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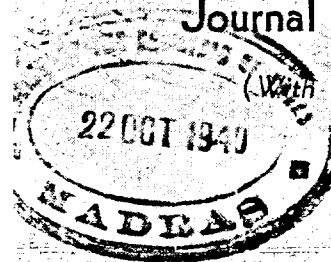
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(With which THE AGRA MEDICAL CLUB JOURNAL is incorporated)



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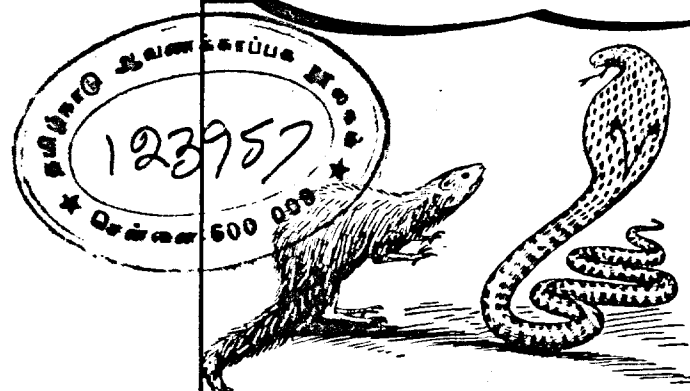
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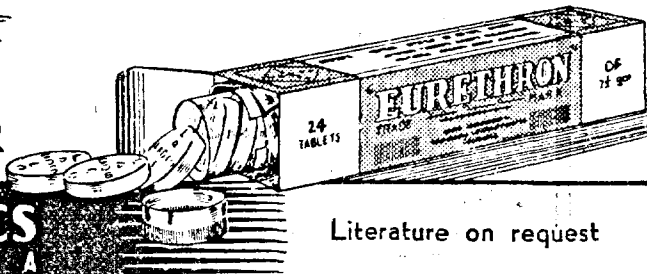
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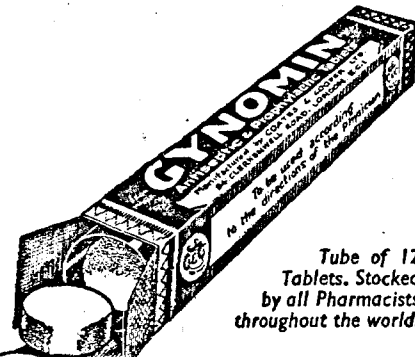
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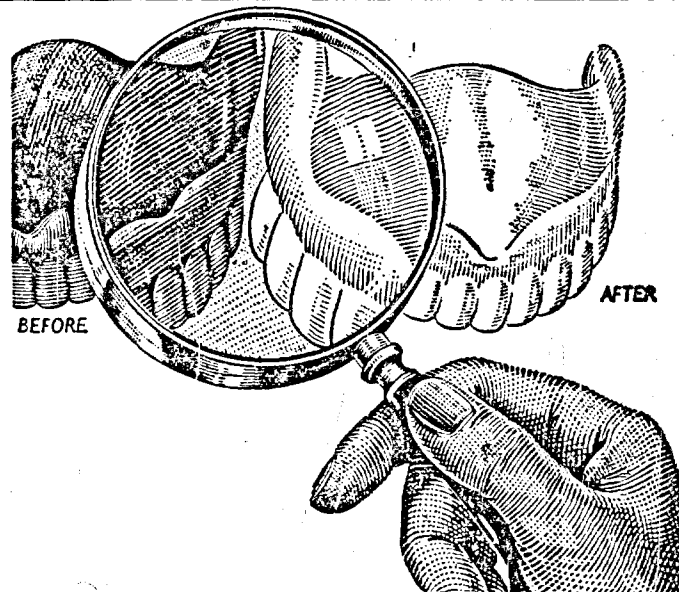
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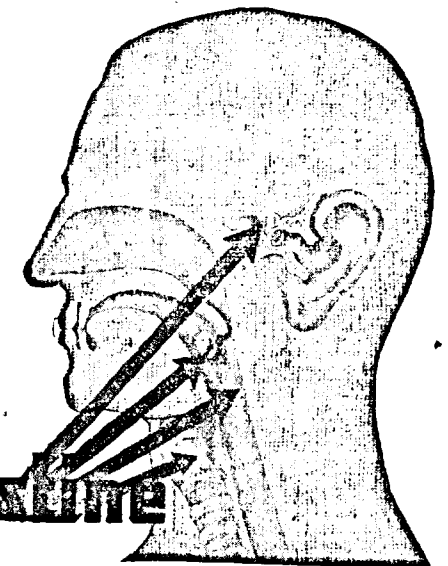
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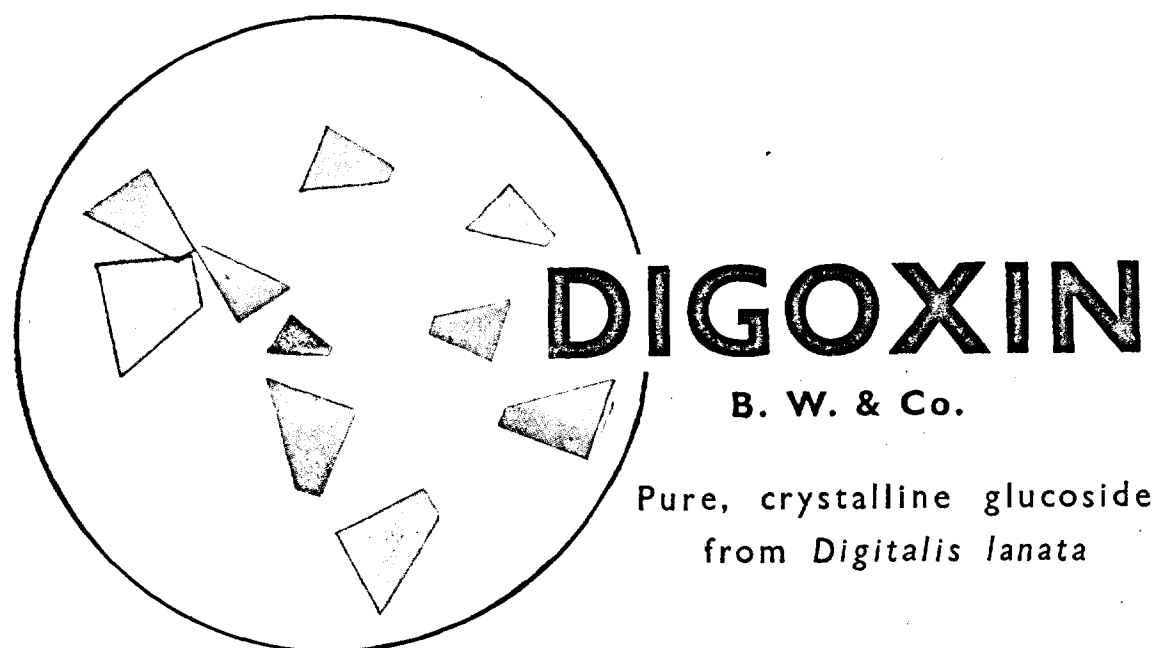
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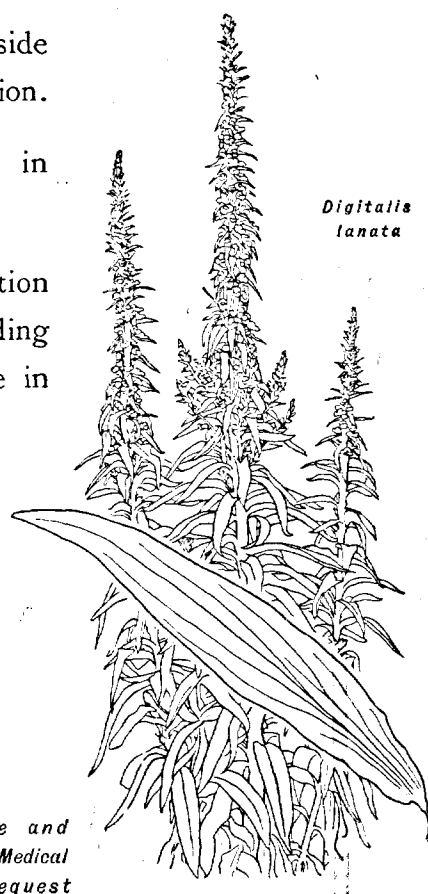
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ADDRESSES AND ARTICLES

Glandular Therapy in Sex Disorders

• Dr. S. A. Subedar, L. C. P. S.,
Kutiya, Kathiawar

The advance in our knowledge of sex hormones has been one of the outstanding achievements of the last decade, though the results of hormone therapy are not equally satisfactory.

Endocrine therapy is a substitution therapy. It may be worthwhile here to give an example. It is universally recognised that in myxoedema thyroid therapy works remarkably well. The same is applicable to diabetes and insulin therapy. When the necessity for thyroid and insulin therapy occurs, it is usual to continue it for the rest of the patient's life. In gauging the results of the hormone therapy these considerations should therefore be borne in mind.

The discharge of ripe ova from the Graffian follicles probably occur at the time of the menses. If the ovum is fertilised pregnancy results. The remains of the Graffian follicles left after the discharge of ovum undergo important and interesting series of changes which result in the formation of the corpus luteum. The anterior pituitary plays an important part in the physiology of the ovaries.

The secretions from the ovaries are divided into two groups: One the follicular hormones connected with Graffian follicles, and the other the luteal hormones connected with corpus luteum.

The follicular hormones are again divided in two groups: (1) oesterone. (2) oestradiol. Oesterone is made from the urine of pregnant women while oestradiol is made from the ovarian follicles and synthetically also.

In the oestron group the following are the preparations in market:

1. Menformon (Organon Co.)
2. Oestroform (B.D.H. Co.)
3. Theelin (P.D. & Co.)
4. Progynon (Scherring Co.)
5. Unden (Bayer Co.)

In the oestradiol group the following are available:

1. Dimenform (Organon Co.)
2. Oestroform B. (B.D.H. Co.)
3. Progynon (Scherring Co.)

Luteal hormone preparations are:

1. Progestin (Organon Co.)
2. Proluton (Scherring Co.)
3. Progestin (B.D.H. Co.)
4. Lutren (Bayer Co.)

The anterior pituitary is again divided into groups: A and B. A stimulates the follicular and B the luteal hormones.

The true anterior pituitary hormone is not available for clinical use. Those that are sold in the market are prepared from urine or placenta of pregnant mares. Most of these are mixtures of A and B. Therefore their actions have not the same effects as genuine anterior pituitary hormone. The following are the preparations of anterior pituitary hormones in the market:

- A type: Antostab (Boots Co.)
B type: Pregnyl (Organon Co.), Antuitrin S (P.D. & Co.), Gonan (B.D.H. Co.), Prolan (Bayer Co.).

CLINICAL USE OF GLANDULAR THERAPY IN THE FEMALES

Follicular hormones are the growth hormones of the female genitals. Their actions are on uterus, ovaries and in post menstrual phase. They contract the uterus and stimulate the mammary glands.

Luteal hormones, on the contrary, inhibit the contraction of the uterus. They play an important part in the formation of placenta, nutrition of embryo and keep the uterus fit to maintain the embryo.

The A type of anterior pituitary hormone stimulates the ovaries in the production of follicular hormones, while B type of anterior pituitary hormone stimulates the ovaries in the production of luteal hormones.

INDICATIONS AND RESULTS

1. *Arrest and retardation of puberty due to defective secretions of the ovaries:* Here the menses is scanty or absent. Rudimentary ovaries, infantile ovaries, small clitoris, undeveloped breasts, male voice, unduly long limbs—hormone therapy in these cases is no good since these organs exist in name only and therefore they do not respond to the stimulation.

Secondary amenorrhœa due to wasting diseases or irregular menses: Here A type of anterior pituitary hormone will be of use. Thyroid will also be of use. Results are satisfactory.

2. *Menorrhagia* occurs in young patients at puberty. It is particularly amenable to

glandular treatment. The condition is of ovarian origin and results from excess of follicular hormones and deficiency of luteal hormones. After applying a curette to exclude any local lesion, B type of anterior pituitary hormone should be given. Successful results have been reported.

3. *Dysmenorrhœa*: This is mostly due to psychological factors. But it may also be due to deficiency of follicular hormones and scanty menses. Follicular hormones may be administered. When there is deficiency of luteal hormones resulting in excessive contraction of uterus, especially in cases when pain comes a day or two before the onset of menses, luteal hormones should be given.

4. *Disturbances of climacteric and post climacteric periods: 1st stage*.—There is increased secretion of follicular hormones lasting for several months with hypertrophy of uterus, menorrhagia or amenorrhœa.

2nd stage.—Follicular hormones appear in urine and then disappear. Atrophy of uterus then sets in.

3rd stage.—Increased activity of pituitary. This is followed by vaso-motor disturbances i. e., flushes. In these cases X-ray, radium and follicular hormones are useful. Some advocate pituitary hormones in these cases. But there is no experimental justification for this. On the contrary it is contra-indicated. In post-climacteric conditions, atrophic senile vaginitis and pruritis, results of follicular hormone therapy are very satisfactory.

5. *Sterility*.—This may be due to disturbances of anterior pituitary or ovarian functions. Anterior pituitary hormones are given, but since they are not available in genuine form the treatment is not satisfactory. Administration of thyroid extract produces good results.

6. *Abnormalities of pregnancies: e.g., repeated miscarriage, abortion, etc.*:—In these cases luteal hormones of B type are useful. When repeated abortions are due to thyroid deficiency good results are obtained from thyroid therapy.

METHODS OF ADMINISTRATION

(a) Where intense therapy is required the best route is by intramuscular injections. It is to be recognized however that such sterols which are absorbed through the alimentary canal should be given orally. But their doses must be increased to 5 to 30 times the doses given by injections.

(b) There is another method i. e., implantation of compressed tablets of hormones under the skin. The suitable size and weight of such implants have not been decided.

(c) It can also be used in the form of ointment rubbed on the skin. This method is successfully employed in developing breasts and in pruritis vulvae, and in arthritis of menopause.

(d) Vaginal pessaries are very useful in cases of senile vaginitis and pruritis.

(e) *Male hormones for females*:—Another line of approach to this treatment has been advocated by means of giving male hormones to females in cases of uterine bleeding, chronic mastitis or in producing temporary sterility. Results are unreliable and if sometimes successful there is also a possibility that masculine character (virilism) may develop in females. This method is not recommended.

GLANDULAR THERAPY IN THE MALES

Mac Gee (1927) first extracted male hormones from the testes, and their presence was demonstrated in urine. In 1935 another worker succeeded in isolating a more powerful substance called the *testosterone*. This is now available in oily solutions—Testoviron (Scherring Co.) and Neo Hombrol (Organon Co.) are examples of these preparations.

CLINICAL USES OF GLANDULAR THERAPY IN MALES

The function of testes is regulated by anterior lobe of pituitary. The testes have two functions, i. e., (1) production of semen and (2) production of internal secretion on which depend the development of sexual power in male. Removal of anterior pituitary deprives him of this power. Anterior pituitary hormone stimulates the testicular secretion but it should be borne in mind that this hormone only works when the testes are in a condition of responding to this stimulation.

INDICATIONS FOR MALE HORMONE THERAPY

1. Arrest and retardation of puberty.
2. Impotence not due to psychic causes.
3. Undescended testes.
4. Prostatic hypertrophy.

Testosterone is usually given intramuscularly in doses of 25 to 50 mg., 2 or 3 times a week. Even larger doses are employed by some physicians.

Common Defects in the Tea-Garden Coolies' Diet and Suggestions for Overcoming Them*

● Dr. Kshitish Chandra Bhattacharjee,
L. M. F., Assistant Medical Officer,
Hoogrijan T. E., Hoogrijan, Assam

A SURVEY OF THE COOLIES' DIETARIES

It should be pointed out that a tea-garden population comprises of various races of people accustomed to somewhat different dietaries in their original homes. But when they settle down in a tea garden temporarily or permanently, all find themselves in the same economic condition and same local environment. Therefore their diets also, in their essentials, become the same. The quantity is of course dependent on the economic condition of individuals. They consume mainly carbohydrates, animal protein in inadequate quantity and animal fat practically none at all. A small amount of vegetables, leafy and other, is taken as *sag* or vegetable curry. Milk is taken only by a fortunate few who are capable of maintaining cows and even then with tea only. Egg is very rarely taken. Minerals and other necessary substances are thus taken only in inadequate quantities. No fruits form part of the dietary with the exception perhaps of ripe banana, jack fruit and guava in the summer season and ripe papaya occasionally and even then, not by all. Some people take rice-water while others reject it. All take polished and milled rice following the bad example of higher class of Indians living in towns. In the case of the latter, however, this deficiency is overcome by their varied diet whereas in the case of garden coolies the deficiency persists in their dietary which is already monotonous and unbalanced.

HOW TO OVERCOME THESE DEFECTS?

It has been suggested by nutritional experts that Sikh diet is the best in India. But that diet is not within the means of an average villager in Assam and Bengal, and moreover it is not practicable to persuade people to give up their traditional dietary habit. The general diet of an average villager in these two provinces comprises of *Dhenki*, husked coarse rice, dal, fish (now-a-days not always available), egg, ghee in small amount, abundant green vegetables, seasonal fruits and occasionally meat. I think this is quite a good diet to maintain general health and

*Read in the meeting of the Tingri Valley Branch, A. I. M. L. A., on 25-2-1940.

working efficiency and the coolies may be encouraged to try and adopt it. I am of opinion that in the case of coolies ignorance and lack of wisdom in making judicious use of money are more responsible for their defective diet than their economic condition.

I suggest the following course to bring about an improvement:

1. A welfare committee should be set up consisting of representatives of different groups of the cooly population with an educated and popular member of the Indian staff at the helm of affairs. This committee should be inaugurated by the manager and medical officer together in collaboration with the Indian staff with a view to creating confidence of its utility in the minds of the people.

2. First of all the members of the committee should be impressed with the value of good diet in overcoming disease and maintaining working capacity. They should then be encouraged to make propaganda amongst their respective groups not to waste their money in country liquor but to take *house-made Haria* in moderate quantity. The money thus saved may be utilised in improving their food-stuff and making their families healthy, which means an increase in earning capacity.

3. Management should at times arrange for lantern slide lectures showing the beneficial effect of good dietary and evil effect of bad one. This is likely to make a lasting impression in the minds of the people.

4. Lands for cultivation and pastures should be given to the coolies by the management so that they may grow rice and maintain cows yielding good milk.

5. They should be encouraged to keep *Dhenki* in each family and use husked rice and not to throw away rice-water while cooking.

6. They should grow all seasonal vegetables and fruits so that they may have enough of them. They should also grow mustard seeds and press out their oil for domestic use if possible.

7. They should maintain goats, sheep, ducks and fowls so that they may have eggs and meat to take as often as they like.

8. Example is better than precept and the Indian staff may help a lot by following these things themselves as far as local circumstances permit.

My thanks are due to my chief Dr. K. P. Hare for his valuable suggestions in the preparation of this paper and kind permission to publish it.

Infantile Liver

● Dr. Debiprosad Chatterjee, L. M. F.,
Kandara, Burdwan (Bengal)

It is also termed infantile biliary cirrhosis, subacute toxic cirrhosis or infantile hepatic cirrhosis.

It is characterised by gradual and painless enlargement of the liver, irregular fever, constipation or diarrhoea and vomiting. Later manifestations are jaundice, splenomegaly and ascites.

ETIOLOGY

Col. R. N. Chopra writes: "It has been stated that the condition is due to infection with a virus. Definite proof of this is lacking. Although the aetiology of the condition is unknown there is yet good ground for belief that some sort of toxin is at work. The toxin is said to be conveyed to the smaller bile ducts by the hepatic artery, resulting in the production of biliary cirrhosis with degeneration of the cells in the first instance and subsequent increase of intercellular connective tissue."

Among many other contributory factors dietetic irregularities and improper foods seem to be responsible to a large extent for the development of this disease.

Chronic constipation is a factor probably imbibed by the child from the parent through heredity.

Dr. S. Balasundaram has given much information regarding the incidence and distribution of infantile liver in India in the November 1939 issue of the *Journal*.

SIGNS AND SYMPTOMS

They may be divided into three stages:

(1) *The pre-cirrhotic or early stage*: The quite healthy child gradually becomes dull and apathetic and prefers to lie on the ground. Digestive disturbances like anorexia, occasional vomiting, constipation or diarrhoea, bloating of the abdomen, etc., slowly make their appearance. The child becomes feverish specially marked at night. Gradual painless enlargement of the liver is seen. Spleen is rarely seen enlarged in this stage. Cough or other respiratory trouble may be seen in some cases.

(2) *Second stage or compensated cirrhotic stage*: Liver is more enlarged. Spleen also begins to enlarge. Slight jaundice, remittent or intermittent pyrexia, and a characteristic cachexia starts now. Either constipation or

diarrhoea is present. Colour of the stools becomes whitish or clay-coloured with very foul smell. An earthy complexion, falling of hair from head and sticky eyelids are well marked in this stage. The abdomen is generally protuberant. Respiratory complications are often seen in this stage. Urine is scanty, and is acid to litmus and in very rare cases contains a trace of albumin.

(3) *Third stage or the decompensated cirrhotic stage*: The most striking feature of failure in the compensatory circulation is ascites, and the effusion of serous fluid into the peritoneal cavity may appear suddenly. The conditions under which this occurs are still obscure. The abdomen gradually distends and may reach a large size. The dropsy is rarely general but in most extreme cases when heart or kidney is affected dropsy of the lower extremities or general anasarca appears. Deepening jaundice, marked and continuous pyrexia, striking anaemia and haemorrhagic tendency are present. The skin has a sallow icteroid tint. Urine is high coloured, scanty and contains bile salts and bile pigments and often a slight amount of albumin. Diarrhoea is present and stools are clay coloured and very foul smelling. At this stage susceptibility to epithelial infections increases. Stubborn bronchitis or broncho-pneumonia, chronic rhinitis, chronic otitis and chronically infected condition of the throat, tonsils, adenoids and sinusitis are frequently co-existent. Growth of the child is retarded. There is clubbing of fingers and toe nails in most cases. The skeletal muscles are atrophied—particularly the calf muscles. Bleeding may occur from any mucous surface, particularly from the nose, gums and bowels.

Spleen and liver are chronically enlarged but some are of opinion that liver shrinks in some cases when ascites develops.

Before death the cerebral symptoms may appear either as noisy delirium or stupor, coma or even convulsions. The condition is not infrequently mistaken for uraemia. The nature of the toxic agents is not yet settled. In some cases death occurs due to secondary complications.

DIFFERENTIAL DIAGNOSIS

In the tropics the liver is particularly liable to be affected in a variety of conditions. In children, malaria, kala-azar, amoebic dysentery, congenital syphilis and use of many drugs such as copper, manganese, alcohol, chloroform, codeine, phosphorous, arsenic, etc. produce enlargement of liver. To diagnose the case, above conditions should be elimina-

ted by proper methods of examination and investigation. In the beginning of the disease it is very difficult to diagnose the case but from the second stage onward it shows its characteristic signs and symptoms. They usually show gradual painless enlargement of the liver and the spleen and in the later period it exhibits ascites, well dilated veins on the chest and abdomen, irregular temperature, anaemia, marked emaciation, etc. Many of these cases undoubtedly present a picture of infantilism with stunted growth, delayed dentition and inability to stand and speak.

TREATMENT

Patients are rarely brought to the physicians, in the early stage of the disease.

In early cases the following methods should be adopted.

Teaspoonful doses of *eclipta erecta* and tomato juice have served the preventive purpose well in constipated cases. Apple diet has done well in cases of diarrhoea.

Dietetic and hygienic treatment should be carried on properly. Regulation of diet is very important—milk or healthy mother's or healthy cow's or goat's milk, butter milk, barley water and glucose with addition of orange juice and vitamins A, B, C and D are useful. Diet should be mixed, but excess of fat and protein should be avoided. If milk is given proper selection and proper preparation should be made; to older patients well boiled rice is allowed. Plenty of drinking water should be always allowed. Mineral water is preferable.

Patient should be kept in a place where plenty of sunshine and air are available. The environment must be healthy and pleasant, and free from all sorts of infectious diseases.

Fever.—General principles of treating pyrexia should be undertaken with the following drugs which are efficacious in this disease and in doses according to the age of the patient.

Sodi salicylas; sodi or ammon. benzoate; sodi bicarb; pot. citras; liq. ammon acetatis; glycothymolin. Plenty of glucose with small amount of hexamine is also useful. Pituitrin is also very useful.

Antistreptococcus serum or sulphonamide preparations are of use in some cases. Some are in favour of autohaemotherapy.

Enlargement of liver and spleen: Splenic hormone is said to act as a specific remedy. Prosplen-Hal (1/4 to 1/2 c. c.) injected intramuscularly twice a week gives excellent result in the reduction of liver and spleen. Splenic extract by mouth is also efficacious but parenteral use is quicker in action. A trial with adrenal cortex was undertaken with very

encouraging results. Collo-iodine, calcidin or tinct. iodine rect. are efficacious as an after treatment.

Ext. gulvel liq., ext. kalmegh liq., and ammonium chloride have a specific action in hepatic cirrhosis.

Vitamin C is a remedy of choice. Preparations like Redoxon, Cantan, Cebion, Ascorbic acid, Celion etc., which are available, should be used.

Constipation: Plenty of fluid should be supplied. Laxatives such as glycerine, cascara sagrada and tinct. rheii co., should be used.

Diarrhoea: Here apple diet and vitamin C are very useful. Bismuth salicylas, calcium lactate, salol, eldoform tablet (Bayer) are also used. Bacteriophage (intestinal) is also tried.

Ascites: Tapping is not at all recommended in this disease. Diuretics such as diuretin, calcium diuretin of Knoll, ext. punarnava liq., and plenty of vitamin C are very useful. Gentle purgatives as noted above should be prescribed according to needs. Mercurial diuretics or purgatives and strong saline purgatives are very harmful. Diet should be salt free.

Dropsy: Oedema of the feet or general anasarca sometimes occurs. Above treatment with large doses of vitamins B and C and cardiac tonics should be prescribed.

Jaundice: Juice of the leaves of *eclipta erecta* is very efficacious in some cases. Hepatic stimulants, already stated, may be used. Decholin, chionia, desicol etc., may be tried.

Respiratory trouble: Irritative cough responds well to syrup allium or syrup tolu with small doses of tinct. hyoscyamus.

Bronchitis or broncho-pneumonia should be treated on usual lines. Calcium with vitamin A and D should be prescribed.

Anaemia: Liver extract is specific. A combination of bone marrow and haemoglobin is cheap and also useful. In very poor children expressed juice of *eclipta erecta* does much good.

Haemorrhagic tendency: Vitamin C and calcium should be used, and in severe cases haemostatic serum may be needed.

Marasmic condition and retarded growth: Liver extract has combated the retarded growth, irritability of nerves and anaemia.

(Continued at foot of page 269)

PHARMACOLOGY NOTES

TERMINALIA BELERICA (BAHIRA OR BOHERA)

DR. M. KHALILUR RAHMAN, M. O. NASIRNAGAR
DISPY., TIPPERA (BENGAL)

Description: It is common throughout India; two forms occur in the bazaar, one being twice the size of the other. The bazaar fruits have a pale buff colour, are roundish in shape and have indistinct vertical ridges on the surface. They are composed of dry pulp with hard kernel inside. The taste is astringent.

Pharmacology: The unripe fruit acts as a laxative and the dried ripe fruit as an astringent. It has another important action. It stimulates the autonomic ganglia by its action on the myoneural junction; the action is slow but progressive. If the drug be continued for a long time, the action is rather lasting. The kernel is a narcotic.

Therapeutics: The dry pulp like *terminalia chebula* (Haritaki) is chewed by some people, not only as an astringent but as a mild deodorant, hence it is used in stomatitis and spongy gums. It is used in scorpion sting and inflammatory areas also.

In Hindu medicine, *terminalia bellerica* is largely used in combination with *phyllanthus emblica* (Amlaki) and *terminalia chebula* (Haritaki) under the popular Bengali name of "Tripala" in diseases of the liver and gastrointestinal tracts. This combination is also used in many other conditions, also together with "Makaradwaja" and honey.

It is a very useful drug in cases of respiratory asthma. The pulp is to be chewed and swallowed frequently for about 3 to 4 months. In case of relapse, the procedure of taking the drug is to be repeated for another course. In very obstinate cases, the drug is to be chewed and swallowed for a reasonably long period.

Nicotine (alkaloid of common tobacco) excites all the cells of the nervous system followed by depression. In voluntary muscles, a temporary increase of activity is soon followed by intense muscular weakness. Its stimulant action on the autonomic ganglia is soon followed by paralysis. Therefore, to secure the lasting action of *terminalia belerica* in cases of asthma, the asthmatic should never take tobacco in any form.

CLINICAL NOTES

[These notes are abridged owing to exigencies of space. Ed.]

A STRANGE CASE OF A THIRD TESTIS

DR. RAJA RAM, M. R. C. S. (LOND.), L. R. C. P.
(ENG.), PHILLAUR, (PUNJAB)

Last year I performed an operation for congenital inguinal hernia, on one Mallick Mohammed Shafi, aged 33, admitted into the hospital on 11th Jan. 1939.

He was married ten years ago, but had no child. Besides the hernia, he was also able to feel the absence of the right testicle in the scrotum. This was confirmed by my examination.

With the assistance of Drs. Mangal Mal and Ram Kishan, I performed the radical operation for hernia. When the sac was opened, an undescended testicle was found within the sac, half of which was inside the abdominal cavity and the other half protruding out of the internal abdominal ring. By pulling the sac whole of the testicular gland was exposed and the vessels of the spermatic cord identified. After ligature, the testicle with its covering was dissected out of the sack, and kept in saline with a view to transplant it in the thigh. This was done after finishing the operation for hernia.

On 21-2-39, Lt.-Col. Jamal-ud-dine, Civil Surgeon, happened to visit the hospital. The case under report was shown to him. He examined the patient, and to our surprise he was able to demonstrate a new testicle in the right scrotum with well formed cord and epididymus.

Myself and my colleagues were quite sure of the absence of testis in the right scrotum when we did the operation. In fact, an undescended testis was discovered in the hernial sac and transplanted in the thigh. The question, therefore, is: how has happened the descent of what is really a third testis?

There are many possibilities. Most of this are no more than guess work. My own idea is that the testis grafted in the thigh has stimulated the anterior pituitary to produce a sufficient gonadotropic substance as to induce the descent of a latent testis.

This is the first case of its kind I have met with during a long course of my surgical practice. This case may possibly provide a material to the research worker for further investigation on the subject.

DO CONDIMENTS AFFECT THE VITAMIN VALUE OF FOOD?

DR. S. T. POONASWAMI PILLAI, RETD. SURGEON,
TRIVANDRUM.

This was the question I put to myself when dealing with the following case:

A male child, aged 16 months, was brought for the treatment of general emaciation and flabbiness of limbs.

Thinking it to be a case of B₁ deficiency, I put the child on unpolished rice but without any other change in the usual diet.

There was no improvement.

Finding that the parents are "spicing" the food too much (South Indians are generally habituated to more than ordinary proportion of pungent condiments as chilly, pepper, mustard, etc.) I advised them to give a bland diet, plus fruit juices, oil inunction, etc.

On this diet the child quickly improved.

The relevancy of my question is therefore obvious. It is worth investigating how far the addition of condiments in cooking various articles of food, as is the common habit in our country particularly in South India, affects the vitamin value of food and its utilization?

(Continued from page 267)

Vitamin A and D preparations may be used in addition. If cod liver oil or vitamin A and D preparations are not tolerated by mouth halibut liver oil ointment should be rubbed externally. A and D vitamin preparations such as Haliverol, Halidexol, Adexolin, Radiostoleum, Detavit etc., which are available in the market, may be used.

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DRUG NOTES

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Aminophylline, a combination of theophylline with ethylenediamine, is a recent addition to the range of products issued by Burroughs Wellcome & Co., Snow Hill Buildings, E. C. 1. This preparation possesses the valuable therapeutic properties of theophylline (considered to be the most effective of the xanthine diuretics) with a considerably reduced tendency to produce gastric and renal irritation. The greater solubility conferred by the ethylenediamine component increases its rapidity of action and also renders it suitable for parenteral administration.

Aminophylline may be used as a general diuretic or a mild myocardial stimulant. Its effect in improving the blood supply of the kidney renders it valuable in relieving oedema in diseases of the kidney and heart. Further owing to its direct stimulation of the medullary respiratory centres, it is of particular value in combating Cheyne-Stokes respiration.

The product is available for oral administration as 'Tabloid' Aminophylline, 0.1-gm., in bottles of 25 and 100 products. For parenteral administration it is issued as 'Hypoloid' Aminophylline, a sterile solution supplied in strengths of 0.5-gm. in 2 cc. (for intramuscular injection and 0.25-gm. in 10 cc. (for intravenous injection), each strength in boxes of 6 'Hypoloid' ampoules.

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The research on Dextrose for aviators is an extension of the same principle. It has been previously observed that when excessive amounts of insulin are injected into the body in diabetic individuals they have difficulty in adapting their eyes to dark and light because less Dextrose becomes available to the eye nerves. Recently the same difficulty in adaptation has been found when aviators are in an atmosphere of lowered oxygen pressure. Since the eye disturbance is in each case due to less available Dextrose in the eye nerves, the remedy is simply Dextrose.

*Dextrose is available in its purest form under the brand name of 'DEXTROSOL'.

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Messrs. Burroughs Wellcome & Co. announce the issue of Carbachol (carbamylcholine chloride)—the chemical originally introduced under the trade-mark Doryl. It is a choline ester, having a pharmacological activity similar to that of acetylcholine, but much more resistant to hydrolysis; it is effective both by mouth and parenterally, and is exceptionally stable.

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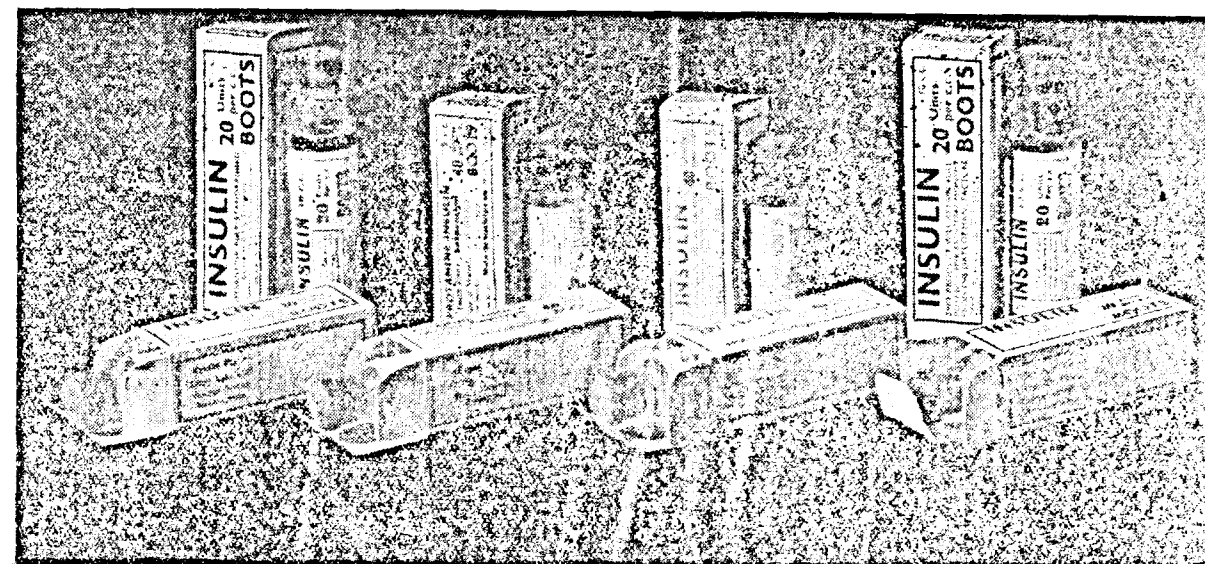
APPLIED MEDICAL RESEARCH

With the development and growth of modern civilization any well directed research finds a pleasant thoroughfare and the result of its progress are seen in the fields of all the different advanced sciences. But the scientists and the technologists belonging to any branch are to keep pace with the advanced knowledge both in theory and practice, if they ever desire to meet the demands of the public satisfactorily and speedily. In the medical side the physicians of to-day can draw on million drugs in compounding prescriptions, or, forwarding names of medicaments for ameliorating the conditions of their suffering patients. The triumphs of success mostly depend on the brilliant achievements of the applied serologists, bacteriologists, chemists and chemical engineers. The difficulty, however, lies in directing the various groups of scientists to work in a co-ordinated way and that again with a definite forward policy.

All these point to a large investigational expenditures with no ray of success. A national outlook, a public spirit and the desire for sacrifice from amongst the capitalists, the scientists and the labourers only might bring forth a fruitful result. But in these days of hard struggle for existence, it seems almost to be a utopian idea. A strong determination only may create wonders as has already been done in the well-known manufacturing firm, Bengal Immunity Co. Ltd. Here a well-directed research that is revealing a Nature's secret to-day, is affording a medicine for the public to-morrow. Various deadly micro-organisms are being bottled up in living conditions for years together without the least alteration in its virulent nature; and these are again being utilized in producing ideal vaccines and sera as remedies against the different bacterial infections. The animals of the local slaughter-house are offering various glandular products for reviving your energy, vigour and strength. The India's natural beauties—the green fields and forests—are again protecting you from the attacks of the dreadful diseases. Lastly a simple test tube experiment by the workers of the Bengal Immunity Research Laboratory ultimately leads to a large-scale plant production for offering you various modern chemotherapeutic drugs.

In carrying out the work, tremendous difficulties are being encountered daily, but the result is that the problems of humidity, moisture, temperature and climate are now nothing but dreams of the past. The modern refrigeration, the artificial light, specially constructed chambers and the up-to-date appliances are helping the workers of the Bengal Immunity in issuing various biological, pharmaceutical and synthetic medicaments in purified standard and stable conditions.

In the interests and welfare of the general public researches with no commercial status and aspect are again being undertaken by the workers from time to time for the advancement of learning, and for subsequent dissipation of the knowledge amongst the people of this ancient land. ADVT.

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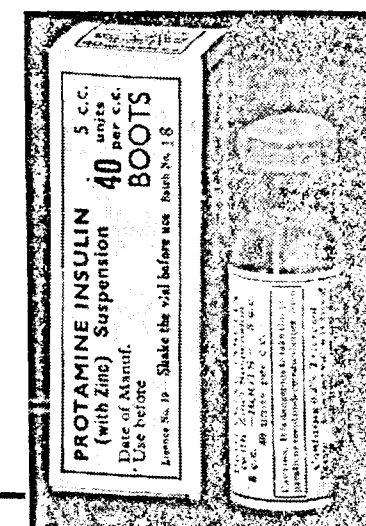
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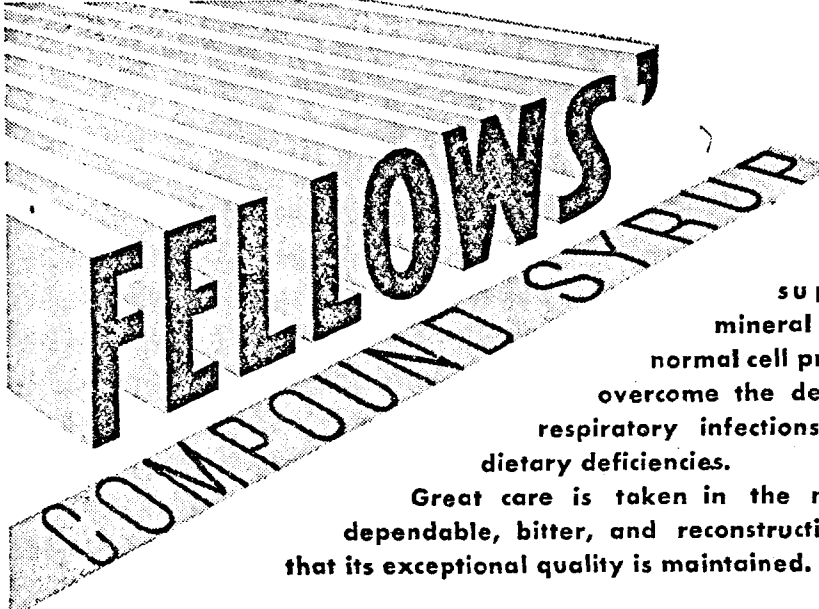
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Vol. 34 MADRAS : Octr. 1940 No. 10

All-India Institute of Hygiene & Public Health

The annual report of this Institute for the year 1939, published during August 1940, is a document of unusual interest, and it presents in an effective summary the studies and researches in Public Health undertaken and done during the year by the workers of the Institute.

The report quite frankly recognises that it has not been possible for the Institute to discharge its chief function of making contribution towards the demonstration of the utilization of scientific knowledge in the advancement of community health.

The chief reason is that there is no adequate provision of controlled community areas to experiment and exemplify the so far accepted principles of the science of public health and to afford facilities for students' participation and instruction in such activities of communal health. We entirely agree with Dr. John Grant of the Rockefeller Foundation, who is the present Director of the Institute and

author of the report under review, when he compares 'the controlled community fields in public health' to the provision of a teaching hospital to a medical college. The lack of such facilities, he deplores, has unfortunately not enabled the Institute to fulfil its functions as a teaching and research institute to its fullest extent.

The subjects for teaching and research are more or less arranged in accordance with the D. P. H. curriculum of the Calcutta University. The report frankly points to many defects in the organisation, and puts forth a strong and reasoned plea for the revision of the syllabus in such a way as to keep abreast of modern trends in the training of public health personnel, and to meet the special requirements of our country.

We have often pointed out in these columns the futility of mere academic standards of education in medicine and public health, without adapting them to the needs of the community and without adequate provision for practical demonstration and training of what is taught in the college galleries. We hope that the frank statements of the present Director will not be brushed aside by the Government as too idealistic or as too much of a financial burden to be undertaken in any near future. India really requires a first class institute of public health for central teaching and research, and though the times are not propitious for nation-building campaigns owing to the deluge of war everywhere, yet we trust that, when peace dawns, every effort would be made towards this end, slowly if necessary, quickly if possible.

II

The Institute coaches students for the following diplomas: D. P. H. of the Calcutta University, D. P. H. and Hy., and D. M. C. W. of the Faculty of Tropical Medicine and Hygiene. The number of students who annually obtain these diplomas seems to be too small to meet the needs of superior public health personnel for our country. This is probably due to strictness in admission or paucity of candidates seeking admission, and to limited facilities for instruction. We hope that the present director would go into the causes of such inordinately low admission, and make the Institute more attractive and easily accessible to students from all the provinces than what is apparently the case at present. We recognise, as Dr. Grant aptly points out, that the Central Institute should train for leadership, and that the rank and file should be increasingly trained in the provinces. But

THE DECEMBER ISSUE OF THE JOURNAL WILL BE A SYMPOSIUM ON DIABETES

until we reach that happy position, we think that the Central Institute should provide for larger admissions as an interim measure of necessity.

III

We understand that the medical licentiates holding the diplomas of the State Medical Faculties of the provinces are not admitted to the courses of D. P. H. and Hy., and D. M. C. W. of the Faculty of Tropical Medicine and Hygiene. This is altogether untenable, particularly because it denies all opportunities for higher public health education to a large number of registered practitioners. A teaching institute of this kind should not imitate the high-browed policy of the Universities but throw open its portals to all those who seek knowledge without the fetish of high academic standards of admission. We may direct the attention of the Director to the lucid observation of Sir John Parsons on medical education¹, and to the presidential address of Van Etten at the 91st annual session of the American Medical Association who believes that 'specialism has been overdone' in the matter of medical and public health education². Any system of post-graduate medical or public health education which is not available to the generality of the practitioners is a misuse of public finance and a mistake in principle and policy alike. If the medical licentiates are unfit, they will be weeded out by the examinations of this Institute. But to prejudge them on the single criterion of their medical qualification is quite unfair, and is only possible in a country where exceptions are accepted as rules, and rules as exceptions. When D. T. M. was first instituted by the Tropical School of Medicine, vested interests made every effort to exclude the licentiates from undergoing the course. But the then Director persuaded the Government otherwise and to the chagrin of all except the Director, the first place in the first D. T. M. results was won by a licentiate. Even in the last year's examination the Report of the School of Tropical Medicine for 1939 records that Dr. Wazir Chand, L. S. M. F. has scored the highest marks and obtained the Chunilal Bose Medal. Heavens have not fallen, and would not fall, if the licentiates are admitted freely to all the courses of post-graduate education in the Institute of Hygiene and Public Health. *Otherwise it would only produce bosses but not leaders of Public Health.*

¹ *Lancet*, March 2, 1940.

² *J. A. M. A.*, June 15, 1940.

IV

The programme of researches undertaken by the Institute during the year under report shows a remarkable pooling of subjects which are of immediate and topical interest. The studies are still incomplete, and it is therefore not possible or fair to subject their tentative conclusions to a reviewer's criticism. We shall therefore merely outline the trends of their research work on some of the more important subjects.

Epidemic Dropsy: The relation between the concentration of argemone oil in the mustard oil is now more clearly defined and approximately fixed. It has been found by experiments on cats, which are very susceptible to toxic oil, that less than 1% of argemone oil admixture does not produce clinical symptoms of the disease unless it be administered over prolonged periods; and that a percentage higher than this allows this toxic substance to act on the human system irrespective of the type of food taken, or of any dietetic deficiency. The chemical nature of this toxic substance is still under investigation, but quantitative and qualitative tests for the detection of argemone oil have been evolved and put to practical use.

Cholera: The serological variations of cholera vibrio have been a subject of incessant talk and investigation since the day when D' Herelle postulated with dogmatic certainty that the agglutinability of the cholera vibrio once lost cannot be regained and the state of non-agglutinability is irreversible. The work of the Institute on this aspect of the cholera problem is still inconclusive, and although a single cell culture of non-agglutinable vibrio-strain, obtained from a water source, yielded agglutinable vibrios or showed tendency towards specific agglutinability when passaged through flies, yet it by no means disproves the general validity of D' Herelle's thesis published a decade ago on the epidemiology and carrier problem of vibronic cholera.

Black-water fever: Seventeen cases of this fever are reported to have been treated successfully with a combination of cortin, ascorbic acid and glucose saline. The cortical hormone needed for this work was prepared in the Institute itself.

Nutritional studies: The assumption that most cases of defective vision are due to vitamin A deficiency is not sustained by the results of the work done in this Institute with the help of the visual photometer and in collaboration with the staff of the ophthalmic

department of the Medical College Hospitals, Calcutta. Nerve degeneration test of vitamin A deficiency is being investigated. With experiments on rats, it was found that lesions first appear in the medulla, near the crossing of the pyramidal tracts, as early as six weeks in vitamin A deficient diet—and before any eye symptoms appear. The assessment of the level of vitamin B₁ nutrition in man by chemical methods of examining urine has been fairly successful. An experiment on rats with vitamin C basal diet showed that dental structure is impaired in the course of two months.

These are but a few selections out of a variety of subjects investigated by the Institute. On the whole, it may be said without exaggeration that the Institute has fully justified its role as an outstanding research institution of public health in our country.

V

We really admire the bold conception of Dr. Grant, its present Director, regarding the future organization of the Institute as a teaching and research centre of our country and the frank manner in which he has laid bare the existing defects. We equally appreciate the co-operative spirit of the present workers of the Institute and their genius in the selection and direction of subjects for research in such a way as would satisfy both academic needs and public health utility. Our country and our profession may well be proud of this institute and of the original and not less useful work turned out by it every year.

Lowering of Insurance Fees

Dr. K. C. Misra, Bhabua, Shahadabed writes:

It is gratifying to note that some of my colleagues have responded to my appeal published in the *I. M. J. Supplement*, August, p 105 not to accept fees less than Rs. 6 for each case of medical examination for insurance.

In order that I may know definitely how many doctors have accepted my views, I would request each one of them personally to intimate to me this fact with his full address to enable me to take necessary action in the matter.

May I request again those doctors who are still accepting a fee of Rs. 5 not to do so, and to intimate the same to me for which I shall be obliged.

CURRENT COMMENTS

Calcium Therapy in Tuberculosis

The reputation of calcium therapy in tuberculosis is based on the belief that it augments the walling of tuberculous lesions from contiguous healthy area, and thereby arrests the disease process. But like every good thing, this is also overworked, and it is not uncommon for the practitioners to administer calcium parenterally for prolonged periods. We, therefore, appreciate the warning of Sengupta³ that this procedure is altogether unwarranted, not only because that hypocalcæmia is not known to accompany tuberculosis but also because calcium administration even for long time does by no means raise tissue or blood calcium beyond the usual limits. He suggests that the best form of calcium therapy is to augment the calcium content of the diet, reinforced by the administration of parathyroid extract with vitamin D when there is a demonstrable hypocalcæmia. The blood calcium (9 to 11 mg.) represents the optimum or even the maximum maintainable value, and it would therefore be unreasonable to push on calcium, parenterally or orally, in the belief that it will help calcification of lesions. There is neither clinical nor scientific proof for this assumption, and excessive calcium therapy, particularly in the form of drugs, is both futile and expensive.

Routes of Drug Administration

Administration of drugs by parenteral routes was introduced into medical practice 50 years ago, and this method gave scope for medication with quick and tangible results when the oral route was not available for various reasons. In course of time it broke all tissue barriers of the body and any drug can now be transported into circulation through the small intestines, sublingual tissues, the rectal mucous membrane, the subcutaneous tissue, the muscle, the nasal mucosa, the vaginal mucous membrane and the spinal canal, and even directly into circulation through the veins, the arteries and the heart. That such methods have been of incalculable advantage is borne out by experience, but there is no doubt that they have been much abused during recent years. The physician and his patient have been overwhelmed by the injection complex, and we have now reached a stage when the patient would not believe his doctor if the latter advises against injection. Harry Gold⁴ thinks that if one departs from the

³ *Cal. Med. Jr.*, June 1940, p. 387.

⁴ *Jr. A. M. A.*, April 13, 1940, p. 1447.

oral administration of a drug, one ought to have pretty good reasons for doing so, and he classifies the indications for parenteral route as follows:

- (1) When there is unconsciousness, vomiting or such other causes.
- (2) When the drug could be given by no other method than parenterally: examples—epinephrin in asthma; bismuth and salvarsan in syphilis; emetine in amebic dysentery; morphia.

He also refers to the very widespread practice of giving common drugs by injection when the effective, less dangerous and less costly oral route is available. "Not a vestige of evidence" he writes "exists to justify the courses of injections of iron, cocodylate, iodides, bromides, salicylates and a host of other agents so frequently given. A very large proprietary industry thrives on the doctor's predilection for the injection of agents that can satisfactorily be given by mouth". This advice is very timely and let us profit by it.

End of Honorary Staff System in New Zealand

The Wellington correspondent of the *Br. Med. Jour.*⁵ reports the abolition of the honorary medical staff in New Zealand hospital, and its replacement by fully paid and partly paid staff. The reason is that the New Zealand voluntary hospitals have been mostly converted into public hospitals, as the voluntary basis of maintaining them was found totally inadequate, particularly in view of the fact that they were used even by people who can afford to enter a private hospital or engage a private physician. Honorary system flourished for a time in parts of Europe in the belief that hospitals are the doctor's workshop and that hospital practice and private practice are complementary and beneficial to both in raising the standard of practice. This system, writes the correspondent, has gone inevitably but not without regret. We have all along been vehemently opposing the introduction and extension of honorary staffing of public hospitals in our country on the valid ground that while it is permissible in voluntary hospitals run on public subscriptions it is untenable in public hospitals run on public taxes. It is untenable for various other reasons also, which have been frequently discussed in these columns, and we merely quote New Zealand's case as an additional proof of the unsuitability of honorary system of medical management of hospitals in modern times when the trend is for a sort of socialized medicine adapted to the prevailing social,

5 June 8, 1940, p. 950

economic and political condition of a country. The two distressing conditions in our country are:

- (1) the acute and ever growing unemployment of our medical men and (2) the need for more hospitals in rural areas.

The latter is an effective remedy for the former. The Government often pleads financial inability to raise more hospitals, but if it could only realise what Van Etten said about such hospitals at the recent session of the Am. Med. Assn.⁶, that they do not need elaborate buildings expensively furnished but clean places where sick people may be sheltered or cared for, the financial plea could be overcome by wise and economical planning. Our Government is not in that mood at present, and we do not know when that good mood would dawn on it.

Treatment of Traumatic Shock

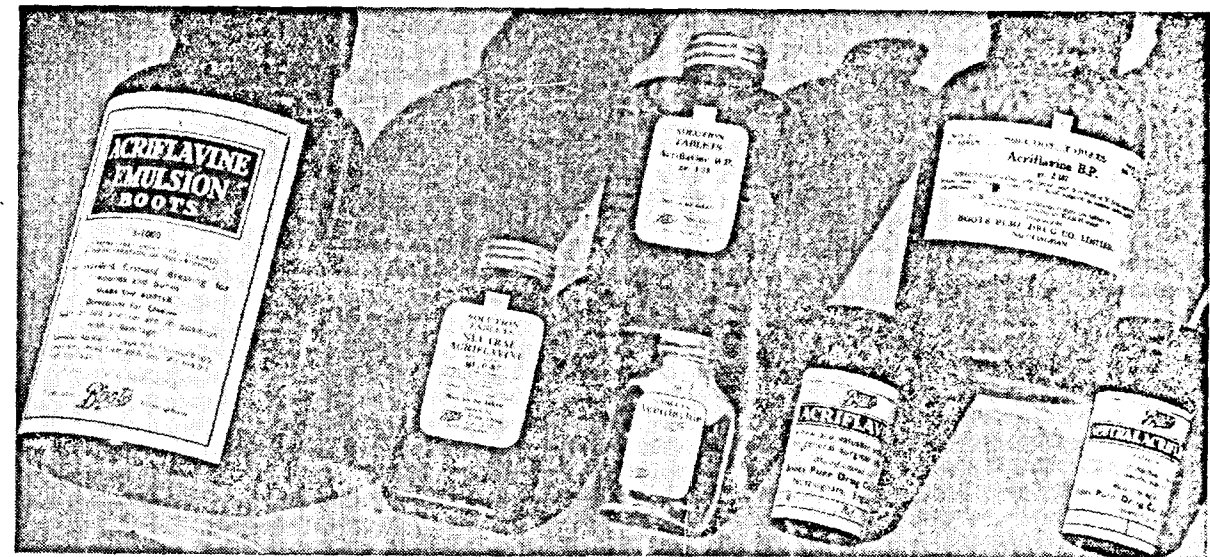
Best and Solandt⁷ produced shock in experimental animals by histamine administration, by trauma with extensive haemorrhage and by trauma with little or no haemorrhage. They treated these three types of shock successfully by the intravenous administration of pituitrin and concentrated blood serum. When the B.P. is between 25 and 50 mm. Hg they suggest that the best form of treatment is the intravenous administration of a single dose of pituitrin followed by an adequate quantity of concentrated blood serum, and if the shock level of B. P. is very low adrenalin may prove more effective than pituitrin. Their experiments indicate also that the injection of a hypertonic fluid is more beneficial than an isotonic one, and that if the B. P. is relatively high the concentrated serum alone may be quite effective. Since this method of treatment effectively restores the lost vascular tone and blood volume in a patient with traumatic shock, we think their suggestions deserve an extended clinical trial.

Ahmedabad Conference

Elsewhere, in the Supplement to this Issue, our readers would find two appeals by the General Secretary of the Conference for scientific papers and for a more comprehensive reception committee membership from within the vast area of the Bombay Province. We urge for an enthusiastic response to these appeals. The first is necessary to keep up the reputation and the utility of the Association in the matter of its professional contribution, and it is the duty of every member to enable the scientific section to fulfil its function to the

6 J. A. M. A., June 15, 1940, p. 2399

7 Br. Med. Jr., May 18, 1940, p. 4141.

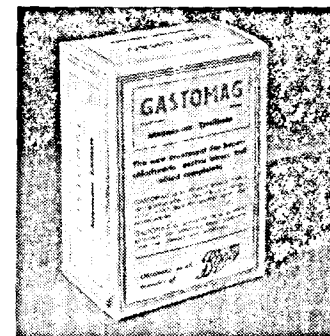


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P. H. Commissioner's Report

(Continued from previous issue)

CONTROLLING SPREAD OF DISEASE

Control of the spread of infection between the different countries is effected partly by the publication of information relating to the prevalence of epidemic diseases in these countries and partly through the working of two International Sanitary Conventions for sea and air traffic, under the provisions of which the contracting governments are required to carry out certain duties in order to prevent the transference of infectious disease from one country to another.

The Eastern Bureau of the League at Singapore is responsible for collecting epidemiological information from the far Eastern countries and for broadcasting it in a series of broadcasts every week for the benefit of shipping and the health authorities of these countries. For some years India has been participating in this exchange of information and the Public Health Commissioner with the Government of India sends to the Director of the Singapore Bureau a weekly telegram containing figures for the prevalence of epidemic diseases in the sea ports and air-ports of India and in the provinces of British India. In addition the Public Health Commissioner issues a series of weekly and other periodical returns of vital statistics, which are widely distributed to health authorities in India and abroad. In order that the information

fullest extent. The second is necessary, because money is needed to make the Conference a success. For so big a province like Bombay with nearly 5000 medical licentiates, it would not be a big problem to supply the conference with all the "sinews of war", the first and foremost of which is money, then intellectual, moral and physical help, according to each one's capacity. The conference which was held at Bombay during 1933 was acknowledged by all as a great success, and this year Ahmedabad hopes to emulate the example of its sister city. Sind, now separated from Bombay province, lies contiguous with Guzarat, and she too would no doubt contribute its best to the success of this year's session. In Ahmedabad, we have two of our oldest leaders and founders of our Association: Drs. Joseph Benjamin and Jamiatram B. Desai. They are too good to find fault with us, but that should be no excuse for our complaisant attitude in the matter. Each and every member of the profession in Bombay and elsewhere should help them in all possible ways. That would be a fitting monument of respect and honour to these two veterans of our Association, a kind of help which will please them and profit us alike.

supplied in these returns may bear an all-India character as far as is practicable arrangements were made in 1939 for the submission of these figures by Indian States.

INTERNATIONAL CONVENTIONS

The Government of India have not yet ratified the International Sanitary Conventions for controlling sea and air traffic but have been working towards the establishment of those conditions which are essential before ratification can be effected. The issue of the Indian Port Health Rules in 1938 and of the Indian Aircraft (Public Health) Rules in 1940 have provided the Central Health Authority with the necessary powers for the control of the introduction into India and export from this country of infectious disease either by sea or by air.

Moreover, the land and sea air-ports at Karachi and the seaplane bases at Bally Bridge and Dum Dum near Calcutta have now been properly equipped for the control of transport of infection by air. It is anticipated that a central cadre of Port Health Officers and Assistant Port Health Officers will be formed at an early date and that the Government of India will then be in a position to ratify the two Sanitary Conventions.

KEEPING OUT YELLOW FEVER

As regards yellow fever, the greatest source of danger is air traffic passing through the infected regions of Africa. Air traffic from Africa to India passes through the Anglo-Egyptian Sudan northwards to Europe and eastwards to India. The Sudan occupies, therefore, a central position and constitutes the main line of defence against the advance of yellow fever to Europe and Asia.

The Government of India have taken additional precautions to prevent the entry of infection into this country. Under the Government Rules, any person who has been in a yellow fever area is forbidden to enter British India until nine days have elapsed from the last date on which he was possibly exposed to infection, unless he has previously been inoculated against the disease or protected by a previous attack. Further, the entry into India of any aircraft which has alighted in or started from a yellow fever infected area is prohibited, unless the aircraft has been disinfected by the health authorities at Alexandria or Cairo and has a certificate to that effect.

The Government of India are fully alive to the danger of the introduction of yellow fever through air traffic and are taking effective precautionary measures against this contingency.

In the major sea-ports of India, outgoing and incoming vessels with international traffic are inspected by the staff of the respective port health departments. Special attention is paid to pilgrim traffic, all passengers being protected by vaccination against smallpox and cholera before embarkation. Although a total of over 19,000 pilgrims disembarked at Karachi and Bombay on the return journey during the year under review, not a single case of cholera or smallpox was reported among them.

LEAGUE OF NATIONS ACTIVITIES

In 1939 the meetings of the Permanent Committee of the Office International d'Hygiene Publique, Paris, and of the Health Committee of the League at Geneva were attended by Colonel Sir Alexander Russell, who was previously Public Health Commissioner with the Government of India.

The Health Committee at Geneva reviews at its meetings the work carried out under the auspices of the Health Organisation of the League of Nations. A three-year plan extending up to the end of 1939 was in progress, which included a wide variety of subjects associated with the health of the individual and of the community. In 1938-39 these activities included studies in malaria, cancer, leprosy, bilharziasis and rabies, medico-social questions such as rural hygiene, nutrition, housing and physical education, epidemiological intelligence and other health statistics, standardisation of biological products, a campaign against narcotic drugs, unification of pharmacopoeia and an anti-cholera campaign in China.

BASES OF NUTRITION

Many of these studies are carried out by special committees of experts from different countries. Examples are the reports of the Technical Commission on Nutrition and of the Housing Commission. The Technical Commission on Nutrition has accomplished an important task by formulating the physiological bases of human nutrition.

A point of special importance to India is that, at a meeting of a special Committee of the Technical Commission in August 1938, it was decided that collaboration should be extended to the far Eastern countries in order to collect further information regarding the dietary habits, the incidence of diseases connected with dietary habits and the value of local foods. Dr. W. R. Aykroyd, Director, of the Nutrition Research Laboratories, Coonoor, was present at the meeting and it has since been decided that the Coonoor Laboratory should act as liaison centre between the Technical Commission and the various institutions engaged in nutrition work in Eastern countries.

MEDICAL RESEARCH IN 1939

"A long record of successful achievement in medical research stands to India's credit, particularly in the field of tropical disease" says the Public Health Commissioner with the Government of India in his Preliminary Report for the year 1939.

"As early as 1877", he points out, "Vandyke Carter discovered the causative organism of relapsing fever. Later came the demonstration by Ronald Ross of the role of the anopheline mosquito in the transmission of malaria. The monumental work of the Indian Plague Commission established the fundamental facts on which our present preventive campaign against the disease is based. In regard to Kala-azar, the causative organism was discovered by workers in India and an effective treatment was also elaborated in this country,

which has converted a 95 per cent fatality rate into an equally high rate of recovery. The latest contribution of Indian workers to medical research has been in connection with the nature of the true cholera organism, and this work has received warm appreciation from the Cholera Commission of the International Public Health Office at Paris."

While medical research during 1939 covered a wide variety of subjects, some of the more important among them were nutrition, maternal mortality, indigenous drugs, epidemic dropsy and endemic fluorosis in certain parts of Madras Presidency.

NUTRITION RESEARCH

There has been a growing interest in problems of nutrition among the public and an increasing desire to apply the knowledge to the practical question of improving the existing diets within the means of the people.

This emphasis on the immediate application of the available information for the benefit of the country has largely influenced the direction in which nutrition research has developed in India in recent years. The nutrition Research Laboratories at Coonoor, maintained by the Indian Research Fund Association, have taken a prominent part in these investigations. Rice as the staple food of a large section of the population received considerable attention in 1939.

Work on other foodstuffs include the determination of the vitamin A content of a large number of samples of fish oils. Shark liver oil has been found to be exceptionally potent and this substance has considerable possibilities as a cheap source of vitamin A.

The vitamin C content of the *amla* or Indian gooseberry, a very rich source of this vitamin, has been extensively studied by chemical and biological methods, special attention being given to the effect of storage and various methods of preparation and conservation.

SERVICE OF DIETETIC HABITS

During the past few years surveys of the dietetic habits of groups of people in different parts of India have been in progress and more than 50 such surveys have now been completed. One important observation which simplifies the approach to the practical nutrition problems is that the poor rice-eaters' diet appears to be uniform all over India. The surveys clearly indicate the defects of Indian diets and the changes which are necessary to improve them. The results obtained have now been embodied in a publication by the Indian Research Fund Association which should prove to be of considerable value to the authorities responsible for formulating agricultural policy.

INDIGENOUS DRUGS

Investigations into indigenous drugs have been in progress at the School of Tropical Medicine at Calcutta, for nearly 20 years. From 1926 onwards the research work done on this subject was

increased in scope by a grant from the Indian Research Fund Association, the grant being increased considerably in amount as the work developed on different lines. In 1935 the Imperial Council of Agricultural Research appreciated the importance of the work and also gave a grant for an investigation of the poisonous plants and food poisons, which are a menace to man and livestock in India.

An important development is the organisation of a herbarium of medicinal plants. The herbarium now represents about two-thirds of the total species of known medicinal and poisonous plants in India.

Another useful line of work under the Indigenous Drugs Enquiry was the elaboration of a method of treatment for drugs addiction. A method of treatment for opium and morphine habits by the administration of lecithin and glucose was worked out by Colonel R. N. Chopra and his co-workers in the Calcutta School of Tropical Medicine. This method was further improved in 1939 in connection with a scheme for the mass treatment of opium addicts in Assam. The results are reported to be satisfactory.

MATERNAL MORTALITY IN INDIA

As little information was available regarding the causes of maternal morbidity and mortality in India, the Indian Research Fund Association has, during the past few years, given considerable grants for the study of various aspects of this problem.

Maternal mortality enquiries have been carried out in Calcutta and Bombay and another was in progress in 1939 in certain of the urban and rural areas of Delhi Province. As in other countries, puerperal sepsis appears to rank as the highest among the causes of maternal mortality.

Anaemia associated with pregnancy, ranks as the next highest. In regard to eclampsia and toxæmias of pregnancy their incidence appears to differ geographically. For instance, they are relatively rarer in North-Eastern India than in the southern and eastern parts of the country. On the other hand, osteomalacia, producing conditions causing difficult labour, appears to have a definitely higher incidence in the Punjab, Kashmir and North-Western India generally.

Other investigations relating to maternal morbidity included a study of the toxæmias of pregnancy at the Seth G. S. Medical College, Bombay, enquiries into the anaemia of women in Assam and in Calcutta, and a study of the biochemical and dietetic factors concerned in the toxæmias of pregnancy at the King Edward Medical College, Lahore.

EPIDEMIC DROPSY

Epidemic dropsy is a disease which is widely prevalent in north-eastern India, for instance, in Assam, Bengal, Bihar, Orissa and the eastern parts of the United Provinces. The cause of the disease was for long a mystery in spite of considerable research done on the subject.

Recently, however, it has been shown through epidemiological studies and the results of human

feeding experiments, that the accidental contamination of mustard seed with the seed of a weed, *Argemone mexicana*, which grows wild in the fields where the mustard plants is grown, seems to be associated with the production of this disease.

The presence of argemone oil in mustard oil can be demonstrated by a colour change following the addition of nitric acid to the suspected oil, the intensity of colour giving an indication of the proportion of argemone to mustard oil in the mixture. Thus, from the point of view of epidemic dropsy as a public health problem, a considerable advance appears to have been made, because suspected oils can easily be tested and prevented from being sold to the public.

Further, it has been shown by experiments on animals, that, when argemone oil is heated till it "fumes" well the toxicity of the oil becomes reduced to that of bland oils, like olive oil or liquid paraffin, although the heated oil still gives the positive nitric test.

If these results obtained on animals are confirmed by observations in man, then the heating of the oil till it "fumes" would be a simple method of controlling the disease. This is particularly important in view of the custom prevalent in Bengal of using raw untreated oil in food and for anointing the body.

ENDEMIC FLUOROSIS

On a report in April 1936 from the Health Officer of Nellore district in Madras Presidency, regarding the wide prevalence of a disease characterised by a definite train of symptoms such as stiffness and pain in the spinal region and in various joints, a detailed study of this condition was carried out by the health authorities of that province and it was shown to be one of chronic fluorine intoxication resulting from the continued use of water containing fluorides.

The problem is two-fold, namely, the prevalence of a comparatively wide geographical area of a dental condition, commonly known as "mottled enamel", and the occurrence in a restricted area, of severe manifestations of chronic fluorine intoxication involving the spine, joints and ligaments to which the name of endemic fluorosis has been given.

The presence of fluorides in drinking water supplies has been demonstrated over a fairly wide area in Madras, although sufficient work has not yet been done to de-limit the fluoride areas in the province. The presence of mottled enamel in children has, however, been observed in Chittoor and even as far south as Tinnevely and Cape Comorin, thus suggesting a wide distribution of fluorides in drinking water supplies.

During 1939 detailed house-to-house surveys were carried out in certain area to ascertain the incidence of the condition with special reference to the customs, dietetic habits, length of residence in the affected areas and occupation of the inhabitants. These surveys have yielded valuable results.

EFFECT OF BALANCED DIET

As regards dietetic factors, the survey revealed certain important facts, namely, that even with a high fluoride content of the water used for drinking and cooking, the incidence and severity of chronic fluorine intoxication is greatly influenced for the better by a well-balanced diet; that even with a comparatively lower fluorine content in the water, an insufficiency of vitamin C and a high calcium value in the diet results in a higher and more severe incidence of fluorine intoxication, even the younger adult age groups becoming affected; and that in the absence of fluorides in the water, these dietetic deficiencies produce neither mottling of enamel nor bone manifestations.

Laboratory experiments on monkeys have confirmed these findings of the field survey. Two factors appears to be important in the production of fluorine intoxication, viz., the presence of fluorides in toxic doses and an unbalanced diet with a pronounced deficiency of vitamin C.

REMOVAL OF FLUORIDES

Research work on the removal of fluorides from water has been carried out at the King Institute, Guindy. No method has so far been evolved for removing these salts from natural waters at what may be considered a cheap cost or without elaborate apparatus not readily applicable under rural conditions. An attempt was, therefore, made to see whether a fluoride-free water could be obtained at depths greater than 30 to 35 feet, the normal depth of fluoride-bearing waters in Nellore district.

A borehole carried to a depth of 300 feet yielded water having a high fluoride content of 3.5 parts per million. It would, therefore, appear that the practical solution of the problem of endemic fluorosis should be sought by remedying the nutritional defects of the population.

Report of the All-India Hygiene Institute, 1939

The annual report of the All-India Institute of Hygiene and Public Health for the year 1939 reviews modern trends in the training of public health officers.

These trends are based upon the marked amplification that has occurred in the past 20 years in the concept of public health, originally limited in concern with the prevention of infectious diseases and in the control of environment.

Current thought is increasingly, throughout the world, attaching a much wider significance to the functions of public health. These now imply a study and control of all factors which affect the health of the community. Medical measures alone are insufficient to ensure that the community has or attains a normal standard of health.

The physical effects of occupation and of housing, the nutritive value of the food available; social customs, the educated consciousness of the

community to attain a normal standard of health; economic factors; these are some of the considerations which have to be studied in addition to the application of purely medical measures. Even the previous negative outlook of the purely medical measures is now increasingly becoming substituted by positive measures for the maintenance of health.

NEED FOR "CONTROLLED AREAS"

The function of investigation and training in public health is described as "the development of the most efficient and practicable methods of scientific medical protection through organized community effort and the provision of opportunity for students to *train themselves* in the principles and application of those principles and methods".

For the provision of opportunity to the students to train themselves and for a study of all the factors covered by the term public health, the necessity for the inauguration of "controlled areas (to permit exemplification of methods) of a size sufficient to provide qualitative and quantitative facilities for students' self-participation" is emphasised. "The principles determining the controlled community fields in public health correspond exactly to those governing the provision of a teaching hospital to a medical college presenting investigative facilities and quality and quantity standards for students' self-participation".

Research in public health has been defined as "the development of the most efficient and practicable methods of scientific medical protection through organised community effort". Here again the necessity for controlled community areas is emphasised and the deficiency in the present organisation of the Institute in this respect is pointed out. "The absence of controlled community fields places the Institute under the same disabilities as would be faced by a department of clinical medicine in undertaking research in the absence of a teaching hospital..... The result has been that it has not been possible for the Institute to discharge its chief function of making contribution towards the demonstration of the *utilisation* of scientific knowledge in the advancement of community health".

REQUIREMENTS IN INDIA

Having defined the primary function and scope of an Institute of Hygiene and Public Health in the matter of teaching and research, the report goes on to mention the deficiencies in the present organisation of the Institute and in the curriculum and training. Special regard has been paid to the definite requirements of this country in determining the line of reorganisation.

"Public Health", the report points out, "is organised community effort for medical protection, and, as such, is social medicine, the utilisation of which must be different under varying social-economic conditions even although the principles derived chiefly from medical biology are universally similar. Consequently, it is essential that organisation for instruction and research must vary from country to country during the levelling up process. Malaria

must be afforded an importance in India that would be uncalled for in England. Health insurance cannot be given the same prominence in China as in Germany".

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FOREIGN MEDICAL NEWS

Our U. S. A. Letter

(From Our New York Correspondent)

HISTAMINE AND HISTAMINASE

Histamine and histaminase are the objects of widespread research work in the country. While Abel's researches indicated the wide distribution of histamine in biological material, the base was first prepared in crystalline form from perfectly fresh tissue by Best, Dale, Dudley and Thorpe. Histamine is destroyed by an enzyme system, histaminase (Best and McHenry) which is found in various tissues, particularly the kidney and small intestine.

Patients who suffered excruciating headaches for years were relieved by the administration of histamine, according to a report of Bayard T. Horton of the Mayo Clinic, Rochester, Minn. before the convention of the American Medical Association. The manner in which the patients responded to the histamine (subcutaneous administration of 0.5 mg. of histamine), he said, was spectacular and suggested that this chemical was "as specific for this condition as insulin is in the treatment of diabetes." The recently differentiated form of headache is so excruciating that the victims sometimes roll and bang their heads on the floor in an effort to counteract the pain; it occurred with clocklike regularity, particularly at night. It was a constant, burning, boring type of pain which involved the eye, the temple, the neck and often the face. The condition was first recognized in the Mayo Clinic in 1937. It occurs on one side of the head, last usually less than an hour at a time, and is frequently eased by the sitting or erect posture. Associated with this "vascular" headache are a profuse watering of the eye on the side affected, stuffiness of the nostril, a sensation of heat in the area of pain, and sometimes swelling of the blood vessels on that side. It appears to follow the course of the artery that runs through the neck and side of the head. Pressure on this artery would relieve the pain. Histaminase, given orally, promises to be an excellent method of treatment, according to Horton.

During the past few years there have been an increasing number of reports concerning the successful treatment of chronic urticaria with histamine given subcutaneously and by iontophoresis. In a series, reported by Alexander and Elliott, St. Louis, histamine has been administered intravenously. 14 patients with chronic intractable urticaria were given this drug by intravenous injection, and 11 secured prompt and complete remission of symptoms. Relapses of three cases out of the eleven occurred but further injections again were successful.

CORONARY ATTACKS IN SLEEP

Studies on more than 1,600 cases of coronary occlusion show that more heart attacks due to this condition occur when a person is asleep or at rest than while active, it was reported by A. M. Master Cardiac Clinic, Mount Sinai Hospital, New York. The determinations that neither exertion nor injury cause coronary occlusion are of importance, since coronary artery disease is probably the largest single cause of death in this country. Approximately 500,000 to 1,000,000 people suffer a coronary occlusion annually.

Of the heart attacks due to coronary occlusion, Dr. Master reported, 52.5 per cent occurred during sleep or rest, 21 per cent during mild routine activity, 15.5 per cent while walking at an ordinary pace and 9 per cent during moderate activity. Only 2 per cent were associated with unusual activity. If we consider these percentages in relation to the portion of the day spent in each of the activities mentioned, we find that they correspond quite closely. For example, the majority of people spend at least 40 to 50 per cent of the day at rest and asleep. Therefore the onset of the attack was not influenced by the activity or lack of activity of the patient at the time.

In tabulating the occupations of the patients, it was found that all types were represented. Persons leading sedentary lives were as common as heavy labourers—36 per cent were manual workers and labourers, 5.5 per cent white-collar and office workers, 8.5 per cent professional persons, 11 per cent business men, 20 per cent housewives and 9.5 per cent were retired. These percentages paralleled the occupational distribution of the general population in New York City. Thus, according to Master, occupation, whether strenuous or not, did not play a role in coronary occlusion.

ROUTE OF ADMINISTRATION OF CARDIAC DRUGS

In a report of conferences by the members of the Department of Pharmacology and of Medicine of Cornell University, Medical College and the New York Hospital, H. Gold and C. Eggleston give a review of the routes of administration of cardiac drugs. The digitalis group heads the list. Here there is no question that the route of choice, the route par excellence, is the oral route. We have to consider a number of problems: the availability of the drug, its uniformity, potency and absorbability, uniformity and rate of absorption, duration of action, the cost, the side actions of the drug and the ease of administration. Practically all of these desiderata can be met in the case of digitalis by the simplest representative of the group, the powdered leaf. It can be administered in tablet form or in capsules or as powders although that is inconvenient. Absorption is complete in about six hours. Nausea or vomiting usually can be avoided by administering the powdered leaf by rectum in the form of a suppository or as the galenic preparations of the powdered leaf, such as the tincture. We may also use some of the newer purified glucosides of digitalis or of its congeners.

The subcutaneous route should never be employed because the digitalis bodies are irritating to the subcutaneous tissues and cause inflammation and intense pain.

The intramuscular administration of digitalis bodies is an available route but one which is frequently abused, in Eggleston's opinion. Occasionally for unconscious patients it may be desirable to resort to intramuscular injection. Intravenous administration, however, constitutes a method of great value in a very limited number of cases. Most trustworthy is crystalline strophanthin gratus (ouabain).

The various members of the purine family, theophylline, theobromine with sodium salicylate, theocaine and the like are all best administered by mouth. None of these are too well borne by the gastrointestinal tract. Theophylline with ethylene diamine is occasionally of some value intravenously for the purpose of checking Cheyne-Stokes respiration or cardiac asthma. The mercurials are best administered intravenously to avoid their local irritant actions.

The nitrites should be given orally or by inhalation. If orally, the best is glyceryl trinitrate and its administration is best under the tongue, whence it is absorbed with rapidity. Amylnitrite is administered by inhalation. Quinine and quinine are ordinarily most conveniently administered orally. They may on occasion be administered intravenously but very slowly and in very dilute solution.

Morphine is the most important sedative for the cardiac patient, it should be administered subcutaneously. Hydrated chloral is given orally, while the bromides and the soluble barbiturates may both be administered intramuscularly. Paraldehyde should be given by rectum or by mouth. Acetyl-beta-methylcholine is administered subcutaneously and is resorted to only as an emergency remedy for the checking of a paroxysm of auricular tachycardia.

Our Canadian Letter

(From Our Own Correspondent)

ACTINOMYCOSIS IN CANADA

H. S. Morton, Montreal, pointed out that because actinomycosis is rarely diagnosed, many cases are missed and an understanding of the disease lags far behind that of other chronic granulomas. Until a universally accepted bacteriologic classification is available clinicians will have to be content with the presence or absence of the ray fungus and call the disease actinomycosis. The appropriate drug or vaccine will have to be determined in each individual case. The many forms of treatment testify to the inefficiency of any one type of therapy. Of the drugs, potassium iodide in moderate to large doses, i. e. from 150 to 300 grains (9.7 to 19.5 gm.) daily, is still the best therapy, according to Morton. Sulfanilamide used in two cases showed definite improvement in one but there was no observable effect in the other. This corresponds with other reports, and the con-

fliting accounts may perhaps be explained by peculiarities of the strain as well as by the concomitant infection present. Surgical treatment is imperative in nearly all cases. When complete excision is possible it should be carried out; otherwise incision and drainage of all abscesses is indicated, combined with such other treatment as may seem best suited to the case.

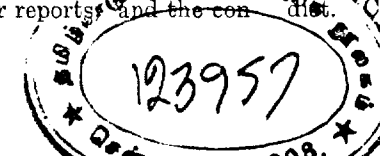
HEPARIN AND THROMBOSIS

The isolation of relatively pure heparin has led to an extensive examination of the relationship of this anticoagulant to the problem of thrombosis, particularly, by Best (insulin-Nobel Prize winner) and his collaborators at Toronto. According to an editorial of the *Journal of the American Medical Association* it was demonstrated that heparin greatly inhibits the formation of thrombi produced in animals by mechanical or chemical trauma to the intima of large exposed veins. The ability to produce coronary thrombosis in dogs by means of sodium ricinoleate was also greatly diminished in heparinized animals, as compared to control dogs which did not receive heparin. These successful experiments have stimulated the use of pure heparin in clinical cases of thrombosis and remarkable results have been reported at the Toronto General Hospital and in Stockholm (Heparin so far is not generally available for clinical use). Heparin has been employed postoperatively with a high degree of success; pulmonary embolism or thrombophlebitis was not observed in instances in which these complications might ordinarily be expected. Although it is somewhat difficult to evaluate postoperative treatment for the prevention of thrombosis, more direct evidence of the value of heparin may be obtained in the treatment of an existent thrombus. In recent preliminary publications, suggestions have been made for the use of intravenous heparin drip, in conjunction with sulfapyridine, in the treatment of subacute bacterial endocarditis. The prevention of embolus formation greatly diminishes the nidus for growth of bacteria and vegetations.

Experiences in heparin administration have been reported by McClure and Lam. Eight patients with postoperative pulmonary embolism have been treated by general heparinization. All recovered, but one required a second course of heparin when a second infarction occurred five days after the first course was ended. Heparin was used with gratifying results in one case of embolectomy of the popliteal artery and one case of probable thrombosis of the posterior tibial artery. The purified heparin that is available at the present time is nontoxic when given intravenously. It is economically feasible to use heparin in the treatment of selected cases.

RESEARCH ON NUTRITIONAL VALUES

Tosdall (Toronto) and his collaborators compared the nutritional value of spinach as prepared for consumption with that available in canned tomatoes, with particular respect to the child's diet. Cooked spinach and canned tomatoes are



INDIAN MEDICAL NEWS

(From Our Own Correspondent)

INDIAN RESEARCH FUND ASSOCIATION

Since it came into existence in 1911, the Indian Research Fund Association has devoted increasing attention to the study of nutritional problems and to the practical application of the fruits of such study to the improvement of the diet of the people, states the Report of Scientific Advisory Board of the Association for 1939. During the year under review, nutrition research has proceeded on the lines of surveys of the state of nutrition and the dietary habits of the people in various parts of the country, the analyses of the common foodstuffs of India for ascertaining their nutritional value, research into various nutritional problems, including that of discovering cheap substitutes in order to meet recognised deficiencies in Indian diets, the training of health personnel in nutrition and educational work in order to encourage the application of the fruits of research for improving the diet of the people.

Rice, as the staple diet in many parts of India, received special attention during the year. A memoir entitled "The Rice Problem in India", which deals with different aspects of the subject, has been recently published by the Indian Research Fund Association.

The results of over 50 diet surveys in different parts of the country have been embodied in a special publication by this Association and this should prove to be of value to provincial Departments of Agriculture in shaping agricultural policy in order to meet existing diet deficiencies.

TRAINING OF PERSONNEL

The training of health personnel in nutrition work, which was started in 1937, continued in

approximately of equal value as a source of iron for both the prevention and the cure of nutritional anaemia—in spite of the fact that the total iron content of cooked spinach is more than three times greater than that of canned tomatoes. Spinach, although it contains 0.19 per cent of calcium—an amount which is twenty-times greater than that found in tomatoes—actually tends to produce a negative calcium balance. On the other hand, the retention of the calcium in cooked tomatoes is excellent. The vitamin A content, according to the authors, of cooked spinach is approximately four-times as great as the vitamin A content of canned tomatoes. The vitamin B₁ content of cooked spinach is approximately one half that of cooked tomatoes. The vitamin C content of cooked spinach is less than one-fourth that of canned tomatoes. The vitamin D content of cooked spinach and of canned tomatoes is negligible. Sufficient prominence has not been given, as Tisdall and his collaborators point out in their report, to the nutritional value of canned tomatoes.

1939 and seventeen workers from various provinces and Indian States attended a three-months' course.

A new edition of Health Bulletin No. 23, entitled "The Nutritive Value of Indian foods and Planning of Satisfactory Diets" was issued during the year and a nutrition museum was established at the Nutrition Research Laboratories at Coonoor, which is maintained by the Indian Research Fund Association.

Researches into different nutritional problems involved investigations in many centres, including medical colleges in Lucknow and Bombay, the departments of Chemistry in Dacca and Calcutta Universities, the All-India Institute of Hygiene and Public Health, Calcutta, the Nutrition Research Laboratories, Coonoor, and the Imperial Agricultural Research Institute, New Delhi.

The Malaria Institute of India took a leading part in directing anti-malarial operations and research on scientific lines. The Director and other officers, through tours and by conferences with civil and railway health authorities, helped to place the expert services of the Institute at the disposal of these authorities for the solution of their malaria problems.

The annual class for training in malaria for medical officers from different parts of the country was carried out at Delhi by the Institute and 24 medical men attended this course. A considerable amount of laboratory research was carried out.

A new Health Bulletin entitled "Lectures on Malaria" was prepared and a new edition of the practical entomological course for medical officers was published.

TRIALS OF PLAGUE SERUM

Plague research is mainly centred at the Haffkine Institute, Bombay. At the Cumbum Valley in Madras Presidency various field studies in regard to the control of epidemic outbreaks of the disease have also been in progress for the past eight or nine years.

At the Haffkine Institute research work on an anti-plague vaccine with maximum protective power was in progress. A serum for the treatment of plague patients had been prepared by this Institute and had undergone limited trials with encouraging results, during certain epidemic outbreaks of the disease.

At Cumbum Valley the research consisted mainly of work on the prevention of plague by the use of cyanogas for rat destruction in rat holes and by the reduction of rat infestation in houses through improved construction.

An investigation carried out into the existence of varying degrees of disability among the population of certain areas in Madras Presidency as the result of high concentrations of fluorides in the drinking water supplies of these areas.

A considerable amount of research by fields and laboratory studies into leprosy was in progress during the year. It has been shown that, in respect of chronic bone and nerve pain associated with leprosy, the adaption of a wheat diet by the

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patient affords him considerable relief. Another important finding is that the administration of skimmed milk to children with the more severe forms of leprosy appears to help towards a cure.

The enquiries supported by grants from the Indian Research Fund Association covered a wide field including most of the major diseases affecting the health of the people of the country. A total sum of nearly Rs. 4,76,000 was distributed during 1939 in the form of grants to different enquiries conducted under the auspices of the Association.

CENTRAL BOARD OF INDIAN MEDICINE RECONSTITUTION PROPOSALS

The rules for the reconstitution of the Central Board of Indian Medicine as revised with reference to the amendments proposed by the Principal of Indian Medical School, and approved by the Government, are published by the Government of Madras.

The rule as to the constitution of the Board has been revised as follows:

(1) A Central Board of Indian Medicine (hereinafter called the Board) shall be established for the Province of Madras and shall consist of fifteen members including a President, and a Vice-President to be appointed in the following manner:

(a) Two members elected from among themselves by registered practitioners of Indian Medicine holding diplomas granted by the Board of Examiners in Indian Medicine appointed by the Government of Madras (hereinafter referred to as the Government).

(b) One member elected from among themselves by registered practitioners of Indian Medicine who are either:—

(i) holders of diplomas in Indian Medicine granted by or under the authority of the Government of India or a Provincial Government (other than the Government of Madras), or an Indian state; or

(ii) holders of diplomas in Indian Medicine granted by any University or examining body in India and recognized by the Government in this behalf; or

(iii) holders of the Government titles, Vaidya Ratna and Shifa-ul-Mulk, or any other title recognised by the Government as equivalent thereto.

(c) Five members elected from among themselves by practitioners of Indian Medicine who either—

(i) have been registered under clause (iv) of rule I of the rules for registration of practitioners of Indian Medicine issued in G. O. No. 231, P. H. dated 1st February 1933; or

(ii) have been registered under the proviso to rule I of the said rules.

(d) One member elected from among themselves by such teachers of schools and colleges of Indian Medicine recognized by the Government as Institutions for training practitioners registrable under class "A" as are registered practitioners of Indian Medicine.

Note.—Practitioners whose qualifications denote at least a minimum standard of professional training for undertaking medical, surgical (including obstetrical) and medico-legal work are registered under class "A"

(e) One member elected from among themselves by such teachers of schools and colleges of Indian Medicine, recognized by the Government as Institutions for training practitioners registrable under class "B" as are registered practitioners of Indian Medicine.

Note.—Practitioners whose qualifications denote at least a minimum standard of professional training for undertaking medical work only are registered under class "B".

(f) Five members nominated by the Government.

(2) The President and Vice-President shall be elected from among the members of the Board in the prescribed manner:

Provided that for a period of four years from the date of first constitution of the Board under these rules, the President shall be a person nominated by the Government and where he is not already a member, shall ex-officio be a member of the Board in addition to the members specified in sub-rule (1).

INDIAN MEDICAL COUNCIL EXECUTIVE COMMITTEE MEETING

The two-day sitting of Executive Committee of the Indian Medical Council was held on 26-8-40 at the Darbhanga building of the Calcutta University. Dr. B. C. Roy, President of the Council, was in the chair.

Excepting Dr. A. Lakshmanaswami Mudaliar (Madras) all the other following members of the Committee were present: Dr. B. C. Roy, Dr. Erulkar (Bombay), Dr. Vyas (Lucknow), Major-General G. C. Jolly (Indian Medical Service), Col. Bharucha and Dr. K. S. Ray.

The Committee considered the various aspects of medical education and the relationship of the medical profession in India with outside countries. The method of ensuring reciprocity between India and other countries in so far as mutual recognition of medical qualifications obtaining in the respective countries were concerned, and the question of providing the Council with a register of the medical practitioners of the country, inclusive of the Medical Licentiates, were also discussed. The present proposal of the Committee seems to favour retrospective recognition of the Medical Licentiates, till now unrecognised by the I. M. C., and to give a time limit up to 1945, to all medical schools for bringing the standard up to the level laid down by the I. M. C. These recommendations will be placed before the next meeting of the Council in October.

At the end of the sitting, the members of the Committee were entertained at a tea party by the Vice-Chancellor and the Syndicate of the Calcutta University. The members of the Committee also met the members of the Syndicate and the heads of different medical institutions in Calcutta at a lunch given by Dr. B. C. Roy.

REVIEWS AND REPORTS

A Hand-Book of Physiology and Hygiene

By DR. A. D. MASTAKAR, L. C. P. S., 262, Girgaum Road, Bombay. Price Re. 1/12/-. Second edition, 1940.

This is a second edition completely revised, enlarged and re-written by the author with a view to make it up-to-date and more comprehensive. As a text-book of physiology and hygiene for high school boys, it is one of the best we have come across, and the experience of the author as a teacher in physiology and hygiene in Ram Mohan's English School, Bombay, has obviously enabled him to present the subject in a manner which is at once simple and straightforward without the sacrifice of essential details and without too much of technical terminology. The style is simple and homely, illustrations are profuse and clear, and the get-up and binding quite good and attractive. We heartily recommend this book as one of the excellent text-books on physiology and hygiene for high school boys in our country.

Essays on Cardiology By DR. JAI GOPAL, Associate Editor, *Indian Medical Journal*, with a foreword by DR. A. VISWANATHAN, Editor, *Indian Medical Journal*; I. M. J. Publication Series, 1940. Demi Octavo—pp. 192. Price Re. 1/-. Postage extra. Copies can be had from the Indian Medical Journal Office, Madras.

This volume comprises of 17 essays, reprinted from the author's contributions to the *Indian Medical Journal* during the last two years.

They are written from the general practitioners' point of view, and reveal the thoroughness with which the author has discussed the intricate problems in cardiology. We heartily recommend the book to the profession as one which is highly readable, interesting and instructive.

Annual Clinical Report of the Raja Sir R. M. Lying in Hospital, Madras, for the year 1939.

This report records another year of useful work performed by this hospital. During the year, 3596 maternity cases, including 302 cases of abortion, were admitted, and 3362 children were born with a foetal mortality of 5.03%. 48 maternity cases died, and the causes of death, according to higher incidence were: toxæmia of pregnancy (14), puerperal sepsis (11), hæmorrhage (7), shock (4), infectious disease (6), other causes (6). The number of normal deliveries was 2779. The report gives case notes of important cases, statistics and methods of delivery adopted in abnormal cases of labour and the gynec work done. The Lying-in-Hospital is maintained by the

Corporation of Madras. Its accommodation and equipment leave much room for improvement.

Annual Reoprt on the Civil Hospitals and Dispensaries Bombay Province for the year 1939.

There is nothing unusual in this year's report. Rs. 41,312 were spent in improvements to the hospital buildings. It is reported that the clinical unit system introduced at the J. J. Hospital and other hospitals has worked satisfactorily. 13 hospitals were supplied with iron lungs. The Board of Indian System of Medicine has been constituted and is now functioning. There are 163 centres of subsidized rural medical relief. Of these 60 are allopathic, 99 ayurvedic and 4 unani. The Government have sanctioned 250 additional centres to be opened during the year under report. The total number of medical officers and nurses were 1121 and 858 respectively. The important diseases treated were malaria (8.3 lakhs—mortality 167), injuries (355 lakhs—mortality 868), influenza (1.08 lakhs—mortality 17), dysentery 88,833—mortality 246), tuberculosis of the lungs (23,435—mortality 1300) and enteric fever (7313—mortality 265). The total receipts were Rs. 59.6 lakhs, and expenditure 51.4 lakhs. The average cost per diet worked up to 4 annas 2 pies. The Haffkine Institute started making 25% glucose solution and supplied the same to J. J. Group of Hospital at the rate of 8 as. per 100 cc. The Institute is now in a position to meet freely the requirements of cobra and other snake venoms.

Annual Report on Mental Hospitals in the Province of Bombay for 1939.

Additional accommodation for 72 female patients were provided for at Thana Mental Hospitals. There are 5 mental hospitals in the province with accommodation for nearly 2000 patients. Provisions for hydrotherapy treatment were introduced at Thana. The chief forms of mental disorders met with were: mania (661), melancholia (538), schizophrenia (459), manic depressive insanity (392). The probable causes of insanity were: mental stress (390) toxins (164), heredity (130), bodily illness (103), old age (88), epilepsy (86). Total receipts: Rs. 2.5 lakhs; total expenditure: Rs. 9.56 lakhs.

Triennial Report of the Hospitals and Dispensaries in Orissa for 1936, 1937 and 1938.

Triennial reports are, as a rule, useless from publicity point of view, and we hope that the Orissa Government would issue annual reports in future, just as in other provinces.

The Director of Health remarks that the management of hospitals and dispensaries under local bodies was not satisfactory. Hospitals were poorly equipped and the staff inadequate. Somehow or other, it has been found that local bodies in our

country have not been successful in the management of hospitals under their charge.

There were 176 hospitals and dispensaries at the beginning of the triennium and 175 at its close. The medical personnel was as follows: I. M. S. Officers 3; I. M. D. 1; Asstt. Surgons 25; Sub-Asstt. Surgeons 198; Honoraries 5; nurses 34. The number of beds available in the hospitals was 1326. The chief diseases were: cholera 508—deaths 44; amoebic dysentery 30,243—deaths 45; B. dysentery 7193—deaths 117; diphtheria 161—deaths 4; enteric fever 961—deaths 16; syphilis 11399—deaths 1; malaria 3.4 lakhs—deaths 63.

Since there is no medical college in the Province, selected students are sent to Patna Medical College. Four seats are reserved and the Government contribute Rs. 2000 per seat to the Bihar Government.

The report contains an excellent map showing the distribution of hospitals and dispensaries in the province.

Annual Report on Public Health in Sind for the year 1938.

This is obviously a belated report. We hope that the authorities would in future issue their annual reports in time, as otherwise their educative and publicity value will be almost lost, and all the labour involved in compiling such a report will be in vain.

Barring the defect of delayed publication, the report otherwise is well got up with 15 chapters, a number of coloured charts and authentic and useful statistical tables.

There were during the period under report 8 public health officers in urban areas and one in rural area. We think this is too small a personnel for the health administration of Sind province.

There were 31 maternity and child welfare centres, 38 trained midwives and 83 trained dais. We think that every efforts should be made to increase the cadre of qualified midwives.

The total receipts of the department amount to Rs. 71,697, and expenditure to Rs. 1.8 lakhs.

The average birth rate was 19.93 per 1000, and the death rate 12.45 per 100. The rate of infant mortality was 121.33 per 1000.

A limited amount of organized public health propaganda was done by the department, as well as by some voluntary bodies.

Sulphonamide Treatment of Bacterial and Trachomatous Conjunctivitis. A. F. Maccallan, C. B. E., F. R. C. S., *Brit. M. J.*, 482-483.

Remarkable results may be expected from sulphonamide therapy in cases of bacterial conjunctivitis and blepharitis. The good results which have been reported in the treatment of trachoma by these drugs are, in the author's opinion, due to the elimination of superimposed bacterial infections rather than to any specific effect on the virus of trachoma.

Epitome of Indian Medical Literature

IND. MED. GAZ., AUG. 1940

Sub-total gastrectomy—Sheppard—449.

(1) Report of pneumonia enquiry—Taylor and Chitkara—456.

A new method for the relief of paralysis of the opponens pollicis—Max Tcheek—464.

The intradermal test as an index of vitamin C nutrition—Lauerji and Guha—468.

Observations on epidemic cerebro-spinal meningitis in Burma—Maitra and Gupta—473

(1) Taylor and Chitkara conducted a pneumonia enquiry in Punjab with regard to clinical investigation, incidence of type-pneumococci, and results of treatment with M. & B. 693 and Felton's serum. They arrive at the following conclusions: (a) type 1 pneumococci accounted for 37.7% of cases, and the rest were 'mixed' or indeterminate types. (b) highest age incidence was between 11 and 35 years of age; majority of cases had an acute onset; high winter incidence; majority showed leucocytosis. (c) cases treated by the combined serum and M. & B. 693 did not differ from cases treated by the latter alone; (d) complications observed were empyema, meningitis, lung abscess and pericarditis.

JR. OF I. M. A., AUG. 1940

Observations on dental sepsis and its relation to diseases—Ananthachari—529

Dysmenorrhoea problem—Kapur—534

Aetiology and treatment of acute peritonitis—Strivastava—537

(2) Inhibitory influence of chronic amoebiasis on immunity against bacterial infection—Ghosh—541

(2) Dr. Ghosh writes: Some years ago a European boy of about 6 years was brought to us for treatment of scabies. On culture of pus from one of the pustules staphylococcus aureus was obtained. A course of 5 injections of autovaccine was given apparently without effect. New pustules were developing during the course of treatment by auto-vaccine. Repeated culture of pus showed the same staphylococcus aureus. There was no previous history of dysentery. There was no bowel complaints except occasional constipation. Yet we examined the stool of the boy and we were surprised to find the presence of vegetative forms of entamoeba histolytica. On giving a course of only 3 injections of ½ grain of emetine the scabies disappeared quickly. This finding strongly suggested to us that probably chronic amoebiasis had an inhibitory influence on the formation of antibodies in the system against bacterial infection. Since this case we encountered at least 15 other cases of chronic staphylococcal eczema, streptococcal pustules on the fingers and palms which resisted all treatment by auto-vaccine and local medication. On examination of stools of all these cases amoebæ (histolytica) either in vegetative or cystic forms were found. A combined treatment with emetine and auto-vaccine invariably cured these cases. Some had relapse and re-examination of stool revealed the presence of entamoeba histolytica cysts. Evidently, amoebiasis was not altogether cured by treatment with emetine and Stovarsol finally cured the cases permanently.

These observations lead us to believe that the presence of amoebic infection has a definite inhibitory influence on bacterial immunity. Chronic skin diseases due to staphylococcus are often encountered among apparently healthy people of this country, particularly those living in the villages. Chronic amoebiasis is an

extremely common condition among the people of this country and it is our definite opinion that amoebiasis plays a great role in the chronicity of bacterial skin infection (excluding fungus) by exerting an inhibitory influence on the natural formation of immune bodies.

CAL. MED. REVIEW, JULY, 1940

(3) Modern treatment of bronchial asthma—J. Dhar—1
Treatment of the intracranial haemorrhage of the new born—J. D. Ray—14

Vertigo—Basu—17

Purpura haemorrhagica during the course of bronchopneumonia treated with M. & B. 693—Banerjee—21.

(3) Dhar gives an excellent account of the treatment of bronchial asthma. The treatment, he writes, consists of (a) general management (b) management of asthmatic attack (c) treatment of asthmatic state.

(a) General management consists of rest, sufficient fluid by mouth, avoidance of food allergy if any and treatment of hypochlorhydria if present.

(b) Treatment of asthmatic attack: plenty of fresh air; inhalation of oxygen and carbon-di-oxide; or a few whiffs of chloroform; atropine or adrenalin; spraying into the nasopharynx of 1 in 100 sol. of adrenalin; subcutaneous injection of adrenalin-in-oil (P. D. & Co); ephedrine. As regards morphia, it should be resorted to as a last resort and should not be repeated for at least 4 hours.

(c) Treatment of asthmatic state consists of finding out the cause of asthma, such as allergy, focal infection, nasal polypus, etc., and instituting appropriate treatment.

ANTISEPTIC, AUG. 1940

(4) Disabilities of the bladder due to spinal injuries—Mahadevan—689

Tuberculosis disease of the spine in Madras—Narasimhan—698

Observations on 200 cases of pneumonia—Bhowmik—705
Trachoma and spring catarrh—Giridar—711

(4) Mahadevan writes that the function of the bladder, as a result of spinal injuries, can be interfered with in one of the following ways:—

1. If the injury to the cord is above the lumbar and sacral centres, cortical control is lost and the bladder empties reflexly, i.e., an automatic bladder develops.

2. If, through the lumbar centre, the sacral centre control remains, and therefore, the internal vesical sphincter relaxes and the detrusor muscle contracts, resulting in constant dribbling of urine and a contracted bladder.

3. If, through the sacral centre, and the lumbar centre functions, the bladder must get distended as the sphincter remains contracted and the detrusor is inhibited. A stage comes when the sphincter is forced open by the increasing intra-vesical pressure and incontinence with overflow occurs.

In practice, however, soon after injury of cord anywhere, there is first retention of urine. If this is not relieved, overflow incontinence results. This is the type most commonly met with. Conditions of injury described in (2) are not common possibly because the lumbar and sacral centres are so near each other that an injury in the region often involves both. When the nature of the injury is such that the development of "an automatic bladder" can be expected even then, it usually takes 2 to 3 weeks before it is established. In cauda equina injuries, it usually takes a very long time before an automatic bladder develops.

Where retention occurs due to one or other reason, the bladder must be emptied periodically and all

precautions taken to prevent cystitis. Stagnation of urine is as potent a factor as the introduction of infection itself, in the occurrence of cystitis. An anaesthetic bladder when allowed to get overstretched, falls an easy prey to infection. Ulceration quickly occurs even as a bed sore rapidly develops at pressure points in an anaesthetic area of skin. Moreover, if stretching of the detrusor is allowed, it will delay or even prevent the onset of "reflex micturition".

The bladder can be kept emptied by one of the following methods: (1) Periodical catheterization. (2) Tying in the urethra a catheter. (3) Suprapubic drainage. (4) Manual pressure. This need be mentioned only to be condemned. Rupture of bladder has occurred by adopting this method.

One or other of the above methods has to be continued:

(1) Where injury is incomplete and of such a nature that the bladder can recover its natural function, till such a recovery occurs.

(2) Where bladder is not expected to recover its normal function, till an "automatic bladder" is established.

If, on the other hand, from the nature of the injury or due to complications, even an "automatic bladder" is not expected, modifications of these methods may have to be resorted to.

MED. BULL., AUG. 7, 1940

The Value Menic micro-flocculation test—S. Norenha and F. Norenha—521

Displacement of uterus—Juliet De Sa—525

MED. DIGEST, AUG. 1940

Modern treatment of cholera—Viswanathan—310

(5) Mental disorders peculiar to women—Desai—314

Importance of medicine in life insurance—Menzes—316

(5) Desai writes: The human organism...male or female, is equally liable to mental illness of various types and the type of reaction that occurs also does not differ in its quality or intensity in different sexes. Nor is the incidence higher in the females for any particular age period. The fundamental difference however lies in the different function of the female that nature has intended her to fulfil viz., that of child bearing and this is associated directly or indirectly with a large number of physical and mental ailments. The susceptibility of an individual to the development of mental disorders is determined by the endocrine factors inherited from the parents which endow normal or sub-normal mental powers and a predisposition to neuro-genic disorders such as fits, convulsions, headaches and so on.

2 factors play a part in the aetiology of this malady:—

1. Endocrines. 2. Hereditary predisposition.

This can be divided into 3 phases:—1. at puberty, (2) in association with pregnancy and lactation, and (3) at the menopause.

(1) At puberty two hormones—prolan A and B play a part. Prolan A is concerned with ovulation and secretion of theelin which prepares the uterine mucosa upto the "Interval stage" i. e., just prior to the shedding of the endometrium during menstruation, while prolan B is concerned with luteinisation, formation of corpus luteum and the production of progestin and both these contribute towards bringing about normal menstruation.

Even when the flow is normal, nervous women suffer from premenstrual tension, headache, restlessness and irritability. When there is an imbalance either amenor-

rhea or metorrhagia results; with the former there is mental depression and motor underactivity while metorrhagia causes mental excitement and overactivity.

Dysmenorrhea or painful menstruation is due to instability of the nervous system, and the degree or intensity of pain is due to the mental and nervous make up of the patient.

2. In the early months of pregnancy, mental unrest is common due to the strain on the endocrine and sympathetic nervous system. Threshold of sympathetic stimulation is lowered by overactivity of adrenals and thyroid while sensibility of muscles and nerves is increased by lowering of serum calcium, alkalosis, etc. Chorea gravidarum occurs in the earlier months.

During lactation mental disturbances are more frequent and may even reach a stage of psychosis; though endocrine disturbances are said to play a part in this there is always a hereditary background and a neuropathic predisposition. The forms of insanity associated with the period of lactation are a. schizophrenia, b. manic depressive insanity, c. toxic and exhaustive psychosis the latter having a good prognosis, as the underlying factor could be dealt with and removed.

Puerperal insanity is also associated with depression (manic-depressive) type or merely with headache, but is more often due to toxic or the exhaustive type.

Menopause: Cessation of menstruation is but a part of large clinical syndrome. It is a transition of the endocrine system. In this change not only the ovary, but the pituitary, thyroid and adrenals play a decided role. The glands must strike a new balance.

In some women there was only amenorrhea; in others symptoms appear due to withdrawal of ovarian hormone theelin and compensatory overactivity of the other glands.

Symptoms: Hot flushes—mental reactions of a varying nature and severity, ranging from mere irritability, depression, insomnia, restlessness, to actual phobias, melancholia and actual insanity. The disturbance is due not to overfunction of one gland and underactivity of the other: but to a disequilibrium of the vegetative nervous system, or else the clinical picture would not be so heterogenous.

Also diminished pituitary activity leads to diminished secretion of thyroids and obesity.

Other factors leading to mental disorders such as hypogonadism show symptoms of melancholic and suicidal nature. These are the tendencies chiefly noticeable at the periods of sexual transition, e.g., puberty and menopause. At the menopause particularly in the unmarried or childless women there is a feeling of hopelessness because of the knowledge that child bearing has become an impossibility; added to this there is the thyroid deficiency, loss of power of memory, diminished concentration and so on. In some this period of transition is marked by extreme religious fervour.

Male climacteric is not at all a clinical entity. The process is a gradual one causing no symptoms. Disorders of the mind are due to hypothyroidism, low intelligence, poor aptitude for work, general sluggishness of body, mind, and emotions, etc.

SETH G.S. MEDICAL COLLEGE MAGAZINE, JUNE 1940.

A saner outlook on nutrition—Patwardhan—16

The appendicitis problem—Kaikini—20

Surgery before antiseptics—Masani—25.

THE MADRAS MED. COLLEGE MAGAZINE, JULY 1940.

Some anatomical considerations of the liver bearing on pathology—P.R. Rao—189

Infantile cirrhosis—K.N. Murthi—202

Some recent advances in therapeutics—Subramanian—247

(5) Early hepatic cirrhosis following vaccination—A.V. S. Sarma—252.

(5) Sarma reports a recent case of hepatomegaly probably due to vaccination with vaccinia virus. It was a susceptible child with allergic diathesis. Oral use of adrenal cortex has been shown by the author to be effective in overcoming of the visceral damage produced by vaccination in the case under reference. He thinks that the action of cortical extract is polyvalent, i.e., as an anti-allergic, anti-marasmic and hepato- tonic.

CAL. MED. JR., JULY & AUG. 1940.

Blood studies in new born infants—Mukherjee—425

Coronary thrombosis—Sengupta—439

(6) Radiology in the diagnosis of pulmonary tuberculosis—Galstaun—451 and 523

(7) The management of eclampsia—Subodh Mitra—463

Bacteriophages in Calcutta sewage—De and Paul—499

Some observations on abdominal caesarian section—Sudhir Bose—511.

Vesico-vaginal fistula—Miss Mozumdar—537.

(6) Galstaun contributes two articles on radiology in the diagnosis of pulmonary tuberculosis and warns against the growing tendency to place too much reliance on the special departments of medicine. He concludes that although radiology plays an extremely important part in the diagnosis of physical conditions yet he stresses that a careful case-taking and clinical examination are necessary and that any diagnosis by anyone method alone would fail. His articles are illustrated and supported by case notes.

(7) Sudhir Bose writes, in the course of his article:

Regarding the management of eclampsia, I believe there is no longer a fight existing between the radical, surgical and the conservative method. Accouchement force has become a thing of the past and caesarian section taken recourse to only under exceptional circumstances. Occasionally a young enthusiastic surgeon might do a caesarian section only to realise his mistake if he is a conscientious man. The choice lies universally on the conservative method and the leadership of Stroganoff almost unanimously accepted. His principle of treatment can be summarised in one sentence, that is: avoid all sorts of irritation to prevent the occurrence of fits. This is what is called the prophylactic method of treatment and up till now has yielded the best results. Each successive fit will further damage the brain cells and fits are by all means to be stopped to prevent irreparable injury to the vital cells of the body. To give an outline of the whole process of treatment I would like to proceed in the following way:

Immediately on arrival (either of the patient to the hospital or of the physician to the patient) the patient should be put into a quiet room sufficiently warm and well-ventilated.

Excepting one or two strong minded responsible persons all the relatives and visitors should be firmly requested to vacate the room. If possible the patient is to be kept under the vigilant care of two obstetrically experienced nurses.

The patient will have a few whiffs of chloroform while the room is darkened to cut off strong lights from outside, and also to avoid external noises. The underlying principle being to avoid all irritation, the

patient should be kept away from all sorts of stimuli that might reach her either through ears, eyes or bodily movement. That is why chloroform is to be occasionally given whenever some manipulations, external or internal are done.

Immediately the patient is dozed with chloroform, morphine gr. 1/4 with atropine gr 1/200 is injected subcutaneously.

Now the clothes are loosened and a catheter specimen of urine is taken, and a mixture containing 30 grains of chloral hydras, 2 drams of infusum digitalis and 4 ounces of normal saline in each dose is ordered.

Exactly after one hour, one dose of the above mixture is given per rectum slowly and if the patient is restless under chloroform. This is repeated on the 7th hour after the onset of treatment. By the time the patient is fairly under narcotics a careful vaginal examination is done and membrane ruptured even if the OS is not much open. Only under exceptional circumstances that is when the patient is not at term and labour not likely to start, membranes are not ruptured. The idea of rupturing the membranes is to reduce the quantity of liq. amnii and thus to lower both intra-uterine and intra-abdominal pressure. This process also hastens labour.

On the 3rd hour from the onset of the treatment another injection of morphine is given either gr. 1/4 or gr. 1/7 depending on the irritability of the patient.

The patient is kept on her side as much as practicable and changed to the other side every 2 hours.

The physician in charge sits right by the side of the patient all the time noting if any prodromal syndromes are appearing as evidenced by restlessness, twitching of the muscles of the face and extremities, tossing of the head, fixation of eyes and a fixed deviation of the head to one side. He should immediately start administering chloroform which is continued till the patient passes into the tetanic stage and then withheld. It will be a veritable danger to push on chloroform at the tetanic stage because soon after the patient takes one long gasp in the next stage concentrated chloroform will be inhaled by her. This part of the treatment is rather trying and there is hardly any physician who would conscientiously undertake this part of the work.

Stroganoff is perhaps the only man who reports himself sitting tight by the side of the patient for the first 6 hours which is supposed to be the most critical period observing all the prodromal syndromes and attending accordingly. Oxygen inhalation is to be given liberally after each fit.

Generally eclamptic fits occur one after another and if the fits are not controlled the question of venesection should be seriously considered. According to Stroganoff if there are more than 7 fits before treatment is started or if there are more than 3 fits after the treatment is instituted venesection should be done immediately. About 7 to 10 ounces of blood is to be let out. Venesection has been found indeed life-saving on many occasions. Besides the question of fits which stop in most cases almost immediately even when the patient is found in deep comatose condition with laboured stertorous breathing venesection brings forth a complete change of picture. The patient becomes quieter, breathes easily and the rhonchi in the lungs which are the indication of approaching edema decrease or even disappear. After venesection blood pressure falls and angiospasm loosens; it facilitates the activity of the heart, lessens the edematous condition; it lowers the concentration of toxins in the blood being a contributory factor towards diluting the blood; it lessens the chances of a haemorrhage in the brain and

contributes to a more intensive absorption of the narcotics by the intestines". (Strongnoff). If fits continue venesection is to be repeated and there are cases where I have done it thrice with satisfactory results. Two points in this connection are worthwhile noting i.e., eclampsia with low blood pressure or anaemia. Venesection is no contraindication in both these conditions if there are other indications present. It would be advisable to inject glucose solution if there is low blood pressure and draw less amount of blood in anaemia.

The patient should be kept covered with light warm clothing and to stimulate kidney function warmth by way of poultices may be applied over the kidney region.

Obstetric interference in an eclampsia case should be practically nil except rupturing the membranes artificially and hastening the second stage of labour when the head is low down in the pelvis by low forceps.

This practically completes the picture of treatment except continuing the sedative mixture on the 22nd hour. But this time the dose of chloral hydras can be reduced to 20 grains provided there is a long interval between subsequent fits. This is the basal structure of the treatment but the individualisation should never be overlooked. There are certain modifications of treatment which require brief elucidation and criticism. Of late chloral hydras is a very effective medicine but supposed to be a cardiac depressant although according to Stroganoff one can push it up to even 4 drachms in 24 hours.

Calcium and glucose injections are supposed to have given favourable results in eclampsia. I have already given a picture of blood calcium and glucose by different workers which speaks of itself. The favourable results seem to be more apparent than real during the acute stage. Calcium in the pre-eclamptic or post-eclamptic stage must be very effective.

Mag. sulph. treatment is given more frequently nowadays than before. It apparently increases diuresis, diminishes edema, lowers blood pressure and controls fits. It is administered either subcutaneously, intramuscularly or intravenously. Not more than 24 grams should be given in 24 hours. In certain cases the injections cause serious toxic effects and prove fatal. Acute cyanosis, feeble pulse and laboured breathing may develop for which the best antidote is calcium given intravenously.

The Dublin School advocates gastric and colonic lavage and saline infusion. Stroganoff believes that saline infusion is rather harmful than useful.

Certain complications are worthwhile noting. Hyperpyrexia in eclampsia is dreaded by every obstetrician. Death rate increases with each degree of temperature. In none of the obstetric conditions one will ever find a rise of temperature of 107° F or even 108° F, a condition which is unfortunately not uncommon in eclampsia. Out of 227 cases of eclampsia 6 cases had temperature of 107° F and one 108° F. All patients died except one. It is not humanly possible to do anything in these cases.

In some cases after the fits are stopped the patient may pass into a peculiar asthenic stage. Pulse becomes very soft and sometimes almost imperceptible. These cases require vigorous cardiac stimulants and I know of at least 2 cases where strychnine had to be given to get over this asthenic condition. I use cardiac stimulants in some form or other in all my eclampsia cases because one does not infrequently notice that some patients while progressing well suddenly die of heart failure with negligible amount of strain.

Maniacal symptoms occurred in 7 cases i.e., about 3% of which one patient was too violent to be kept at rest

Abstracts from Foreign Literature

The Physiology of Ovaries: Philip E. Smith, *Bull. New York Acad. Med.*, 16: 153-172, March, 1940.

The fluid of the Graafian follicles was shown to contain estrogenic hormone. This was originally thought to be formed by the epithelial lining of the follicle, the granulosa. More recent work, however, suggests that the inner layer of the connective tissue capsule of the follicle, the theca interna, is a more likely site of secretion of the hormone. Following rupture of the follicle at ovulation, a new structure is formed, the corpus luteum, which secretes a second hormone, progesterone, as well as estrogen. In addition to estrogen and progesterone the human female also secretes a large amount of androgen; this is formed chiefly in the adrenal cortex and not in the ovary.

Hundreds of estrogenic substances have now been prepared but only seven of them are known to occur in nature. Of the seven natural estrogens only three—estrone, estriol and estradiol—are found in the urine of women, the others occur in the urine of pregnant mares. Chemically the differences between the natural estrogens are due to different side chains attached to a common carbon skeleton. Progesterone, which is the active substance peculiar to the corpus luteum, was isolated in 1934. Its structure has been determined, showing it to belong to the same family of compounds as the estrogens. The effects, induced by the various estrogens, are similar and differ only in intensity and duration. Their action on the uterus results in a proliferation of epithelial cells and a thickened and highly vascular, edematous endometrium. Progesterone, the corpus luteum hormone, brings about the secretory or pro gravid state of the endometrium in which implantation of the fertilized ovum can take place. The action of progesterone is enhanced by estrogen and the pro gravid conditions can be maintained for longer

and died after a fall from the bed. Cases with psychical disturbances should go under the post-natal care. Post-natal care of the eclampsia cases forms a very interesting study and remarkable revelations have been made by Young *et al.*

Eclampsia cases have strikingly low resistance to infection. About 10% of our cases had morbidity after confinement.

I would conclude by striking a note of warning that frankly speaking we have not made a great progress in curing really bad eclampsia cases. The only secret of success lies in introducing thorough ante-natal care which can certainly prevent the bulk of eclampsia cases and render it less dangerous when eclampsia does supervene. How happy one feels to know that De Snoo did not lose a single case of eclampsia due simply to his vigorous ante-natal care. Will this condition ever come in India?

periods by the concurrent administration of estrogen.

The placenta is another secretory organ which merits attention. During pregnancy the placenta supplies hormones normally secreted primarily by the ovaries. It now appears to be an established fact that the gonadotropic hormone which appears in the urine in large amounts early in pregnancy is formed by the placenta. The name "Chorionic Gonadotropin" has now been adopted for this hormone.

The extra-reproductive effects of estrogen have not been investigated nearly as extensively as the responses of the reproductive organs so that it would be premature to draw conclusions at this time. However, since these hormones are powerful pharmacological agents and have a widespread action on the body, it is important to keep in mind the fact that they should not be given promiscuously.

A New Diagnostic Test (galactose) for Thyroid Disease: T. L. Althausen, M. D., J. C. Lockhat, M. D., and M. H. Soley, M. D., *Am. J. Med. Sc.*, 199: 342-351, March, 1940.

The authors describe a new clinical test for activity of the thyroid gland, based on the rate of intestinal absorption of galactose. It consists of oral administration of 40 gm. of galactose in 400 cc. of water followed by determinations of galactose in the blood 30 and 60 minutes later. Data from 121 control subjects and 130 patients with hyperthyroidism show that the average maximal concentration of galactose in the blood of the latter was three times greater than normal and that clinically the test was comparable in reliability to estimations of the basal metabolic rate.

The galactose test is particularly useful in cases of low grade hyperthyroidism when the basal metabolic rate is less than 20%+, and in patients without hyperthyroidism who have an abnormally elevated basal metabolic rate. It can also be used in the diagnosis of myxoedema, where abnormally low galactose tolerance curves are observed. Following thyroidectomy the test was normal in nearly all cases.

Mechanism of Digitalis Action in Abolishing Heart Failure: Harry Gold, M. D., and McKeen Cattell, M. D., *New York, N. Y. Arch. Int. Med.*, 65: 263-278, Feb., 1940.

The results of experiments have been presented and evidence has been adduced for the following statements regarding heart failure and the mechanism of digitalis action by which failure is abolished.

(1) The heart muscle is not overdistended in clinical heart failure. Dilatation of the heart is not usually an unfavourable phenomenon but an adaptive mechanism by which the failing heart maintains its optimum capacity for work.

(2) The high venous pressure in heart failure is not usually a cause but a result of heart failure. There is no sufficient reason for the belief that

venous congestion of the order seen in clinical heart failure embarrasses the heart's contraction.

(3) Rapid heart rate in sinus rhythm and auricular fibrillation is usually not a cause but a result of heart failure.

(4) The effect of digitalis in abolishing heart failure is not mediated through any effect on rate in the average case, through action on the splanchnic circulation (constriction of hepatic veins), or through action on cardiac tone.

(5) Digitalis in therapeutic concentrations exerts no direct action on the so-called tone of mammalian heart muscle.

(6) Digitalis improves the function of the heart in heart failure by direct action on the heart muscle which without primary change in the diastolic length of the muscle increases the tension which the muscle can develop during systolic contraction.

Treatment of Scabies by Creolin: Emilio Jane, M.D., Havana, Cuba, *Urol. & Cutan Rev.*, 44: 181-182, March 1940.

The author treated 1,089 cases of scabies with a one to six emulsion of creolin. The results were uniformly good.

This treatment requires light application of an emulsion of creolin in distilled water to the whole body with the exception of the face, allowing it to remain on the parts throughout the night. This is to be repeated on three successive nights. The bed coverings are not changed until the end of treatment. The creolin treatment has the following advantages: (1) cheapness, (2) simplicity, (3) efficacy, (4) cleanliness and (5) minimum of inconvenience for the patient and economy of time.

The Saphenous Valves in Varicose Veins:

Jesse E. Edwards, M. D., and Edward A. Edwards, M. D., *Am. Heart J.*, 19: 338-351, March 1940.

A histologic study of the valves in the upper and of 51 normal and 106 varicose saphenous veins shows that the fundamental lesion in most spontaneous varices and in varicosities arising from phlebitis of the deep veins is a dilatation of the portion of the vein wall between the attachment of the valve cusps, giving rise to a relative insufficiency of the valves. The lesions of the cusps are all secondary to the lesion in the wall of the vein. Thrombophlebitis of the saphenous vein is responsible for only a small proportion of varicose veins. Such cases illustrate the destruction or crippling of the vein cusps by local disease.

These findings indicate that the etiology of varicose veins is to be sought in the disproportion between the venous pressure and the resistance of the vein wall. The reversal of blood flow which is characteristic of these cases is due to relative insufficiency of the valves rather than to any primary disease of the valve cusps.

Tumorigenic Powers of Stilboestrol and Follicular Hormones: Alexander Lipschutz, M. D., and Luis Vargas, Jun., M. D., *Lancet*, 12: 541-543.

When equal quantities are compared, the tumorigenic action of stilboestrol is much greater than that of the natural hormones. The greater increase in weight of the guinea pig uterus with stilboestrol than with the free hormone suggests that the organism cannot inactivate stilboestrol with the same facility as it does the natural follicular hormones.

Uterine haemorrhage in the guinea pig treated with stilboestrol is more than with the natural hormones but as common as with esterified hormones. This is considered to be a sign of greater toxicity of stilboestrol.

Action of Veritol on Blood-pressure and Heart: Under various anaesthetics. G. Schoenewald, M. D., Berlin, L. R. C. P. E., A. Schweitzer, M. D., Cologne, and G. C. Steel, M. R. C. S., D. A., R. A. M. C., *Lancet*, 544-546.

Veritol, an isomer of ephedrine, raises the blood-pressure in acute hypotension and shock. Its exact mode of action is not yet properly understood; the rise in pressure lasts about twenty minutes longer with veritol than with adrenaline; the height of the rise seems to vary considerably.

The rise of the arterial blood-pressure after administration of veritol in cats under various anaesthetics varies in extent and duration. Under chloroform and cyclopropane anaesthesia the pressure action is nil or negligible. There is no direct relationship between the blood-pressure response and the dose of veritol or the depth of the anaesthesia. There was no difference in the results obtained in atropinised and non-atropinised animals. The second injection of the drug may produce a fall in blood pressure.

Intravenous injections of veritol produced slight disturbances of cardiac rhythm in cats under ether and severe disturbances of cardiac function under pentothal, chloralose, cyclopropane or chloroform anaesthesia. The authors recommend caution in the clinical use of veritol.

The Chemotherapy of Cl. Welchii Type A and Cl. Septique Infections in Mice: Dora Stephenson, Ph. D., B. Sc., and Heien E. Ross, B. Sc., *Brit. M. J.*, 471-475.

Sulphanilamide and sulphapyridine protected mice against the intraperitoneal injection of a small number of lethal doses of vegetative Cl. welchii type A organisms in sterile oil suspension. Antitoxic serum was also effective against a strain of high toxigenicity. Serum treatment was better when the infectious material was injected intramuscularly.

Sulphanilamide had little influence on Cl. septique infections. Sulphapyridine in large doses saved 50% of the animals. A single dose of antitoxic serum was at least as effective as sulphapyridine but the best results were obtained when sulphapyridine was combined with serum.

Neither sulphanilamide nor sulphapyridine have any influence on the course of infection produced by the two strains of Cl. oedematis tested.

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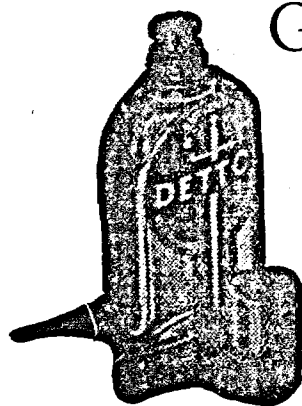
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MULLER McLEAN & Co., Inc., Tower House, Chowringhee Square, Calcutta and Hashim Building, 38, Church Gate St., Bombay; 87, Sule Pagoda Road, Rangoon, (British Burma).

WILSON & Co., 5-8, Jehangir St., George Town, Madras.

AMERICAN APOTHECARIES COMPANY, (New York)

A - O

A SPECIFIC VACCINE made of TUBERCLE BACILLI OF HUMAN TYPE

There are three practical
uses to which

A - O

may be put

- (I) Prophylactic
- (II) Diagnostic and Prognostic
- (III) Therapeutic

Literature on Request

Prepared by

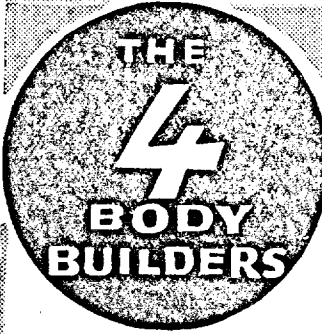
THE ARIMA INSTITUTE,
Osaka, Japan.

Head Office : 43, Churchgate Street, Readymoney Mansions, Fort, BOMBAY.

Indicated in cases of :—

- Latent or frank tuberculosis
- Pulmonary tuberculosis
(Apical catarrh)
- Surgical and urogenital tuberculosis
- Ophthalmological tuberculosis
- Dermal tuberculosis
- Pleurisy and Peritonitis in
Convalescence
- Disorderly menstruation due to
innate weakness
- Glandular affections
- Laryngeal and intestinal tuberculosis
- Is also useful as a diagnosticum and
as a prophylactic of tuberculosis.
- A-O is an agent which calls forth
or increases in an organism the
immunizing powers through a bio-
logical reaction of its own.

Agents : T. M. THAKORE & CO.,
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Alembic

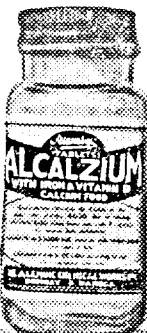
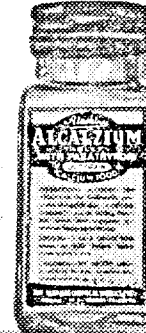
CALCIUM FOODS

To meet various needs in Calcium Therapy, we have put in convenient tablet from the following effective and readily assimilable four different Calcium products.

1. Alcalzium. 2. Alcalzium with Iron & Vitamin D.	3. Alcalzium with parathyroid. 4. Alcalcigluconate.
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1. Alcalzium—Each tablet represents Calcium Lactate 8.5 grs. Sodium Lactate 2.5 grs. Dicalcium Phosphate 2.0 grs. These tablets are palatable & provide a very effective Calcium preparation in all cases of Calcium deficiency.
2. Alcalzium with Iron & Vitamin D.—Contain in addition 1 grain of Iron Ammonium Citrate and 100 units of Vitamin D per

- tablet and so are special value in cases needing Iron & Vitamin D in addition to Calcium.
3. Alcalzium with Parathyroid (1/20 grain)—Useful specially in cases with Parathyroid deficiency.
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ALCALZIUM
CALCIUM
FOOD

ALCALZIUM
WITH IRON
AND VITAMIN D

ALCALZIUM
WITH
PARATHYROID

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THE ALEMBIC CHEMICAL WORKS CO. LTD.

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PRODUCTS OF THE
GLAXO LABORATORIES

for
VITAMIN B₁
deficiency

Vitamin B₁ deficiency is believed to be widespread in India, and may account for a wide variety of conditions. Chief among these are anorexia, beri-beri, neuritis and neuralgias of varied etiology, gastro-intestinal disorders and intestinal atony.

Berin



Pure crystalline vitamin B₁
(aneurin; thiamin).

In tablets of 1 mg., and
in ampoules of 2 mg.,
5 mg., and 10 mg.

When more
VITAMIN C IS REQUIRED

In Pyrexia: An infection or pyrexia or anything that increases basal metabolism may deplete the body stores of vitamin C, or render it less potent, or interfere with its absorption from the alimentary tract. Under such conditions more vitamin C is required.

INDICATIONS:
Scurvy, febrile illnesses, gingivitis, gastric ulcer.



Pure crystalline vitamin C (ascorbic acid).

In tablets of 50 mg., and in ampoules of 100 mg., and 500 mg.

Celin

GLAXO LABORATORIES LTD., Greenford, Middlesex, ENGLAND.
Representatives in India:—H. J. Foster & Co., Ltd., P. O. Boxes:
202, Bombay; 2257, Calcutta; 108, Madras; 244, Lahore.

The complete
infant diet
without complexities



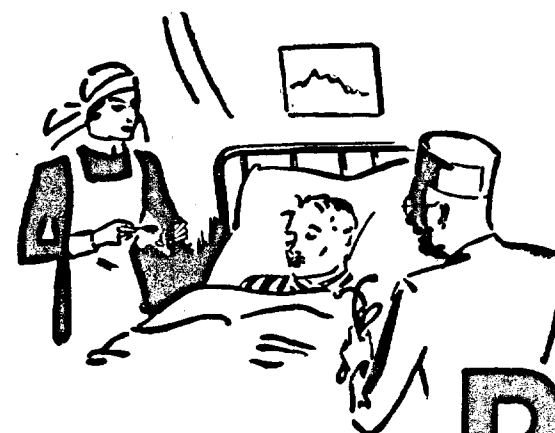
Owing to the virtual sterility of Glaxo the need for elaborate precautions does not arise. It is a complete infant food in itself. Its light flocculent curd renders the use of barley water and citrates unnecessary. In addition, the extra vitamin D and iron in Glaxo gives the infant a sound measure of protection against rickets and nutritional anaemia.



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MILK FOOD

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PRODUCT OF THE
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All your
patients
will readily
accept & enjoy

BRAND'S

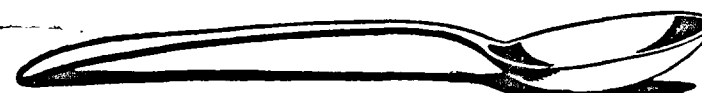
ESSENCE OF ENGLISH CHICKEN

because—

- Brand's Essence is easily and quickly digested without the formation of any solid precipitate—as may occur in the case of milk, raw white of egg, or even the best home-made chicken broth. Where there is gastric insufficiency, full digestion of these fluids sometimes takes many hours.
- This absence of precipitate at all stages of the digestion of Brand's Essence indicates that the system absorbs it with a minimum of effort. The stimulating properties of the Essence take speedy effect owing to the high degree of solubility of the natural protein.
- Even when the gastric juices are enfeebled by acute and chronic disease, there is always enough of the digestive ferments present to deal with the protein present in the Essence. For this reason, it may confidently be prescribed in conditions involving minor degrees of hypochlorhydria.
- Brand's Essence liberates and strengthens the gastric juices. It provokes neither irritation of the delicate lining membranes of the stomach nor the spurious stimulation induced by alcohol and similarly-acting drugs. Most of the resultant free acid is absorbed by the soluble protein. This is present in sufficient quantity to protect the stomach membranes and thus diminish the discomfort of food digestion.
- The Essence can be taken in large quantities without causing thirst or diarrhoea, or throwing a strain upon the kidneys.
- There is practically no acute or chronic condition in which it cannot be given with safety and advantage.

Agents for India and Burma:

GRAHAMS TRADING CO., (India) LTD.
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GLYKERON

*Coughs, Bronchitis, Asthma,
Laryngitis and other Res-
piratory Affections*

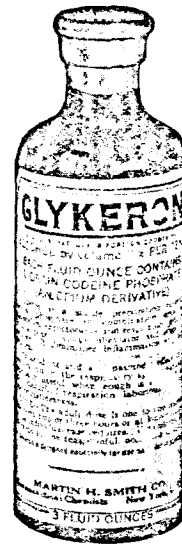
A Bronchial Sedative

Control the cough that
weakens your patient.

GLYKERON quickly relieves this distressing symptom because it contains medically approved respiratory sedatives.

Your patients with respiratory affections do better when they sleep better—*without coughing.*

GLYKERON may be administered to diabetics freely as it contains no sugar or syrup and causes no disturbance of digestion.



Stimulating Expectorant

GLYKERON loosens the mucus in the bronchial passages and aids in its expulsion.

It lessens the hazard of complications by getting rid of germ-laden secretions.

Prescribe it for the symptom of cough. Very palatable.

GLYKERON supplied in 3 oz.
as well as 16 oz. bottles.

DOSAGE: Adults, one to two teaspoonfuls every two or three hours or at longer intervals as the individual case requires. Children, from ten drops to one teaspoonful according to age.

Literature on request

MARTIN H. SMITH COMPANY, NEW YORK

LEXIN THERA

OTHER USES OF LEXIN

Snake-bite: Lexin inhalation and injection.

Opium Poisoning: Lexin inhalation and intravenous injection 1 c.c. to 4 c.c. Repeat as required.

Influenza: Put a few drops on handkerchief and inhale deeply for a few minutes repeat every now and then till relief.

Hysteria } Inhale as above; or put a drop or two into nostril; this breaks the fit.
Epilepsy }

Cholera: Inject 2 c.c. intramuscularly, repeat every hour if necessary.
inject 1 c.c. intravenous.

Collapse: Intravenous injection 1 c.c.

Trauma and } Intravenous injection 1 c
Surgical Shock }

Bleeding from any orifice:

Asthma: In extreme

P. BANERJEE, Mihijana,

[illegible]