.F.,

Late Senior House Physician, Campbell Hospital, Calcutta,
Raiganj P. O. Dinajpur.

VESICULAR Mole though too rare, is not an uncommon occurrence in the mofussil practice, giving immense trouble to the Private Practitioners. I shall give here my humble experience of such a case, which I had the fortune, nay, rather misfortune to tackle, with considerable difficulty.

Mrs. K. S. aged about 28 years, a Kayastha by caste, 4th Para, started slight bleeding three months after her last normal period. She took no notice of it as there was history of slight bleeding at early months in her two previous normal pregnancies. But one day she gradually began to bleed profusely and so I was sent for in the evening.

On examination.—The height of the uterus was felt just above the umbilicus. Neither external ballotment could be obtained nor the foetal heart sounds were audible.

On P. V.—os, about one finger dilated but parts of the fœtus could not be felt.

I was rather puzzled to account for the bleeding. However I gave the patient bromide mixture and left the place for the night, assuring her relations that it was nothing but a case of threatened abortion and it would be checked by the mixture given and keeping the patient absolutely at rest in bed. Next morning when I was again called in, I found her condition no better. When I wanted to see her clothes to examine the character of the discharge, one of her female relations showed me the clothes and told me that some materials like "Sago" came out with the discharge.

I examined the discharge when to my utter astonishment, I could detect parts of mole in it and my diagnosis of the case as vesicular mole was then obvious.

As the os was only one finger dilated, tight cevico-vaginal plugging was given and she was injected 1 c.c. Pituitrin (P. D. & Co). Next morning after 24 hours I removed the plug and found os fully dilated. The uterus was then evacuated by manual compression after which hot intra uterine douche with Iodine lotion was given. I then thoroughly explored the interior of the uterus with finger, to see if any portions of the mole were still inside. Having fully satisfied myself about the thorough evacuation of the uterus, I painted Tr. Iodine inside the uterus. She was then given a quinine-Ergot mixture to be taken three times a day. On the 6th day I allowed the patient out of her bed. I instructed her relations to consult me if bleeding should appear again. Three months passed after my treatment. She is doing quite alright at present.

A dietary deficiency should be suspected in any case presenting the following symptomatology:

(a) Asthenia and fatigue. (b) Nervousness and irritability. (c) Generalized tenderness, especially of the calves. (d) Paresthesias. (e) Dental caries and gingivitis. (f) Coated, beefy, red or smooth tongue. (g) Increased capillary permeability. (h) Constipation. (i) Frequent upper respiratory infections. (j) In more advanced cases—anorexia, vomiting, oedema, peripheral nerve changes, and pigmentation of the skin. (k) History of a faulty or inadequate diet.

A simple plan for supplementary dietotherapy is suggested. The daily diet of the patient should be enriched with fruit juices, milk, whole wheat bread, meat, fish, cheese, eggs and cod liver oil.

"Chronic Illness Due to Dietary Deficiency," by Morris L. Drazin, M.D., "New York State Journal of Medicine", November 1.

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EDITORIAL

THE YELLOW FEVER PERIL

INDIA has already quite a legion of infectious and communicable diseases to contend against, *e.g.*, Plague, Cholera, Small-pox, Malaria, Kala-Azar, Enteric and Cerebro-Spinal Meningitis and as if this number is insufficient, there is the near prospect of a new and as yet unknown disease being added to the list. We now hear of the 'Yellow Fever', which, it is apprehended will endanger the health and lives of the people of this country and of the Far East in the immediate future, if adequate steps are not taken in time to prevent its inroad. The yellow fever has for its home large tracts of territory along the Atlantic coast of Africa and in South America. According to the report of the Cape Town Conference of the League of Nations (Health Section), held in 1922, Yellow fever infection was endemic over a wide area of West Africa—an area possibly reaching along the coast from the Senegal southward to the Congo with a quite uncertain extension inwards from that coast to the centre of the continent. Yellow fever is far more widespread in South America than in Africa. At one time or other every country in South America has suffered from inroads of the disease. Authorities do not agree as to the date and the introduction of the Yellow fever in Caribbean region, but it seems to have been present for a long time before Guayaquill on the Pacific coast was infected about 1750. Endemicity along the coast of Brazil was apparently not established until 1849, although there are records of a very suspicious outbreak in 1686 to 1694. Yellow fever extended far

inland in endemic form along the main stream of the Amazon River and in epidemics of short duration in the *Parana* Valley following its introductian in Buenos Aires in 1870. It was prevalent in an epidemic form in the interior of Bolivia in 1887, though this diagnosis was not generally accepted then and it re-appeared in that region in 1932 when it was finally established as Yellow Fever.

The League of Nations (Health Section) has taken a keen and lively interest in the Yellow Fever problem and has already held two Conferences, one in 1932 and the other in 1935. The Quarterly Bulletin of the Health Organization of the League of Nations, Vol. V, No. I, March '36 contains not only the report of the committee and the resolutions of the Conference but also interesting articles from experts and researchers in the field and this forms the basis of our present article.

India—nay the whole of Asia, has so far been immune from this disease, but 'the Government of India' according to Major General Sprawson, who was sent as an observer to the 2nd Conference, 'is seriously apprehensive of the danger of entry by aeroplane, through the air-port of Karachi, of man or mosquito infected with Yellow Fever from America'. As India is the gateway of farther East from the view of the aerial traffic, the countries beyond India are also interested in the protection of India. Furthermore, the carrier mosquito responsible for Yellow Fever, 'Aedes ægypti', is to be found in abundance in India and the danger of infection is all the more certain and imminent. Another great authority, the Public Health Commissioner with the Government of India has struck a note of warning to the Government and the people of India, with regard to the dangers arising from the importation of yellow fever mosquitoes or yellow fever infected men into India, in his Annual Report for 1933. He observes:—"For a number of years, the public health authorities of this country have been concerned with the possibility of the introduction of yellow fever either by means of infected persons or infected insects The fact that in large areas of India both coastal and inland, the 'Aedes ægypti' is a common mosquito makes it of supreme importance that yellow fever infection should be excluded at all costs, for authoritative opinion is unanimous that the introduction of this disease would be the precursor of a terrible disaster resulting in millions of deaths After the opening of the Panama Canal, it was considered that the danger was more likely to approach from the East, but during recent years this fear has been relegated to the background and

the opinion is now held that the chief risk emanates from the West by means of air traffic arriving at Karachi, the air port of entrance to all aircraft coming from Europe and Africa. In the opinion of the health authorities of this country that risk is by no means negligible in view of the ease with which infection can be carried by air and especially in view of the facts that cases of yellow fever have been recently detected in the Anglo-Egyptian Sudan and that the significance of the so-called "silent" areas has not yet been clearly determined. Imperial Air-ways Ltd., are at present working to a schedule under which aircraft travel from Kisumu on the borders of Lake Victoria Nyanza direct to Karachi, no change of machine or crew being made on this flight. That means that India is now within 5 or 6 days by air of possibly infected areas and the existing danger will be considerably enhanced if the recent proposal to open an air route between Lagos and Khartum is carried into effect. Although it is understood that disinfecting operations are being carried out on all aircraft during voyages through Kenya, Uganda, and the Sudan, the present arrangement is one which gives grave concern to those responsible for health conditions in India. To ensure this country's safety, it is urgently necessary that north bound aircraft and crews flying from East Africa should be changed at Cairo in order that possible infected persons or insects shall not be carried to India".

Steps are also taken by the Government of India to broadcast the dangers arising from yellow fever and Col. Jolley, the present Public Health Commissioner with the Government of India has arranged for a broad-cast talk in the third week of June '36 on Yellow Fever. Thus, the treatment of the subject at this juncture should not be construed as merely of academical interest but as a live issue in which medical men in this country will sooner or later—sooner rather than later—be called upon to face.

We do not propose to say anything in this article about the aetiology and treatment of this disease of which we know very little. We wish, however, to appraise our readers with a few points of interest, culled from the various articles appearing in the Quarterly Bulletin alluded to above, so that the medical profession in India may not be taken unawares when yellow fever sets its foot on the soil but may be prepared to meet the enemy and do some fighting before reinforcements arrive. They are:—

(1) Yellow fever transmitted by the mosquito 'Aedes ægypti' is characteristically a house disease and occurs among non-immunes living in or visiting infected houses. 'Aedes

ægypti'—transmitted yellow fever apparently depends upon the simple cycle-man-mosquito-man for its maintenance and is spread from one point to another either by the movement of the human host during the period of incubation or by the accidental transportation of the infected mosquito from place to place.

(2) There is another type of yellow fever called the jungle fever. Infection with jungle fever is believed to occur generally in or close to uncut forest or jungle. In certain areas where the fields are next to the jungle and at some distance from the farm houses, cases are limited largely to those who work in the fields or visit them. On other places where the entire population lives in more direct contact with the jungle, infections appear to have a more general distribution throughout the entire population.

(3) Up to the present time, yellow fever without 'Aedes ægypti' has been observed only in areas where incomplete clearing of the forest has occurred, although in some areas of jungle yellow fever the percentage of land covered by jungle or forest growth is very small in comparison with the total area.

(4) For *Vectors* of the disease, it is well-known to all that 'Aedes ægypti' in Africa is still the most important carrier under natural conditions. This mosquito does not always bite by night and it may bite outside of dwellings. On the other hand, it is reasonable to continue to regard this species as very largely a domestic breeder and biter with a decided preference for biting after 3 P.M. and before 9 A.M.

(5) There are also other varieties of Aedes capable of transmitting the disease—*e.g.* aedes scapularis.

(6) Apart from prevention of mosquito-breeding and segregation, other prophylactic measures include :—

(*a*) education of the general public,

(*b*) use of mosquito screening, nets and mosquito boots,

(*c*) quarantine,

(*d*) early notification of cases,

(*e*) isolation of cases,

(*f*) observation or surveillance of contacts and persons arriving by land, sea and air from infected areas,

(*g*) fumigation of infected quarters and neighbouring dwellings,

(*h*) restrictions on embarkation and movements of persons living in an infected area,

(*i*) post-mortem examination of all bodies of persons dying in a registration area without having been medically attended within a week of death,

(*j*) Viscerotomy of persons dying after an illness of ten days or less accompanied by a history of fever of unknown origin and lastly,

(*k*) vaccination against the disease.

(7) Thanks to the pioneer work of Stokes Baker and Hudson, it has been possible to evolve and elaborate a vaccine which gives every promise of conferring a considerable degree of immunity.

We shall close this with the following significant observation of Lt. Col. A. J. H. Russell. O.B.E., V.H.S, I.M.S., Public Health Commissioner with the Government of India, than whom no greater authority in public health matters can be found in India, with regard to the imminence of the danger that awaits India from yellow fever and the urgency of the steps to be taken to ward off that danger.

"The position at the moment is certainly disquieting and it is impossible to accept the *laiseez-faire* argument that because India has heretofore escaped from this disease nothing need be done. It must be realised that we have at Karachi and other air ports in India, a health problem of such vital importance to the people of this country that flight schedules and time tables will have to be subordinated in certain directions to public health requirements and that delays, and even prohibition, may be necessary should yellow fever infection continue to spread to other parts of East Africa through which the main air routes pass."

The G. M. C. of Great Britain and the Indian Medical Degrees

At long last, the G. M. C., has condescended to recognize the medical degrees of the Madras, Bombay and Lucknow Universities. The Press Communique recently issued by the Indian Medical Council on the subject runs thus :—

"A telegram has been received from the Registrar, General Medical Council of Great Britain, to the effect that

medical qualifications of the Universities of Bombay, Lucknow and Madras have been recognised with effect from February 25, 1930 and that the degree of M. B., B. S. of the University of Patna has been recognised when granted on or after May 11, 1935.

The qualifications of the three older Universities were recognised previously up to February 24, 1930. The significance and retrospective effect of this notice is that now there will be no gap in the recognition of these degrees by the General Medical Council.

In the case of Patna the medical qualifications whereof are of later establishment and have not previously been registrable in Great Britain, the date of Government of India notification admitting the M. B. B. S. degree to the first schedule of the Indian Medical Council Act is the date named for their recognition by the G. M. C. The Medical Council of India, having considered the reports of its Inspectors of these Universities recently informed the G. M. C. of Great Britain that it considered their courses of study and examinations to be satisfactory. Medical degrees of the remaining Universities in India are still under consideration of the Medical Council of India".

That the G. M. C. should have recognized the degrees of the Madras, Bombay and Lucknow Universities with retrospective effect from the 25th February 1930, the day from which their recognition was originally withdrawn, is certainly an act of grace and good-will and augurs well of their future relationship with that body. The Patna University degree has been recognized when granted on or after the 11th May, 1935, while the fates of of other Universities are still hanging in the balance. We fail to see why there should be any delay and hesitancy on the part of the Indian Medical Council, in recommending the recognition of the Calcutta, Punjab and Andhra University degrees. Even if the Indian Medical Council should report unfavourably on these Universities, we think they ought in fairness to be given sufficient time to reach the standard of recognition set up by the G. M. C. and in the meantime, temporary recognition should be granted so as to avoid penalizing the poor graduates for no fault of theirs. This is particularly recommended in the case of the Andhra University, as it will take sometime before the structural alterations, staff and other equipments insisted on by the Indian Medical Council as indispensable factors for recognition, have been fully and satisfactorily complied with.

GLEANINGS FROM MEDICAL PRESS

Medicine and Therapeutics

Nervous Complications Following Spinal Anesthesia: Clinical Study of Seven Cases, With Tissue Study in One Instance.—Samuel Brock, Aaron Bell and Charles Davison, New York, (Journal A.M.A., Feb. 8, 1936), report seven instances of neural complications following spinal anesthesia, with tissue changes in the spinal cord in one case. In all but one of the cases the cocaine derivative used was known; two received a preparation of procaine with strychnine sulfate, three nupercaine and one procaine hydrochloride. The site of injection was the lumbar subarachnoid space between the second and third lumbar vertebrae or lower, except in one instance in which the injection was made between the first and second lumbar vertebrae. There were two instances of aseptic meningitis, one of polioencephalitis, one of lumbar radiculitis, two of cauda equina neuritis and "myelitis", and one of transverse "myelitis". The time elapsing between the spinal anæsthesia and the appearance of the neural complications varied from almost immediate onset to an interval of three weeks. Clinically, the two cases of aseptic meningitis ran a rapid and benign course ending in complete recovery. One instance of cauda equina neuritis and "myelitis" and the other of transverse "myelitis" ended fatally from complications directly attributable to the neural disease, twenty-nine months and three months after the onset, respectively. The clinical course in the first case was characterized by long periods during which the condition was stationary; these periods were followed by spread of the process to higher levels of the cord. The most pain occurred in the patient with the lumbar radiculitis, showing slight residual signs sixteen months after the onset. One of the patients with cauda equina neuritis and "myelitis" regained the ability to take a few steps five months after the onset, but the sphincters and sensory and reflex status remained unchanged. In the instance of polioencephalitis, life was despaired of early in the illness, yet the patient recovered but still had residual signs nineteen months after the onset. The spinal fluid showed no characteristic picture. In all of the cases but one (lumbar radiculitis) the neural syndromes so speedily followed the administration of the spinal anesthesia as to suggest immediately a direct chemotoxic effect of the cocaine derivatives on the neuraxis. However, the direct chemotoxic effect does not entirely explain the causation of the neural complications. There is the undeniable fact that the great majority of

patients operated on under spinal anæsthesia do not develop complications of the central nervous system. Furthermore, instances like the case of lumbar radiculitis in which the interval between the anæsthesia and the onset of symptoms is relatively long, and in the case in which cauda equina neuritis and mild cord involvement continued over a period of months, terminating in a falal transverse " Myelitis ", suggest the possible intervention of other factors. To account for the thesia, one has to assume the existence of tissue sensitivity to the cocaine relative infrequency of neurologic complications following spinal anesderivatives. A consideration of the difference in the cellular reactions of the spinal fluid in the two instances of meningitis adds weight to the belief that factors other than chemotoxic participate. In this connection the very close resemblance of the case of lymphocytic meningitis to the cases described by Abramson is of special interest, since his review of the evidence concerning the etiology is very much in favor of a virus. The tissue changes in the spinal cord in the case of transverse myelitis are those of a toxic myelopathy exactly similar to the few cases already mentioned in the literature. Spinal anesthesia has been successfully used in so many diverse conditions that the associated surgical diseases can have no causative relationship to the nervous complications. Allergic factors are not involved in these cases, since one is not dealing with protein sensitization. At the present time there is no way of determining whether or not a patient's nervous tissues are oversensitive to the cocaine group of anesthetics. Nor is there anything but an unsatisfactory symptomatic therapy available, once nervous complications arise. For these reasons it is strongly urged that spinal anesthesia be restricted to a special group of individuals unable to withstand the risk of a general anaesthetic. —*Northwest Medicine.*

Heart Block and Pregnancy.—Experience with his case of heart block and pregnancy, in addition to the six similar cases reported by others, suggests to Mitchell Bernstein, Philadelphia (Journal A.M.A., Feb. 15, 1936), that the gestation should not be interrupted if cardiac compensation maintains. Patients with heart block and pregnancy should be observed frequently. Electrocardiographic studies are advisable. Sufficient rest should be obtained by the patient, thus avoiding overexertion and cardiac decompensations. Prolonged labor should not be permitted, and delivery should be by Cesarean section or by the use of forceps. Local or spinal anesthesia should be used. There is no escape

from the fact that pregnancy should be terminated if heart failure occurs in a gravidocardiac patient including heart block. In the case recorded there were no signs of decompensation during the period of gestation. Hence the patient was permitted to go to full term. The result justified the conservative measures. The etiology of the heart block in the case reported is probably due to syphilis. Blood Wassermann tests were repeatedly plus four, while the history of the case failed to tell of any of the other causes of heart block. Antisyphilitic treatment was instituted when the patient first came under observation in November 1931, and was continuous through the gestation in 1933. The complete heart block was changed to delayed auriculoventricular conduction time of 0.4 second, Aug. 5, 1933, immediately following delivery. This persisted at least until August 9, as evidenced by the electrocardiograms. Later electrocardiographic studies showed a reversion to complete heart block.—*Northwest Medicine, March, 1936.*

Stimulation of Mammary Gland Development.—C. K. Weicher, Cincinnati, compared the mammary glands of pregnant rats fed 0.5 Gm. of desiccated thyroid daily, beginning with the first day of pregnancy with normal controls. Although some stimulation of the mammary gland is recognized in the animals fed thyroid even on the fifth day of pregnancy, an extraordinary increase of mammary tissue occurs between the seventh and ninth days. From the ninth day until the end of pregnancy the series of animals fed thyroid showed a marked difference not only in the amount of mammary tissue but in the earlier appearance of secretion in the alveoli. The authors suggest that under conditions of heightened metabolism resulting from thyroid feeding the normal estrin level may be lowered, thus removing the inhibitory effect of the estrin on the hypophysis, at least to a degree. That organ may thus elaborate its hormones to a greater extent than normal. The corpus luteum and hypophyseal hormones are therefore in all probability present in relatively greater concentrations than in the normal animal, the mammary glands responding to the altered conditions by exceptionally rapid development.—*Illinois Medical Journal, March 1936.*

PROCEEDINGS OF ASSOCIATIONS, SOCIETIES, ETC.

The Tinnevelly District Medical Association, Palamcottah,

(Affiliated to the Indian Medical Association.)

The Tinnevelly District Medical Association held its monthly meeting on Saturday the 25th April, 1936 at Tiruchendur. A Health Exhibition was arranged at the Board High School, Tiruchendur, at 9-30 A. M. Lieut. Col. T. S. Shastry, I.M.S., welcomed the guests, and requested Mr. Bryant, I.C.S., Sub Collector of Tuticorin, to open the Exhibition. Mr. Bryant, I.C.S., expressed in a short speech that such Exhibitions are very useful, instructive and beneficial to the masses and expressed his "high appreciation of the activities of the Tinnevelly District Medical Association under the vigorous guidance of Lieut. Col. T. S. Shastry, I.M.S. The exhibits consisted of posters relating to Cholera, Tuberculosis, Malaria, Small-pox, Fly-danger, etc. This was very much appreciated by the public particularly by the teachers, on behalf of whom the Deputy Inspector of Schools Mr. Sankara Iyer, offered hearty thanks to the Tinnevelly District Medical Association.

Members numbering 33 including 3 lady doctors were present. Four members of the Tuticorin Medical Union and one member of the Ramnad District Medical Association also graced the function.

The Business meeting of the Association then began under the Presidentship of Lieut. Col. T. S. Shastry, I.M.S., the President of the Association.

Resolution regarding the demise of Dr. C. Appavoo Pillai, L.M. & S. a senior member of the Profession was passed. The Secretary, Dr. K Rama Ayyar, M.B., B.S., read the minutes of the monthly meetings held at Nanguneri, on 29-2-36, and at Neyyur on 21-3-36 and the special meeting held at the premises of the Vannarpet Hospital on 30-3-36.

A resolution regarding the King George Memorial Fund "in aid of Cancer Relief" was unanimously passed.

Then the Medical Meeting was held under the Presidentship of Dr. K. Srinivasaraghava Ayyangar, L. M. & S.

Dr. T. K. Nilakanta Ayyar, L.M.P., read Clinical Notes of the following cases, which were operated on by Lieut. Col. T. S. Shastry, I.M.S., at the Head-quarter Hospital, Palamcottah:—

(1) Gastric Ulcer, for which Disconnection (Biselsber's) Operation with Gastro-jejunostomy was done,

(2) Gastric Ulcer with stenosis of Pyloric Ring, Partial Gastrectomy and Gastro-jejunostomy (Moynihan's) was done.

(3) Duodenal Ulcer with gall stones and extreme stenosis of the Pyloric Ring—for which partial Gastrectomy and Gastro-jejunostomy (Polya's) was done.

Dr. Mrs. Amirtharaj, M.B., B.S., of Tuticorin read notes of a case of Cancer Breast (Female) which was operated on by the Civil Surgeon at the Government Hospital, Tuticorin.

Then Dr. Subramania Ayyar, M.B., B.S., of Karaikudi, demonstrated to the audience the full apparatus for testing Blood-sugar made by Carl Zeiss. Dr. P. Ramalinga Nayanar, L.M.P., of Srivaikuntam, read a most interesting and learned paper on "Revolution in Surgery".

Lieut. Col. T. S. Shastry, I.M.S., offered thanks to Dr. J. T. Moses, Sub Assistant Surgeon of the Local Fund Dispensary, Tiruchendur, and to his fellow-members for the splendid arrangements for the meeting.

Thereafter, Lieut. Col. T. S. Shastry, I.M.S., summed up the salient and important features of all the cases and addresses and clearly explained the Modern Operative treatment of Gastric and Duodenal Ulcer. He also appealed to the Medical Profession to do their best for Cancer-Relief in the District, and proposed a hearty vote of thanks to Dr. K. Srinivasaraghava Ayyangar, Dr. Subramania Ayyar, and Dr. Amirtharaj.

Medical Union, Nimar

The annual general meeting of the Union was held on 30th May, 1936 and the following were elected office-bearers for the new year:—

President:..R. B. Dr. Narmada Prashad Shrivastava (Civil Surgeon), M.B., B.S., L.M.S.: *Vice President*: Dr. S. Hassauli, Asst. Medical Officer: *Secretary*: Dr. R. S. Varma, M.B., B.S.: *Joint Secretary*: Dr. S. R. Kulkarni, L.C.P.S.; *Members of the Working Committee*: Dr. Miss Jeewanlata, M.B., B.S., Dr. A. K. Shah, M.B., B.S, Dr. S. T. Kelkar, L.C.P.S.

Dr. Narmada Prasad spoke on "Recent Advances in Gynaecology" which was very interesting.

The Union has been working for the last four years during which time, several interesting medical subjects were discussed. Meetings are held monthly.

The Trichinopoly District Medical Association, Trichinopoly,

(Registered.)

A monthly meeting of the above Association was held at 5 p. m. on Sunday the 31st May, 1936 in the E. R. High School, Teppakulam, Trichy, when about 25 members were present. Dr R. Kalamegham, B.A., M.B., B.S., was 'At Home' to the members and Dr. V. Iravatham of Thirukkattupally presided

Dr. R. Sambasivan, M.B., B.S., delivered an interesting lecture on 'Pitfalls in Practice' and said that with the advancement of Therapeutics, pitfalls were getting fewer. He instanced a number of cases and also spoke a few words as to how Practitioners should behave with patients and co-practitioners. The Chairman in his concluding remarks impressed upon the necessity of Medical men undergoing training before starting practice and the need for continuous study of medical literature to keep abreast of the times.

The Tinnevelly District Medical Association, Palamcottah.

The Tinnevelly District Medical Association held its monthly meeting at Palamcottah on Saturday the 23rd May 1936. Members numbering 54 including 5 lady doctors were present on the occasion.

Demonstrations in the operation theatre were given by Lieut. Col. T. S. Shastry, I.M.S., from 9 A. M. to 12 noon. A few interesting operations were demonstrated on the occasion.

About 15 doctors, attended the clinical demonstrations in the theatre and wards. And some of the interesting clinical cases were demonstrated to the members and explained to them by Lieut. Col. T. S. Shastry, I.M.S.

The meeting commenced at 5-30 P.M. under the Presidentship of Lieut. Col. T. S. Shastry and the following resolution regarding the demise of Dr. M. A. Ansari, M S., M.D., (Edin). was moved by the President in a feeling speech, and passed, all the members standing:—

> "Resolved to place on record the Association's keen sorrow at the sudden and untimely demise of Dr. M. A. Ansari, M.S., M.D., (Edin), who was one of the ablest Physicians and Surgeons of the Country and a Vice-President of the Indian Medical Association".

The Secretary read the minutes of the monthly meeting held at Tiruchendur on 25—4—36, which were passed. The resolution of Dr. V. Sankarasubban, M.B.B.S., regarding the subscription

was then taken up; and after keen and exhaustive discussion, the resolution was put to vote—six voted for and thirty-four against it and so it was declared lost. The subscription therefore stands at one rupee per mensem, and the President requested the members to pay up now without hesitation all their arrears.

Dr. Rama Rao's Bill on 'College of Physicians and Surgeons' and the Rules of the 'Tamil Districts' Medical Federation' were postponed to the next meeting.

Dr. T. K. Nilakanta Ayyar, and Dr. Miss. A. Lazarus read very interesting notes of the cases which were operated on by Lieut. Col. T. S. Shastry, I.M.S.,—*e.g.*, Mastoid abscess, Head Injury—Fracture of Middle Fossa—Decompression operation.

Dr. K. R. Venkoba Rao, L M. & S., B.S.Sc., demonstrated to the members the full apparatus for testing Blood-sugar made by Carl Ziess. Dr. N. Isaac. read an interesting paper on 'Tobacco and its Medical aspects'.

Dr. P. R. Venkatarama Ayyar, M.B. & C.M., District Medical Officer, Nellore, paid a visit to the meeting. He was welcomed heartily by the President and warmly introduced to the Association as President of the Nellore District Medical Association and as a Tinnevellian. The guest replied very cordially commending very highly the career and work of The Tinnevelly District Medical Association. The meeting terminated after the concluding remarks from the Chair, stressing the need for doctors maintaining a clinical record of cases treated.

The Ramnad District Medical Association (Formerly Chettinad Medical Association)

A monthly meeting of the above Association was held on Sunday 24th May, at the High School Ramnad, under the Presidency of Dr. B. V. Varadachari B.A., M.B C.M. District Medical Officer, Ramnad; 40 Doctors including five lady Doctors were present.

After tea, the Secretary Dr. T. S. Shetty of Kanadukathan read the minutes of the anniversary held at Karaikudy, on April 9th and the same was adopted. Very interesting cases from the Head Quarters Hospital were demonstrated by the D. M. O. and on each there were discussions regarding diagnosis and treatment. Two of the cases Pericarditis and a Scrotal tumour elicited a lot of discussion.

Dr. T. S. Shetty of Kanadukathan showed the bits of thyroid cartilage he had removed after preliminary tracheotomy from a

case of accident with injury and rupture of the cartilage with subcutaneous emphysema and severe dyspnoea due to blocking of air passages. He also showed another specimen of ½ dozen maggots removed from the middle ear in a case of chronic middle ear suppuration. The meeting terminated after the concluding remarks from the chair.

BOOK REVIEWS

Bacteriology in Relation to Clinical Medicine. Theoretical and Applied. *By M. N. De.* M. R. C. P., (LOND.), and *K. D. Chatterjee* M.B. 1935; pp. 598+xv. with 276 illustrations (including 42 coloured), Calcutta. The "Statesman" Press Price Rs. 15/-net.

This is a well written volume. It is exhaustive yet concise and the blending of Bacteriology with Pathology is so admirable that it gives a great interest in going through its pages. Another important feature of the book is the choice selection of illustrations, many of them actual photographs of laboratory specimens which enhance the usefulness of the book in driving home the text mentioned in the book. The author being a Professor of Pathology himself, has treated the subject so tactfully that the students will find in it the absence of boredom that is usually felt in the study of Bacteriology.

It may be that some might feel the meagre attention paid to the sections on Parasitology and Mycology, but in this we agree with the authors, "that such an admixture is not a very happy one because it only tends to foster a haphazard study of these subjects which in the tropics should be taken up separately."

All the latest advances and newer ideas on the subject have been included and as such the book is up-to-date. Subjects that are of special importance to students in tropics have been sufficiently emphasized. We congratulate the authors on the production of a work that would find a universal usefulness among those practising the healing art.

The publishers deserve all our praise for the splendid get up which marks it out from other similar Indian publications. We wish the book all popularity and success that it rightly deserves.

Pharmacopœia and Guide--School of Tropical Medicine and Carmichael Hospital for Tropical Disease, Calcutta: 1936 pp. 153.

This tiny little book has been compiled for the benefit of the post-graduates of the School of Tropical Medicine, Calcutta as well as other members of the medical profession in India. It has been written in collaboration with the workers in the various departments of the Institute and as such represents the expert opinions in respective specialities. Many of the methods described are those that have proved the test and yielded encouraging results in the treatment of large variety of diseases encountered in the Carmichael Hospital at Calcutta. Judging from the source of the work it leaves nothing to be said by way of introduction to our readers.

Nearly 180 useful prescriptions have been given in the first 37 pages. Posological table (B. P. 1932) follows. Details of glands and tissue products, Sera, Vaccine, Bacteriophage notes and treatments of some of the Common Tropical Diseases like, Amoebiasis, Bacillary Dysentery, Blackwater Fever, Cholera, Diabetes Mellitus, Epidemic Dropsy, Helmenthic Diseases, Guinea-worm Infection, Intestinal worms, Infantile Biliary Cirrhosis, Kala-Azar, Leprosy, Malaria, are a few from among the many items that are treated in the book; a few blank pages have been included at the end of the book for purpose of note taking.

The book is chastefully got up and the publishers and printers deserve all praise. We wish the book all success and popularity.

Regeneration in Man.—*By Dr. M. A. Ansari.* Published by Messrs. T. B. Taraporevala Sons & Co. Hornby Road, Fort Bombay. With a foreword by Dr. Robert Lichtenstern M.D., Urologist, Krankenhaus Dar Wiener, Kaufmaunschaft.

Dr. M. A. Ansari, whose recent death we deeply mourn with the rest of India, had shown himself in this volume to be as much a great author as a politician of the first rank. He had a facile pen and ample resourcefulness, both of which he utilized on the eve of his laying aside his mortal cloak, for the good of humanity. In his valuable book 'Regeneration in Man' he had explored an hitherto untrodden field in medical lore and he might as well be called the 'Steinach' of India. He was not a believer in mere theories and in order to prove to the sceptic world that an old man can become young, as the ancient Indians at one time proved, he had made arduous research and practised many

operations himself, the results of which are embodied in this volume. The book will be as interesting to a layman as that of a fairy tale as it is to a medical man with its wealth of scientific knowledge with which it abounds. While we heartily commend the book to our readers, we are only sorry that the cruel hand of death had snatched away from our midst, one in whom we felt confident he would become a successful Minister of Medicine in his Province under the new dispensation.

Indian Journal of Venereal Diseases.—A quarterly journal edited by *Dr. U. B. Narayana Rao, 94, 97, Girgaum Road, Bombay.* Annual subscription, Indian Rs. 5; Foreign 10 sh. or 2.20 $. Single copy Re. 1-8-0 post free.

This journal has reached its second year of existence in March '36 and from a perusal of that month's issue Vol. II, No. 1, we are convinced of its value and utility as a propagandist measure against those terrific scourges of humanity—the venereal diseases. It is really hard and certainly fighting against great odds to start a journal of this kind and keep it going for even four quarters and it speaks volumes of the patience and tenacity of purpose of the Editor who feels quite optimistic of the future. He observes, in his retrospect, in the above issue, " We are now triumphantly entering into the second year of our career. The support that we have received in the past justified our continuing in our work during this year and we are confident that at the end of this year we may be able to state that we have accomplished something towards contributing to the combating of venereal diseases in this country, towards the prevention of this pestilence that has managed to eat into the vitals of the nation ". We take this opportunity of congratulating the Editor on his bold venture and the promise of success it holds out.

The March '36 Number contains many interesting articles both from foreign and Indian sources, which give good food for thought and stimulus for action in stamping out these diseases. The new feature of the journal is the addition of a section on Dermatology, which will undoubtedly go to enhance its value and add to its votaries.

We find no effort is spared to make the journal a success and the award of prizes for original research work on the subject is one of the best means of accomplishing this end. The printing and get-up are neat and nice and we wish the journal a long life and a prosperous career.

The Prescriber:—The May '36 issue is devoted entirely to Endocrinology, being the 16th annual issue on this subject. The various glands are dealt with in turn—thyroid, parathyroid, adrenal, pituitary, pancreas, etc., while the female and male reproductive systems are very fully treated. It is interesting to note that in this last section the work has been reviewed as late as April of this year. Each chapter begins with a brief summary of the present position relating to that particular gland and this is followed by a review of the literature during the past twelve months. The number, which runs to 68 closely printed pages, thus presents a complete synopsis of the position to-day, and should be most useful for reference by practitioners. It is published by *The Prescriber Offices*, 65 Castle Street, Edinburgh, 2, and the price is 3s. 6d. post free.

The First All India Obstetric and Gynæcological Congress, Madras, 1936.—We have pleasure in acknowledging the receipt in book form of the complete proceedings of the First All India Obstetric and Gynaecological Congress held in Madras on the 2nd, 3rd and 4th January '36, the first of its kind ever held in India. The proceedings open with the welcome address of Dr. A. Lakshmanaswami Mudaliar, whose ardent enthusiasm to the cause of medicine and keen solicitude for the sick and suffering, especially women and children, whose diseases he has specialised in, are manifest in every line of it. We have already reviewed his address editorially in the columns of the " Antiseptic " and pointed out that the great ideals on which he has set his heart, so far as maternity and child welfare problems in this country are concerned, are (1) to diffuse through conferences such as this, an accurate and up-to-date knowledge of the art and science of Obstetrics and Gynaecology among his professional brethren, (2) to foster the spirit of research, (3) to gather opinions on the difficult yet most important questions of under-graduate and post-graduate training and what is equally important, on the proper training of midwives and (4) to acquaint the authorities with the needs and view points of the profession with regard to the care of the mothers and infants in this country. We can boldly assert without fear of exaggeration that the success of the Congress was due to the versatile genius and organising capacity of Dr. A. L. Mudaliar and the Profession owe a deep debt of gratitude to him, for the initiative and the exertion he has taken in the matter. His Excellency the Governor's address declaring the Congress open, follows the welcome address and exhibits profound sympathy

and deep concern for the welfare of the people committed to his care. The Presidential address of Dr. Miss Ida S. Scudder, bespeaks ripe experience combined with practical knowledge. There were as many as 24 scientific papers read and discussed—certainly a good record and a happy beginning. We heartily wish that the Congress will grow from strength to strength and have a long, prosperous and useful career.

The book consisting of about 200 pages is priced at a nominal cost of Rs. 2 per copy. Copies can be had of the Secretary, Obstetric Society, Women and Children Hospital, Egmore, Madras, either on money order or by V. P.

The Nair Hospital Dental College, Bombay—Prospectus for 1936-37.—The Dean of the Nair Hospital Dental College, Bombay, has been good enough to send us the prospectus of the College for 1936-37, which is said to be a revised one setting forth the improved four years' course adopted by the College from June 1936 onwards. The philanthropy of the late Dr. A. L. Nair of Bombay has manifested itself in many ways—in the establishment of a firm of Chemists and Druggists whose name and fame has shone forth not only throughout the entire length and breadth of India but also to the other countries of the Eastern and Western Hemispheres, and also in the founding of a Hospital and a Dental College. This College, we find, is gaining in popularity year by year and there are nearly 50 students on the rolls now. It is most unfortunate that the College has not been recognized by the Government of Bombay, though it has gained recognition by the Dental College authorities in foreign countries.

Dentistry is still in its infancy in India though its importance as a preventive of all ills human flesh is heir to, has been sufficiently recognized by the medical profession. A Dental Registration Act to prevent quackery and the establishment of more Dental Colleges in this country to bring out more qualified dentists are now the greatest desiderata and we hope the Government of India and the various Provincial Governments will realise their need and fulfil their obligations to the public by opening more colleges and supporting the existing ones. The Nair Hospital Dental College, judged from the curriculum of studies, the method of imparting instruction and clinical facilities afforded, bids fair to be an ideal institution and it is our fondest hope that the College will gain more and more in popularity and strength and thereby serve a useful purpose to the public and the profession.

PREPARATIONS AND INVENTIONS

Tabloid Blaud Pill and Copper.—The administration of iron in one of its various forms is a therapeutic measure of long tradition, but recently it has been suggested that the therapeutic action of the iron is enhanced by the addition of minute quantities of copper. Further, it is claimed that, as copper appears to be necessary for the synthesis of haemoglobin, iron is only fully utilised when small traces of copper are present, and that the beneficial action of iron preparations is due to the presence of traces of copper either in the product or in the patient's food. For those physicians, therefore, who favour the addition of copper to iron, Burroughs Wellcome & Co. are now issuing 'Tabloid' Blaud Pill and Copper in bottles of 100. Each product contains Blaud Pill gr. 10 and Copper Sulphate gr 1/100.

The Modern Antiseptic.—"Dettol" is now available to doctors in India.

This antiseptic has become widely adopted by hospitals and doctors throughout the United Kingdom although it was introduced only 2½ years ago. The reason for this is not far to seek.

The government report on maternal mortality and morbidity in 1932 stated that the antiseptics then in use left a great deal to be desired and apart from 2 per cent aqueous iodide nothing could be relied upon to effect complete destruction of haemolytic streptococci on the skin, and to remain an effective germicide when dried.

Soon afterwards Messrs. Reckitt and Sons, Limited of Hull introduced 'Dettol' and subsequent research at the Bernhard Baron Research Laboratories showed that undiluted Dettol, like 2 per cent aqueous iodine, was able completely to destroy haemolytic streptococci on the hands. and to render them insusceptible to reinfection by haemolitic streptococci for at least two hours afterwards ; unlike iodine, however, Dettol was clean in use and painless in application besides being pleasant smelling. Also a 2 per cent solution of Dettol was able to kill haemolytic streptococci in two minutes in a 50 per cent solution of pus and blood—a definite advance on iodine which, being unstable in the presence of blood and pus, was suitable only for simple skin sterilization. Dettol was, therefore, particularly suitable for general cleaning as well.

The full report appeared in *The Journal of Obstetrics and Gynaecology of the British Empire* (XX, 966), and further details were given during a speech at the British Medical Association Meeting in Dublin.

In *Queen Charlotte's Quarterly* for February 1935 it is now shown that consequent upon the introduction of Dettol into the labour wards there was a sharp drop in the sepsis rate. Reports of reductions elsewhere, even on a considerable scale, are being received by the manufacturers.

Dettol is three times as effective a germicide as pure carbolic acid (Rideal—Walker test), and being non-corrosive and non-toxic it can be used at highly effective concentrations. These qualities, in addition to its stability, render it of particular value in wound treatment and general surgical applications.

Dettol is now available in India, as it has been placed on the market through Messrs. Atlantis (East) Limited, 20/1, Chetla Road, Calcutta.

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1. **Auroprotasin,** manufactured by Troponwerke Dinklage & Co., Colonia-Mulheim, (Germany), is a Colloidal-Gold preparation containing .06% of metallic Gold. The injections are tried extensively in cases of Tuberculosis and Leprosy and have given satisfactory results compared to all oily and watery preparations which are quickly absorbed and quickly eliminated.

With *Auroprotasin* there is no appreciable rise of temperature and the injections are absolutely painless by intravenous, intramuscular or subcutaneous administration. Further advantage of *Auroprotasin* is that contrary to gold-salts, metallic gold in Colloidal-form is retained much longer in the organism, thus producing a protracted effect and any poisonous action is completely avoided.

2. **Calcium-Ifah,** manufactured by "*Ifah*" G. M. B. H. Institute for applied Hygiene, Hamburg. 21, is an isotonic solution of Calcium Thio-Sulphate in combination with Calcium-Gluconate for painless intramuscular and intravenous injections. It is the only preparation of its kind on the market combining the two therapies. It is used successfully also in lowering down the temperature in cases of pulmonary tuberculosis.

Manufacturers' Agents in India:—R. M. Jassawalla & Co., 105, Apollo Street, Fort, Bombay.

NOTICE

The Sixth Andhra Medical Conference

"The Sixth Andhra Medical Conference will be held at Rajahmundry on the 4th and 5th July, 1936. Dr. B. C. Roy, M.D., F.R.C.S. of Calcutta has kindly consented to preside. All the members of Medical profession in Andhra Desa are requested to enrol themselves as delegates and attend the Conference. Those who intend moving resolutions and wish to read papers on scientific subjects are requested to intimate the Secretary Dr. P. V. Brahmanandam before the 20th June, 1936"

Three Months' Course of Instruction for the Licentiate in Tropical Medicine

"The three months' course of instruction for the Licentiate in Tropical Medicine begins on the 15th July 1936. Applications for the few seats still available should be submitted as early as possible to the Director, School of Tropical Medicine, Calcutta".

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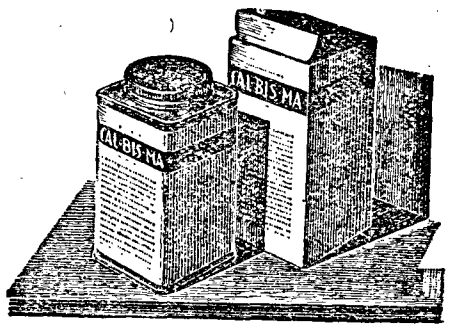
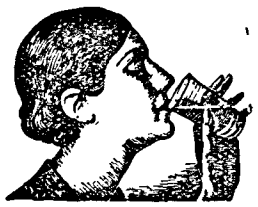


GASTRIC HYPERACIDITY NEEDS MORE THAN NEUTRALIZATION

■ In the treatment of gastric hyperacidity, neutralization is not enough. The irritated mucous membrane must be soothed and protected, distention must be guarded against (especially in gastric ulcer), secondary acid rise must be prevented. But relief from discomfort must be prompt and should be prolonged.

■ Cal-Bis-Ma provides all these advantages. The quick but brief neutralizing effect of sodium bicarbonate and magnesium carbonate is prolonged by calcium carbonate and bismuth. No secondary effect follows. Bismuth and colloidal kaolin soothe and protect the mucosa; and the kaolin also adsorbs gases and toxic substances. Excellent results have been reported from Cal-Bis-Ma as a gastric sedative during pregnancy.



Cal-Bis-Ma is supplied in tins containing 1¾ and 4 ounces. The average dose is one teaspoonful in water.

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A trial supply to Physicians on request to Martin & Harris, Ltd., Rowlette Building, Prinsep Street, Calcutta. (Also at Bombay, Madras, Karachi and Rangoon).

CAL-BIS-MA

Prepared by WILLIAM R. WARNER & Co. Ltd., LONDON, ENGLAND.

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