

Indian Medical Journal

July 1935



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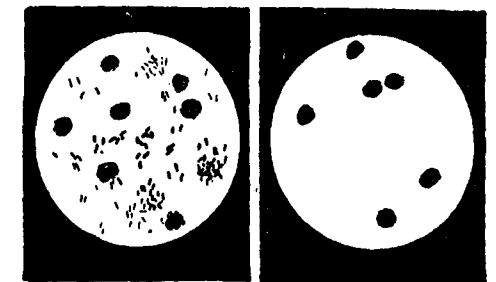
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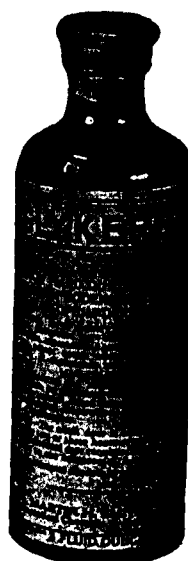
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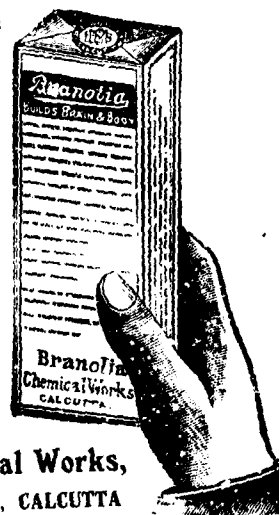
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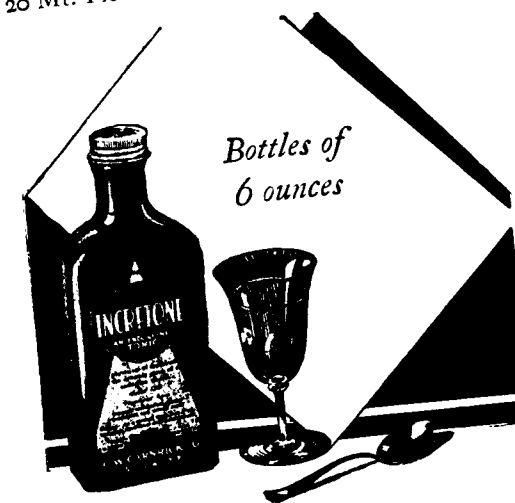
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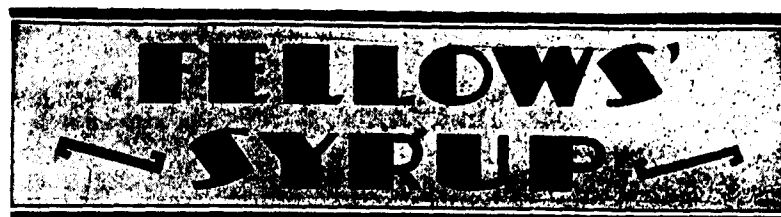
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Original Articles

TREATMENT OF LEPROSY*

By DR. R. C. ACHARYA, L.M.F., D.T.M.

12 Bipradus Street, Calcutta

Introduction.—Leprosy is a systemic disease with manifestations in the skin and nerve and may be generalised due to neglect of certain factors, which make up the constitution or body strong enough to combat the ailments.

No drug has yet been discovered which alone is a specific remedy for leprosy. So many drugs have been tried by numerous workers in leprosy but with limited results.

In the absence of specific drugs, various factors other than chemical and pharmaceutical products modify the treatment to a great extent which when neglected check the progress. In these matters intelligent co-operation of the patient is much more emphasised than the actual treatment by the physician.

In the following pages the writer intends to describe the beneficial remedies found in his last seven years' experience and based upon the findings of eminent physicians who are engaged in special leprosy work in India and abroad.

Physical measures

Personal Hygiene.—This should be carefully attended to; as there are various skin manifestations in leprosy, sanitation of the skin is important. The sweat glands and sebaceous glands of the skin secrete sweat and sebum which become mixed with the epithelial debris shed from the superficial layer of cells of epidermis and render the skin dirty. As the Mutilans Leprae escape through the epithelial scales of different parts of the body, they may gain entrance into the same person causing superinfection or may infect others through close association. To prevent such possibilities, skin should be cleaned carefully.

Bathing regularly in tropics is necessary for the sake of cleanliness specially during hot months when there is much more chance of various skin diseases due to blocking of the pores of the skin which may aggravate the infection of leprosy.

The patients should be instructed to rub their bodies with Chaulmoogra or Hydnocarpus oil and with extra care over the parts already

*A lecture delivered under the auspices of the 27th conference of the All India Medical Licentiates' Association, Indore, on 18th April, 1935.

affected with the disease, before taking bath, so that the excess of oil unabsorbed may be washed away. Daily bath is necessary for the purpose.

Cleanliness of the person cannot be maintained without proper care of clothings. Many harmful skin diseases are conveyed through unclean garments which again tend to spread leprosy.

Cleanliness of teeth and gum is important, as the food particles lodged there undergo fermentation and are converted into acids which act on the enamel of the teeth and corrode them exposing the dentine. This leads to pyorrhoea and its dangerous sequela are chronic dyspepsia, anaemia and several other intestinal diseases, which, in some, interfere with the treatment of leprosy while in others may predispose to infection of leprosy.

Exercise.—Leprosy is a disease of the idle and in them it flourishes well because of their general weakness. This disease has a natural tendency to undergo reaction either without treatment or with treatment. This is worse in the weak and idle person.

Moreover the persons whose muscles are strong, digestion and absorption of food in them are moderately improved and can tolerate the special drugs for the treatment of leprosy fairly well. On the other hand weak and feeble persons cannot; they suffer from reaction every now and then, which is a great hindrance for the treatment to be continued. With moderate exercise, muscles become strong, digestion and absorption of food are improved; so, the resisting power of the body against the infection is sufficiently raised to fight away the disease.

Habits.—This should be regulated; otherwise different ailments leading to various kinds of disease will follow which make the patient weak enough to undergo more and more sufferings.

A daily routine must be fixed and sticking to it is as important as the medicinal treatment in leprosy. Such irregularities as keeping up late hours in the night, untimely taking of food etc., should be discouraged.

Diet.—The influence of diet in systemic diseases more particularly in skin ailments has drawn attention of late years.

Most of the skin lesions grave or slight, are in true analysis constitutional ailments. Since the right type of food is the best agent for improving the constitution or health, skin affections do better with it too.

Improper food affects the constitution in the following ways.—

Lepra reaction

Before entering into the consideration of the uses of the drugs in leprosy, one should be acquainted with a group of symptoms known as reaction, that occur invariably in all the patients. According to the constitution, or the resisting capacity of the body, the symptoms vary from a very slight to a moderate degree.

When the course of the disease is observed, it is found that the disease spreads slowly without any appreciable change in the general outlook of the patient, so it escapes the notice of the physician. The disease itself is not fatal, that is, it does not cause death but it renders the patient helpless and invalid by making him permanently deformed. Lepa bacilli in the course of the disease, are found in the cells of endothelial origin where they multiply. The nuclei of the cells are displaced; the cells become filled with the bacilli. As the disease advances, these cells are ruptured and the bacilli are set free which are taken up again by the cells of the reticulo-endothelial system where they multiply in the same way. This goes on until the patient becomes invalid for good.

The whole phenomenon goes on very slowly inside the body when the disease continues on. The external manifestations during such course are not marked until the disease ends in deformities and arrested. As the course of the disease is extremely slow and the inconveniences experienced by the patients are least in number, the patient does not seek for medical help and conceals the disease for fear of ostracism from the society.

During reaction what happens is that whole course of the disease is quickened, the bacilli multiply rapidly, so called lepra cells; and the bacilli are liberated and may be carried to different parts of the body by metastasis. Several kinds of external manifestations are found in different parts of the body and the patient feels a sense of ill-being. There may be a temperature of varying degree, and the routine work of the patient is interfered with, when the patient seeks for medical help.

Reaction may be caused in leprosy in different ways.

- (a) Spontaneously it occurs as the disease goes on when the patient remains untreated. Gradually the resisting power of the body is lowered, the bacilli multiply quickly in lepra cells and are liberated in great numbers after the rupture of these cells. Probably some toxins circulate in blood

and produce a general reaction. This sort of reaction may be a very mild one and may pass away within a short time when the patient takes care about himself provided that he is not ill otherwise.

- (b) Excessive treatment may produce reaction. Hydnocarpus oil or its Esters may set up a reaction when a big dose is injected. In some even a small dose may cause reaction. The symptoms vary according to the health of the patient as well as the amount of medicine injected.

Certain other drugs may cause reaction in leprosy. Of those, Pot. Iodide is the most powerful one, and special precaution should be taken about its use. Mercurio-chrome, Solganol etc., may cause violent reaction. Every patient should be studied and these drugs should be administered carefully.

- (c) Injections of prophylactic vaccines against Small-pox, Typhoid, etc., may cause reaction in leprosy. Existing symptoms aggravate, but they pass away when the action of such vaccines is fully established.
- (d) By the attack of certain diseases as Malaria, Kala-azar, Typhoid, Dysentery etc., reaction may be caused. Symptoms vary according to the degree of severity of those diseases. Treatment differs in such reactions.
- (e) Excessive exercise, extreme heat or cold etc. may produce reaction; with proper precaution they can be prevented.

Symptomatology.—Symptoms of reaction vary from a slight degree to a severe one. The patient may complain of headache, malaise and a general sense of ill-being. He may not have any other symptom in a very mild type of reaction.

In cutaneous type of cases when the reaction is great various symptoms are found. The existing maculo-anaesthetic areas increase, erythematous patches may swell up to a moderate extent, several patches of macular or erythematous character may appear freshly in different parts of the body. Pustular eruptions in great numbers may appear specially on the lateral aspect of the extremities with a varying degree of temperature. The temperature ranges from 99°F to 104°F. Reactionary temperature may be very protracting and in some patients may be continued for a long time.

Several small nodules may appear in different parts of the body. They are almost of equal size and softer than the non-reactionary nodules. Existing nodules may burst and ulcerate. Bacilli are poured in blood stream, general outlook of the patient becomes very bad. The patient becomes very anxious about his conditions and looks for medical help.

There may be inflammation of nerve and vague nerve pain is experienced by the patient. The patient may get severe nerve pain corresponding with the severity of reaction.

Lymph glands may be inflamed in different parts of the body. Testis may be affected. Mucous surfaces may undergo congestion and inflammation. Cough, hoarseness of voice etc. are complained of. Inflammatory reactions are set up in conjunctiva and nose. Consequently the patient may get eye troubles; he may also suffer from the running of the nose; bacilli are discharged there-from.

An interesting phenomenon that is seen in leprosy cases is periodical recurrence of reaction. Some patients undergo such reaction at regular intervals. It may occur regularly every month lasting for a few days, while in some patients it comes once a year. A very bad type of reaction may last for several months, which should be managed very carefully.

The reaction in leprosy is a temporary phenomenon. It may last from a few hours to 3 or 4 months. It depends upon the constitution of the patient and the resisting power of the body. It is caused in the patient of lowered vitality. When the general health of the patient is improved, reaction passes away.

Treatment.—Treatment of lepra reaction depends on its cause. Reaction caused by protein shock as by vaccines etc., usually requires no treatment provided that the general health of the patient is not bad, otherwise alkali mixtures, saline purgatives etc., may be necessary.

When the reactions are caused by different diseases as Malaria, Kala-azar, Dysentery etc., they should be treated accordingly. Treatment of such particular disease will remove the reaction. The natural tendency of the lepra bacilli is to lower the vitality and the resistance against infection; any disease which produces deteriorating effect on health renders the leprotic patient relatively incurable. So by all means general health should be improved and care should be taken to prevent or to cure such infectious diseases.

In reactions caused spontaneously or by continued treatment for a long time without

any stop, lepra bacilli are liberated from their old situations and carried to different parts of the body which favour the starting of new foci with the result that the disease gets a strong hold on the constitution of the patient, and the prognosis becomes grave. In severe reaction the patient discharges bacilli in great numbers which are a dangerous source of infection to others. Such patient should be carefully managed.

Various drugs have been tried with varying results. Special treatment of leprosy or the drugs which are the cause of such reaction should be stopped altogether. Saline purgatives and alkaline mixtures should be administered. Fowler's solution was given by Hopkins with success. Elevation of temperature excepting on a very few occasion will be the earliest symptom which should be stopped by all means. If the temperature does not come down say within 48 hours Pot. Antim. Tart. from 0.02 gm. to 0.04 gm. should be injected intravenously twice a week. Muir recommends 3 times a week. Some patients get a rise of temperature with the increased dose of antimony. The writer found better results with smaller dose, biweekly injected.

Nerve pain is another symptom very much protracting in reaction. Roy injected $\frac{1}{2}\%$ sodi-bicarb solution intravenously in big doses with success in protracted cases of severe reaction of nerve. Muir recommended adrenaline chloride (1—1000). He infiltrated 3 to 5 ms. in normal saline sub-cutaneously along the course of the nerve and the pain was relieved in a few minutes. Adrenaline checks the lepra fever when injected 2—3 ms. intramuscularly every day for few days. Eubanas used cocaine and adrenaline mixed up for the injection with successful result in nerve pain. Muir and Chatterji used ephedrine sulphate instead of adrenaline in nerve reaction. Pain was relieved within $\frac{1}{2}$ to 1 hour. This can be given by mouth. Ephedrine sulph in 10 c. c. of $\frac{1}{2}\%$ sodi bicarb. sol. can be infiltrated sub-cutaneously along the course of the painful nerve with success in place of adrenaline.

During reaction, erythrocyte-sedimentation index becomes very high. Sedimentation index may be the guide for the treatment. When the reaction subsides, the sedimentation index comes down again, the patient feels better, all the symptoms of reaction pass away, and a general improvement in the constitution of the patient is noticed.

Advantages and disadvantages.—Contradictory statements have been reported as to the effect of the reaction in leprosy. Of those

considering reaction beneficial are Rogers, Hollman, Dean, Denney, Hopkins etc. Some workers reported that successive small reactions if carefully managed lead to early cure. Some other workers reported that a large number of bacilli are destroyed and many lose their acid fastness during reaction. The lepra bacilli are broken up into acid fast granules during reaction whatever may be the cause. This breaking up of lepra bacilli into acid fast dots is directly proportional to the degree of reaction.

In advanced cases, febrile reaction produces beneficial effects. Cutaneous lesions, nodules etc., are greatly reduced with the subsidence of such lepra reaction. Muir reported that Kala-azar in well advanced cases, reduced the original disease to a great extent; Malarial fever did the same. Same results are observed with the febrile reaction after vaccination or protein shock.

Many other workers consider reaction unfavourable in leprosy. Routine treatment is interfered with and the resistance of the patient being low the original disease gets worse. Such reaction which are continued for a long time are definitely harmful to the patient. McDonald and Dean, Rodriguez and Lara etc., are of the same opinion. In early cases febrile reaction caused by Malaria, Kala-azar etc., is definitely injurious and aggravates the original disease to a great extent, though beneficial effects are seen in advanced cases. Muir reported that lesions in advanced cutaneous cases were reduced but the residual disease was rendered more difficult to cure.

Treatment

Chaulmoogra group of drugs.—Chaulmoogra is a special drug, known in India to be effective in the treatment of leprosy for a long time even before Gautama. In China it has been used as early as 14th century, and in Japan 18th century. The oil derived from the seeds of *Hydnocarpus wightiana*, is generally used in India as this is the common variety that grows abundantly in Malabar coast. In Burma *Taractogenos kurzii* is the common species that grows and in Siam *Hydnocarpus anthelmintica*. The oil derived from the seeds of the fruits of these trees are used in these places.

Formerly Chaulmoogra oil was used by mouth or by inunction. As it is a gastro-intestinal irritant, it would upset the stomach and intestine, hence, this method was long ago discarded. The greatest disadvantage in inunction is that the dose cannot be regulated

and a good amount is wasted. This is not in practice at present.

Hansen and Looft used oil with milk but without any effect. Crocker, Heiser, Unna, Defillo and Hopkins tried oil by mouth but the result was not at all promising. Some workers took great precaution against its irritant action but with no marked advantage.

Leboeuf administered emulsion of Chaulmoogra oil; Vaharam and others made emulsions with gum acacia and water which was patented later on as "collobiasis of Chaulmoogra" but with no effect. Later on crude oil was mixed with different products to overcome the disadvantages. Many Workers prepared emulsion of oil with different ingredients for the treatment which sometimes produced beneficial effect and sometimes not. Results experienced by different workers in different countries were not the same. They were on the whole not satisfactory, so the administration of emulsion was stopped.

Mercado in Manila prepared a mixture with Chaulmoogra oil, camphorated olive oil, resorcin under the name of Mercado mixture and used it parenterally with good result but it was not continued.

Rogers in 1915 tried sodium salt of *Hydnocarpus* oil and published an account in 1916, describing its efficaciousness in the treatment of leprosy. This is a water soluble preparation and was administered in 1 or 2 or 3 per cent solution subcutaneously, intramuscularly and later on intravenously. Several workers administered sodium salt by mouth as a keratine coated pills and various other ways, while others recommend it as ointment. Sodium salt of *Hydnocarpus* oil was tried in many places with good results and was marketed as Alepol. The disadvantage is that it causes endophlebitis and blocking of veins if it is not sufficiently diluted or if the solution is not mixed with equal quantity of blood. However it was found later on that sodium salt is not superior to crude oil though it could be exported and imported with advantage and could be preserved with more ease.

Muir recommended E.C.C.O. mixture intramuscularly. It consists of esters, creosote, camphor and olive oil. To start with, 0.25 c.c. is given twice a week and is increased by 0.25 c.c. gradually up to 5 c.c. according to toleration of the patient. It is very effective.

Injection of pure *Hydnocarpus* oil as lately worked out, is more effective than salts, mixtures, or emulsions. It was formerly found

irritating, but now improvements are made to obtain it pure. The irritant property was found due to defective methods of preparation and the seeds being not ripe and fresh.

Oil expressed from ripe fresh seeds is not irritating. It should be preserved air tight in cold places, and should be sterilised by heating to a temperature of 120°C. for half an hour before use. Defective preservation may add to its irritant properties. Here in India creosote is mixed with oil. The oil is injected subcutaneously, intramuscularly and intracutaneously. In the latter method, some difficulties are experienced with oil owing to its thickness.

The best preparations for intradermal use are ethyl esters. The simplest method of preparation as suggested by Rogers and Muir consists of the interaction of oil and ethyl alcohol and sulphuric acid in the presence of sunlight and later on washing it with Sodium Hydroxide and water. Esterification in presence of sunlight requires 3 to 4 weeks. This is known as cold method.

Esters can be made by hot process in shorter time. This consists of boiling of oil and ethyl alcohol and sulphuric acid in a water bath for 24 hours and later on washing it in the same way as described in cold method.

Cole says that esters should be distilled and blown out with steam to get rid of irritating substances from them. Muir says that esters when prepared from well-filtered non-irritating oil, possess no irritant properties, so distillation is not necessary. The writer in his own practice always uses undistilled esters and none of his patients ever complained of pain.

The oil or esters when not stored properly in air tight condition, they being oxidised, acquire irritant properties. By oxidation some kinds of fatty acids and volatile impurities of doubtful nature are produced. There may be some kinds of suspended impurities which cause irritation, when injected. All these difficulties can be removed when the oil or esters are thoroughly filtered and sterilised and preserved air tight in cold places. Oil or esters should be obtained from ripe fresh seeds. Esters made from non-irritating varieties of oil produce good result and the injections are painless with them.

Ethyl ester were made as early as 1905 by Power in pure state. They were prepared in a large scale and marketed for sale under the name of "Antileprol". Hollman, Dean, Wrenshal, Rogers, and Muir prepared ethyl esters and used them with good results.

Until very recently ethyl esters have become very popular in the treatment of leprosy. They are pale yellow liquid and less viscid than oils, and so can be used for intradermal injections with more advantage. Oils can be used for the same injections when heated to 45°C. to 50°C. They may be injected subcutaneously as well as intramuscularly.

In India oil or esters are mixed with creosote in 4% strength. Creosote was started as early as 1838 by Hjortand, afterwards by Danielssen with good effect. Muir's E.C.C.O. mixture contains creosote which proved to be a valuable adjuvant.

In Philippines esters are mixed with Iodine in 0.5% strength. It was meant formerly to reduce the irritant properties but in Calcutta creosote was used for the same purpose. Philippine workers report that Iodine has got some therapeutic value in leprosy. Creosote plays a role in the therapeutic effect, which was reported by Muir in Calcutta. Muir, Cochrane and others recommended creosoted ethyl esters or equal parts of oil and esters with creosote.

Different substances besides iodine and creosote have been added to increase therapeutic value and to reduce irritant properties of *Hydnocarpus wightiana* oil and esters made from it. They are olive oil, camphor, gualicol, thymol, phenol, etc. and produce variable result with different workers.

Some workers prefer oil, others esters and still others oil and esters mixed half and half. This is sterilised, and creosote is added in 4% strength. The dose is 1 to 10 c. c. twice a week.

The method of injections are subcutaneous, intramuscular, and intradermal. The oil is thick and for intradermal infiltration not suitable—of course, it can be injected if heated to 45°C. to 50°C. before use. Esters are injected intradermally with more advantage. They are less viscid than the oil and are quickly absorbed. The method of choice for injections should be judged according to skin and nerve lesions and constitution of the patient. Generally intradermal injections are given into the lesions once a week effectively.

As to the action of the Chaulmoogra group of drugs in leprosy, various theories have been put forward by different schools. They may be summarised as follows:—

- (a) One school holds the view that *Hydnocarpus* oil and its acids inhibit the growth of the bacilli and probably kill them.

(b) Another school holds that they have no action on the bacilli but reactions are produced whereby lepra cells are ruptured and bacilli are liberated which act as antigens.

(c) *Rogers view*.—Chaulmoogra group of drugs increase the lipase contents of blood and thus indirectly act on the fatty covering of the bacilli which is broken down with the result of antibody formation.

(d) Later on, another view was put forward by Rogers. Chaulmoogra drugs contain unsaturated fatty acids which produce a special bactericidal action on the acid-fast organisms.

Though many theories have been suggested by various workers, still the action of these drugs is a matter of great dispute. Exact nature of their action is not definitely proved. From time immemorial, Chaulmoogra oil has been in use in leprosy in India with benefit. Several other oils have been tried but none equals Chaulmoogra group of drugs.

By injecting different oils, esters and various other drugs it is found out that Chaulmoogra group of drugs have some special action in leprosy which cannot be explained properly nor its precise nature can be understood.

Chaulmoogra oils have been analysed chemically and physically; fatty acids, melting points and freezing points of acids, Iodine value and saponification value, specific rotatory power *etc.*, are estimated. Different vegetable oils and animal oils are analysed similarly and compared accordingly with them and tried in leprosy but no definite conclusion has been arrived at till now. The beneficial action of Chaulmoogra oils and their esters in leprosy is universally accepted, so they are in use in most of the countries where there are special leprosy clinics.

Pot. Iodide.—Some workers exaggerate the value of Pot. Iodide in the treatment of leprosy. It is needless to mention that it has neither the bactericidal property nor any special action like that of Chaulmoogra group of drugs. It is a powerful drug no doubt because of its producing a very severe reaction in certain patients even with a small dose.

Some workers think it a specific medicine for leprosy, because the patient feels better when the reaction passes away. Those who have studied the phenomenon of lepra reaction will not overestimate the value of its action.

Pot. Iodide was used as early as 1816 by Danielssen with favourable result but later on

he discontinued it and revised his opinion. Many workers used it but almost all of them had to discontinue it.

The writer in leprosy investigation work has observed some facts regarding the tolerance of Pot. Iodide by the patient. Most of the patients coming to the out door clinic from distant places who have got their general health good with strong physique and active habits can well tolerate Pot. Iodides while on the other hand those with less active habits and weak musculature get comparatively strong reaction with Pot. Iodide. So it should be administered cautiously to the indoor patient in the hospital who cannot tolerate it so well.

How Pot. Iodide brings about reaction is not exactly known; so various explanations have been suggested. Its action is not directly on the bacilli nor on lepromatous tissue. The reaction produced by Pot Iodide is very transient and generally passes away within 48 hours; if in any case it continues for longer period it should be controlled as described before, otherwise it may produce harmful effect. Every individual case should be managed carefully.

Heavy metals.—Action of heavy metals in leprosy cases varies according to the dose administered. In big doses they produce reactions while in small doses they reduce it. One fact should be borne in mind that in a case of protracted or resistant reaction the dose should be well adjusted because the salts of heavy metals are slowly absorbed and slowly excreted and are therefore cumulative.

Antimony.—Some workers reported favourably about its use in leprosy while others did not obtain such good results. Rodriguez and Eubanas found tartar emetic more harmful than helpful. Muir found it a valuable drug in the treatment of reaction.

Antimony by itself has got a very doubtful therapeutic effect in leprosy except that in the treatment of reaction though some reported that it dissolves the fatty capsule of the lepra bacilli. The method of its use and doses have been described in connection with lepra reaction.

Mercury.—In patients complicated with syphilis it definitely produces beneficial effect when a combined form of treatment is advocated as described before. Otherwise its effect in the treatment of leprosy is very doubtful.

Mercuro-chrome is another preparation tried in many patients by several workers with varying results. Its effect is very limited and

when prolonged beyond certain limit, it produces harmful effects.

Other preparations of Bismuth, Arsenic, Gold, Copper, *etc.*, are tried but with no accountable value.

Counter-irritants.—Of all the drugs used as local or counter-irritants, Trichlore-acetic acid is the one that has been extensively used in India with good result. Over the depigmented patches and nodules it has been applied in solutions of different strength. The solutions have generally been used once in every 10 days with marked improvement.

Physical therapy.—X-ray, Ultra-violet ray, Diathermy *etc.*, have been tried with no promising result.

Vaccine and serum treatment.—Many attempts were made to treat leprosy by vaccines and sera. Lepra bacilli have not been cultivated successfully. Vaccine was made with the so-called culture from nodules by Deycke. It was named "NASTIN" and was used by many workers for many years with favourable reports. Later on it was found that the improvement caused by it was limited to a certain period beyond which there was no change.

Other vaccines were made with different acid-fast organisms but with no outstanding result. Tuberculine was injected in leprosy but with some it produced dangerous result. Row used autolysed culture of tubercle bacilli which did not produce any such untoward effect like that of tuberculine.

Serum was made by so called leprosy cultures but the result was not satisfactory. The effect of injections of such vaccines and sera are similar to non-specific protein therapy. Similar result was found by injections of milk and other bacillary suspensions.

Treatment of complications

Ear.—Pinna of the ear is enlarged to a great extent in advanced cutaneous cases. This can be treated by applying Muir's ear clamp (Messers Down Bros. London.) and trimming by a sharp scalpel. To the cut surface pure carbolic acid should be applied. The patient does not feel much pain due to deep analgesia.

Nose.—In majority of cutaneous cases ulceration of the nasal mucosa is found. The nasal septum particularly the cartilaginous portion is affected. Bacilli in huge numbers are discharged with the nasal secretion. Thus the infection spreads.

Nasal ulcers resist treatment to a very great extent. Various forms of treatment are advocated by various workers. Some workers report

that ionization with 1 % sodium hydnocarpate solution produces good result. Others prefer cauterization with high frequency current.

The writer found beneficial result by the following treatment.—

Nasal mucosa is washed with normal saline once every day, and pure Hydnocarpus oil is applied afterwards to the nasal mucosa by cotton swab twice daily. The nasal mucosa is cauterised with dilute trichlore-acetic acid (10% or less) once every fortnight after anæsthetising by cotton plug soaked in 5 % cocaine solution. This may be tried easily because of its simplicity.

Eye.—There are different kinds of eye affections found in a case of leprosy. Proper diagnosis should be made and treatment to be done accordingly.

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(a) Affections of the eye due to invasion of leproma to the surrounding skin. These are not very common.

(b) Ectropion due to paralysis of the lower eye-lid. Eye cannot be closed, there may be anaesthesia of cornea, which gets dry and may ulcerate.

Liquid paraffin should be dropped into the eye in order to keep it moist and at night either Ung. Hydrarg. Oxide Flava of $\frac{1}{2}$ % strength should be applied or cotton wool soaked in liquid paraffin. Operative procedure may be necessary for the eye-lids.

(c) Affection of the eye was seen by the writer during severe reaction of advanced cutaneous cases. The reaction may be due to any cause previously described. The conjunctiva may be congested from a slight degree to a severe extent. The patient cannot look towards light, feels pain, eye-lids are inflamed, and in some severe cases leprotic nodules may appear under the conjunctiva.

The writer has seen some experts use Pot-Iodide lotion in 2 % strength as eye drop. The writer does not believe in such empiric treatment. On the other hand the writer has seen such eye symptoms to pass away with the control of reaction. Such ocular symptoms are very transient. Zinc sulph lotion (1 gr. to 1 oz.) was dropped into the eye twice or thrice daily in some cases by the writer.

Nerves.—Painful nerves in connection with reaction have been dealt with before. Nerves may be thickened and may be adherent to the underlying tissues by fibrous bands producing

pain. Anaesthesia may be increased at the site of distribution of the affected nerve; the corresponding muscles may undergo atrophy. This may be treated by decapsulating the affected nerve if it is not too late.

Thickened nerve may pass on and there may be necrosis or fluid accumulation underneath the nerve sheath producing nerve abscess. Abscess may be single in course of the nerve or may be multiple. Ulnar, peroneal, great auricular etc., are commonly affected. Nerve abscess may be treated by incising and scraping out the contents.

Perforating ulcers.—These are trophic lesions and mainly occur in the soles of feet in well advanced cases. Treatment varies according to the degree of affection. In mild affection, ulcers are very superficial and may be treated by washing with basic fuchsin 1 in 1000 solution. Acriflavin, and mercurochrome lotion of the same strength may be used with success.

When the ulcers are very deep and the underlying bones are affected or necrosed, operative procedure may be required. Necrosed tissues should be cleaned with antiseptic lotions, dead bones or cartilages should be removed, otherwise the ulcers will not heal.

The perforating ulcers are very protracting and generally resist treatment. The patient should be kept in bed at rest. If the patient is allowed to walk, the surrounding tissues will break down by the trauma caused thereby, and thus the ulcers will become worse instead of healing.

Duration of treatment and relapse.—How long a case of leprosy requires treatment is often asked by the patient and his relatives due to the long standing belief that leprosy can never be cured. The answer to such questions is of course that the treatment should be continued so long the disease is not cured, but it is not so simple.

Duration of treatment entirely depends upon the condition and the stage of the disease of the patient seeking treatment. If the disease is in its earliest stage, period of treatment will be necessarily shorter than otherwise. In short, the patient should be treated so long there will be active signs of the disease. After-treatment in most cases is unavoidable. There are various factors which should be judged by the specialist according to the course of treatment already undergone, predisposing causes, and general health of the patient at the time of discharge.

Mutilations cannot be made to grow, so also improvement is impossible to permanent

lesions and deformities. These are the reasons for which leprosy is often regarded as incurable by the public and physician alike. Proper education is important.

Certain cases do relapse. Dr. Lowe reported 15 % of his cases, some reported 30 % of cases while others as high as 75% of cases as relapsed. All these are due to considerations at the time of discharge because of the absence of criteria for absolute cure.

Conclusion.—Treatment has been described but it is a very prolonged one and the duration which may be required for such treatment cannot be formulated because it depends on so many factors previously described. Still more difficult is to conduct a fairly advanced case until the end of the treatment.

The progress caused even by the best available treatment is very slow. So the patient sometimes does not stick to treatment as the improvement is not seen quickly. It should be borne in mind that hygienic measure is no less important than medicinal treatment; so proper attention should be given to such measures as described. The conditions which interfere with the progress of the treatment should be removed. The progress of the treatment should be tested now and then.

Physicians should not be biased to any form of treatment if no improvement is seen by such treatment in certain patients. Some patients cannot tolerate certain preparations while others can bear them well. During the course of such prolonged treatment very many kinds of troubles may arise which should be managed very carefully. If necessary, specialist may be consulted.

Summary

- (a) Eliminate the predisposing diseases and debilitating factors which prepare the body soil to facilitate the growth of the bacilli.
- (b) Increase the body resistance against the infection by improving the general health and maintain the proper nutrition of the patient by suitable and balanced diet.
- (c) Prevent the superinfection by proper attention to hygienic measure as described.
- (d) Take special care of the patient during reaction and control it efficiently.
- (e) Treat the patient by Hydnocarpus preparations and locally apply trichloreacetic acid solution as described, treat the complications when necessary.

SOME RECENT ADVANCES IN THE TREATMENT OF ANAEMIAS*

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One of the most satisfactory advances in clinical medicine is the treatment of the various forms of anaemia. Modern view is that many forms of anaemias are essentially deficiency diseases. Based on this and the pathogenesis together with the effects of treatment, Anaemia could be grouped under three heads:—

- (1) Due to deficiencies such as high colour index and low colour index. (Hyperchromic macrocytic and hypochromic microcytic anaemia).
- (2) Due to interference with blood formation including aplastic and idiopathic anaemias which are secondary to recognised toxic causes.
- (3) Due to haemolytic process including acholuric jaundice such as the anaemias secondary to intravascular haemolysis occurring in malaria and streptococcal septicaemia.

Pernicious anaemia once regarded as incurable is now curable. This was described by Combe in 1822 and brought into prominence in 1849 by Addison. Failing strength, pallor of the surface marked in lips, gums, and conjunctiva, dyspnoea on exertion, palpitation and mild degree of general oedema are some of the main symptoms. These patients are able to move about until the *r.b.c.* have fallen nearly to one million per l. c.c of blood. The blood picture shows:—

- (a) A reduction in the number of *r.b.c.* with relatively less decrease of haemoglobin so that the colour index is greater than 1.0.
- (b) Intense staining of the corpuscles with irregularity in shape and size.
- (c) Reduction of white corpuscles.

Treatment

(a) **Liver therapy.**—In the year 1920 it was found by Whipple and others that in experimental animals regeneration of blood proceeded much more quickly when liver was included in their diet. In 1926 Minot and Murphy recorded cases of pernicious anamia in which great success in treatment had followed the administration of a special diet rich in liver and red meat. In 1928 Cohn produced

a liver extract containing the essential anti-anaemia factor for oral use. This was produced from protein by normal gastric digestion—an intrinsic factor secreted by the mucosa of the stomach interacting with extrinsic protein material of the food to form a peptide substance which is stored in the liver and kidneys. It subsequently circulates and is necessary for blood formation. Disturbance of the blood regenerating function may therefore be produced by defects at various stages of this process in the food, in gastric secretion, in the liver or in the bone marrow. Vitamin B₁₂ has been suggested to play an important part in the above process and accordingly substances rich in vitamin B have been recommended for cases with food deficiency.

It is important in connection with treatment that the blood count should at first be made every week to determine the amount of liver extract required in any given case when liver treatment is administered. Evidence of improvement may be found within a few days shown first by increasing numbers of reticulocytes which may reach 10 % within 4 days followed by a marked increase in the number of ordinary *r.b.c.* at the end of a week. The amount of liver extract varies greatly; average is $\frac{1}{2}$ lb. daily in the form of cooked liver or palatable extracts *e.g.*, Hopol, Livogen, Hepatex, Liverex etc.

Parenteral administration of liver extract—intravenous or intramuscular—has many supporters. This was introduced in 1932 and has certain distinct advantages. The action is much more rapid and much more powerful and in desperate cases an intravenous injection will act at once when oral ingestion would take much too long to show its effect. It must be noted however that response to treatment is of quantitative nature—a large dose given every 6 days will produce the same effect as 1/3 of the dose given every 2 days. Intramuscular injection is less rapid than intravenous injection, but is more rapid and potent than oral administration. The best known extracts are Hepatex (British) intramuscular and intravenous, Campolan (German) intramuscular. The later preparation, in my opinion, should be used guardedly for fear of a severe type of anaphylactic phenomena observed in a case of anaemia treated recently. This particular patient was on the verge of collapse within half an hour after the Campolan injection.

Dameshok and Castle (Boston) point out that the description of the potency of concentration offered for parenteral use is often vague. They also point out that until the specifications

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of the various commercial extracts are clearly defined in terms of what is just a maximal dose it will be impossible to obtain an accurate impression regarding their relative potency.

When improvement is well established the dose could be diminished and what is known as a maintenance dose— $\frac{1}{2}$ lb. of liver extract 3 times a week—could be followed.

Recent research has added another item to our knowledge of the action of the liver in pernicious anaemia. Goldhamer (Univ. of Michigan) reports experiments with extracts of human liver which show:

- (1) Seven months foetal liver contains the hæmatopoietic principle.
- (2) The Liver of the adequately treated pernicious anaemia patients contains the hæmatopoietic principle as against those inadequately treated.
- (3) Damaged livers as from Cirrhosis may not obtain the active principle hence the occurrence of macrocytic anaemia in cases of Cirrhosis of liver. The conclusion is that the active anti-anaemic principle elaborated in the stomach is not only stored in the liver but is altered so as to be available for utilization by the tissues. It is therefore a storage product and not an intrinsic part of the liver substance.

A recent research published by Wilkinson and Klein (Manchester) showed that a fraction prepared from a normal human liver produced a good remission and yielded a potent fraction for the treatment of another patient. Their results indicate that the anti-anaemic substance is present in normal human liver and in the liver of treated persons in active remission but that it is absent from the liver in untreated cases of pernicious anaemia.

(b) *Stomach Therapy*.—Some light is now thrown on the efficacy of preparations of desiccated hog's stomach in pernicious anaemia. Wilkinson of Manchester has separated an enzyme-like substance known as Hæmopoietin, Morris of Cincinnati has prepared a concentrated juice called Addisin. Recent work of Klein and Wilkinson (Manchester) shows that a relationship of fundamental importance exists between the anti-anaemic factors in hog's stomach and in liver. When 'hæmopoietin' is incubated with beef muscle hæmopoietical active element is obtained. This substance closely resembles the active principle of liver and it may be prepared in a suitable form of injection.

(c) *Liver Gastric Therapy*.—Addition of a small quantity of stomach tissue to liver extract produces a preparation which could be given orally and which is 3 times as active as liver extract and 5 times as active as stomach tissue. This preparation is called Extralin and it is made by incubating the Cohn fraction D from liver with minced fresh hog's stomach adjusting to Ph. 5 and drying in vacuo. This product is put up in 5 gm. capsules which is equivalent to about 20 gramme of fresh liver and half of that quantity of fresh stomach.

(d) *Yeast Therapy or Vitamin B₁₂*.—This has not proved effective in pernicious anaemia. It has given a good result in tropical macrocytic anaemia. The intrinsic factor is present in the stomach and marmite (autolysed yeast containing Vitamin B₁₂) reacts with this to supply the deficiency.

Diet Therapy.—This is of importance in other anaemias also. The chief principles are:—(a) Large amount of fresh fruit (b) red meat in finely divided form, 4 Oz. at least daily. (c) Freshly cooked or raw vegetables in large amount. (d) liver about 4 oz. (e) restriction of fat as far as possible avoiding cheese, bacon, fried food, sweet and starchy food, limitation of potatoes, milk and bread.

Simple Achlorhydric Anaemia is a microcytic hypochromic anaemia which has attracted attention very lately. It occurs in elderly woman and shows, like pernicious anaemia, absence of free hydrochloric acid from gastric juice and is attended by dyspeptic symptoms. The usual symptoms are loss of appetite, palpitation, fatigue, diarrhoea, glossitis, numbness of extremities and dysphagia. Blood examination shows the reduction of *r.b.c.* Colour index is below one.

Secondary Anaemia.—This results from loss of blood and in chronic diseases such as colitis, malnutrition, prolonged lactation, prolonged fevers *e.g.*, typhoid, rheumatism and other specific fevers and also in workers with radium and x-ray. These anaemias result from a lack of sufficient available iron for normal haemoglobin formation. Such a lack may be induced by (a) depletion of iron reserve through continued loss of blood (b) insufficient iron in the food (c) improper absorption of iron from alimentary tract (d) inability to utilize available iron.

Iron Therapy

Treatment.—In addition to general regime such as good diet iron therapy offers a formidable weapon in the fight against these anaemias. Reduced iron 1.5 gm daily or iron and ammonium citras 4 gm. daily in 3 divided

DYSENTERIES IN BENGAL*

By DR. NRIPENDRA NATH MALLICK

Calcutta

Dysentery is but a clinical term denoting certain symptoms-complex such as disorders of the alimentary tract in the nature of Colitis, associated with the passage of more or less mucus in the stools, sometimes also of blood, and attended with varying degrees of pain and tenesmus. Its aetiology, however, varies according to the specific causative organisms and other co-related factors.

* Being a paper for which a medal was awarded by the provincial branch of the A.I.M.L.A., Bengal.

(Continued from previous page)

doses after meals is effective. Iron given by injection is quite inert. Iron and Ammonium Citras 30 grains T.D. increases the haemoglobin by 1 % a day and more rapidly if the anaemia is severe. Iron preparations are benefited in general by some of the products containing Vitamin B. Extracts of liver or stomach also quicken the process of blood regeneration. By the administration of iron as a routine measure at all welfare centres a very large reduction in infantile mortality could be effected. Iron deficiency in children will bring on otorrhoea, repeated attacks of bronchitis, nasal discharge and cervical adenitis. It has been concluded by elaborate calculation that it is impossible to account for iron deficiency anaemia in the average child on the basis of a relative absence of stores at birth and a normally rapid growth. It is necessary to look after other factors that actually diminish the total amount of iron in the body. Prematurity is one such factor. The second is infection. Exclusive milk diet cannot cause any degree of anaemia on the basis of its low iron content alone. Other factors causing a disturbance of the metabolism must be present.

Iron and Copper Therapy

Rohland has shown that addition of copper induces a more rapid action of iron therapy. The more recent report indicates that while copper is a very useful adjunct to iron its inclusion in a therapeutical regime is unnecessary so long as a well balanced diet is given. Copper is found in small amounts in most vegetables and it appears to exist in the blood of adults in more or less constant proportion.

Copper Manganese Treatment

The role of manganese in blood formation is doubtful. Copper is necessary for the proper utilization of iron and for the synthesis of haemoglobin.

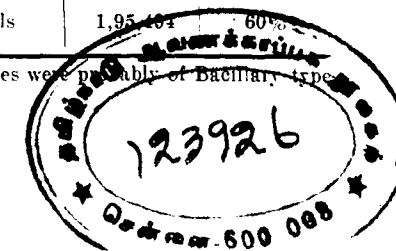
It is essentially a tropical disease and was well-known to the ancient Hindu physicians. They had given it the name of Raktatisara, thus giving it a definite clinical entity as distinguished from other kinds of diarrhoea.

J. Taylor in 1826 and Norman S. Chevers in 1886 opined that Bengal has long been regarded as one of the homes in India for diseases of the alimentary tract. In spite of the lapse of time, this holds true even to-day as will be evident from the present mortality and morbidity rate (*see infra*) of dysentery in Bengal. Research work in this disease has been going on for some time past; but it was Sir Leonard Rogers, in 1913, who organised and conducted a systematized scientific research at the Calcutta Medical College and after him, the Calcutta school of tropical medicine.

Morbidity and mortality.—The Statistics of the last few years reveal that dysentery and diarrhoea levy a toll of 13,000 on an average per year out of the total population of $4\frac{1}{2}$ lakhs in Bengal; Cholera is responsible for 80,000 per year (Ukil). One fifth of the total number of deaths in Calcutta alone is due to dysentery. The mortality rate of the chief diseases in Bengal is, in the order of their incidence, as follows: Malaria, first and foremost; Respiratory diseases, chiefly pneumonia and pulmonary tuberculosis, a close second; cholera and dysentery occupy the third and the fourth place respectively. Nearly a century ago, Norman Chevers pointed out that about $\frac{1}{4}$ of the deaths amongst the lower class population of Hindusthan are due to diarrhoea (cause undiagnosed). The relative incidence of diarrhoea and dysentery in jails may be taken as representing fairly accurately their prevalence in the civil population, as it is almost impossible, owing to various causes, to have statistical information regarding the incidence of these diseases in respect of the latter. I may also emphasise here that the Bacillary type of dysentery due to B. Shiga and Flexner is more common than the amœbic type. The following figures published by the Public health department of Bengal and the Calcutta Corporation will show the total incidence of dysentery.

Period	Place	No. of cases	Mortality
1931	Calcutta	15,020	68%
1931	Moffussils	2,68,870	35%
1932	Calcutta	14,588	49.7%
1932	Moffussils	1,95,404	60%

N.B.—Most of these cases were probably of Bacillary type.



(4) Acton and Chopra (1929) considered that the average percentage of Bacillary cases varies from 66 to 90%

(5) Nundy writing in the Calcutta Medical Journal gave 85% as due to Bacillary infection and only 12% to amœbic dysentery.

(6) Ukil's analysis of cases during the Calcutta epidemic of 1924 accounts as here-under :

B. Shiga	34 %
B. Flexner	13 %
B. Typhosus	6 %
B. Paratyphosus	1 %

other non-lactose fermentors 120 cases.

(7) Chittaranjan Hospital.

Bacillary Dysentery	75 %
Amœbic dysentery	15 %
Mixed infection	2 %
Infection with Giardia Intestinalis	2 %
B. Paratyphosus	5 %
Unclassified	2 %

It would perhaps be not out of place if I incorporate here, in brief, the report of Ukil in a series of 1,500 stools examined, extending over a period of 3 years and a half.

Stools with mucus and blood	316 cases
do pus	354 "

Total 770 "

Less cases showing amœba, Cystic or vegetative	260 "
--	-------

Balance 510 "

Among these 510 cases, following were discovered :

B. Shiga	44
B. Flexner	64
Non-gram negative, and non-lactose fermentors not belonging to the stable flexner group	150
No incriminating cultural organisms	252

Total 510

Among 260 amœbic cases, the result of examination of stool was as follows :—

Entamœba Histolytica	+	Trichomonas	31
do do	+	Giardia Intestinalis	9

Mixed amœbic and Bacillary infection 4

The distribution of Intestinal flagellates in 251 cases was as follows :—

Trichomonas Hominis	143
Giardia Intestinalis	99
Both the above	9

Total 251

It is now generally accepted that dysenteric symptoms observed in certain cases of Kala-azar, Malaria, Influenza, etc., are due to intercurrent infection with Entamœba or B. Flexner or Shiga.

Bilharzia and Balantidium Coli are also said to be responsible for dysentery ; but they

do not seem to be common in Bengal, though a few cases of the latter are recorded by the Calcutta School of Tropical Medicine, Chittaranjan Hospital and by a few other practitioners.

G. C. Chatterji, writing in the *I. J. M. R.* (1917), observes that though some of the intestinal flagellates are harmless inhabitants of the gut, yet, there are some varieties which are pathogenic. When they occur in large numbers and when any other causative organisms cannot be found, it is likely that they contribute their share in the production of dysentery.

Ukil, writing in *The Calcutta Medical Journal* (1927), placed the Para-typhoid-enteridis group (Salmonella) in between Bacillary infection and true B. Coli. He was trying to find out whether one can treat acute cases of Bacillary dysentery with a mixture of anti-dysenteric serum prepared separately against B. Shiga and flexner and the more pathogenic-enteridis group. He found out also that typical early cases of Bacillary dysentery often gave, on plate culture, a rich growth of organisms which gave the fermentation reaction of the Para-typhoid-enteridis group, apart from the characteristic cellular exudate. He was also able to isolate, in the course of last 3 years, 120 strains of gram negative, motile, non-lactose fermenting bacilli producing acid and gas in glucose.

Types of cases.—Three clinical types of cases can be seen in Bengal: (1) Acute (2) Sub-acute (3) Chronic.

Acute or fulminating type is rare in Bengal, though some cases are on record. It is generally the result of infection with B. Shiga. It is usually found under conditions of stress and strain. It may break out (1) as a severe acute toxæmia or (2) as simulating cholera.

Sub-acute type is the commonest type in Bengal, especially in her endemic areas. There is always an history of previous attacks of dysentery and is specially common among the middle and the rich classes. Both amœbic and bacillary dysentery are responsible for this condition. Cunningham remarked that out of 157 cases he examined, 121 cases or 77.7 % could be classed as subacute cases. Usually it is characterised by mildness of symptoms and gradual loss of body weight. Two forms of this type can be recognised: (1) a condition of marked wasting (2) a condition of varying degrees of œdema. A fair number pass on to chronicity.

Chronic type—its clinical appearance, as seen among the Bengalees, is so characteristic

that Norman Chevers (1886) described it under the name of "*Morbus Bangalensis*". This is common among the poorer classes owing to the conditions under which they live—hard labour, privation, over crowding and poor nourishment which markedly lower their powers of resistance.

Prophylaxis.—A combination of measures is essential for an effective prevention of dysentery. The carrier cases ought to be properly and systematically diagnosed, segregated if possible and treated completely and effectively. Apart from the laboratory diagnosis, clinically the carriers fall into two groups: (1) Lean, thin, cadaverous looking individuals with muddy complexion, vaguely ill and suffering from alternate attacks of constipation and diarrhoea (2) Fat and jovial but subject to frequent diarrhoea and vague pains over the hepatic area. Then comes the protective inoculation with vaccine made up of Flexner group of non-lactose fermentors. Oral bilivaccine has been found by Maitra and Basu (1926) to diminish the morbidity in Bengal jails by 5%. Thirdly, sources of infection ought to be attacked. Flies and open latrines and insanitary surroundings should receive our fair share of attention. Of course, a thorough course of treatment has to be instituted in all cases of dysentery as to leave no residuum of carrier cases. This is perhaps the only practical method of prevention at present, though indeed, the other aspects of prevention should not suffer neglect.

Sequela and Complications.—These are no less important than the ravages caused by dysentery directly. The most important and common among them are:—

- (1) Cirrhosis of the liver.
- (2) Ascitis.

- (3) Peritonitis.
- (4) Hepatitis and Hepatic abscess.
- (5) Dysenteric Cachexia.

Conclusions and Summary.—(1) Dysentery is common in all parts of Bengal, including institutions like jails.

(2) It is one of the commonest causes of heavy mortality in Bengal.

(3) Bacillary dysentery is much more common than the amœbic. So called "Hill diarrhoea" has been found out to be due to mild Bacillary infection.

(4) Dysenteric symptoms in the course of tropical diseases such as Malaria and Kala-azar are due to intercurrent or latent infection with specific dysenteric organisms.

(5) Apart from the infection with B. Flexner and Shiga or Entamœba other intestinal parasites give rise to dysenteric symptom under certain favourable conditions.

(6) Defective or poor food stuffs definitely lower the powers of resistance of the people and thus predispose them to infection.

(7) The carrier condition should be vigorously tackled.

(8) The rise and fall of dysentery closely correspond to the monsoon.

(9) The chief preventive methods are

- (a) to reduce the carriers by proper detection and treatment.
- (b) to treat fully and effectively all cases of specific dysentery.
- (c) to improve sanitation in the city as well as in the rural areas.
- (d) to eliminate infected persons from being employed as cooks, servants, etc.
- (e) to inculcate hygienic habits into the people.

Practical Suggestions and Reminders

(Continued from previous issue)

7. Serum reaction. The symptoms of serum reaction or hypersensitiveness are

- (1) shock
- (2) urticarial rash
- (3) œdema, notably in the face
- (4) multiple pains
- (5) albuminuria
- (6) general malaise.

These may vary considerably. Fortunately, however, alarming symptoms are rare. An

injection of $\frac{1}{2}$ c.c. of Adrenalin relieves these symptoms speedily. Efforts are now being made to minimise these reactionary symptoms of serum therapy by a new technic in its preparation.

* * *

8. The common causes of offensive breath are :

1. Food debris in a state of putrefaction between the crevices of the teeth ;
2. Chronic pharyngitis and tonsilitis.

Indian Medical Journal

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JULY 1935

BERI-BERI GROUP OF DISEASES

II

THE ROLE OF RICE AND VITAMIN B.

We can recognise three grades of rice in India—the fine, medium and coarse. Fine rice is slim, but it may be long, medium or small in size. The medium rice is stout and may be long, medium or small in size. The coarse rice is thick, small and squat.

The anatomy of unmilled rice consists essentially of two parts: an external or aleurone layer, commonly called the pericarp, and the interior layer of starch and protein within which are imbedded small granules in fine pockets with a delicate cellulose envelope. Pericarp is the seat of largest vitamin content.

For the rice to be used, the paddy has to be husked either by the hand—usually termed as hand milling—or by machine milling. In the former, much of the pericarp is not destroyed and consequently its vitamin B value is unimpaired. In the latter the pericarp is more or less removed by the repeated process of milling. Thus the first milling removes only the husk and the pericarp is unaffected, appearing white, red or purplish according as the quality of rice milled is white, red or black. The second and third milling removes almost all the pericarp but leaves a good deal of aleurone layer behind. To cater to the aesthetic taste of the higher, middle or aristocratic class, it is also polished, chiefly for the sake of appearance, either by hand or by machinery. Usually the fine grades of rice are polished by hand and the coarser grades commonly used by poor people are polished by machinery. Parboiling of paddy, drying, and milling is the process by which parboiled rice is produced. Such a paddy does not relinquish its vitamin B when milled, though the vitamin A, small as it is in rice, is practically destroyed. Says MacCarrison: "Human experience has, unwittingly perhaps, devised parboiling as a means of preserving this factor (Vitamin B)." In connection with rice grown in endemic

areas of beri-beri in the Madras Presidency, MacCarrison observes that it has no vitamin B to spare for removal by refined milling process. Washing of rice preparatory to cooking does also appreciably reduce the water soluble fraction of vitamin B. These washings are usually preserved for the use of the cattle which seem to thrive well on them in this part of our country. Then, rice has to be stored before it is being retailed for use and unless it is done under hygienic conditions, it is more likely than not that it may get deteriorated. Deterioration is worse if the rice is exposed to rain and to dampness, either at the source, or during transit or at the ill-constructed godowns to which it is destined. This affects the nutritive value of rice in two ways: by reducing the phosphorus pentoxide (P_2O_5) content of rice with a corresponding fall in vitamin B value, and by bacterial contamination which may by itself cause something like a food poisoning or activate the symptom-complex of beri-beri under conditions of avitaminosis, poverty and insanitation.

Thus, one can see that rice, fundamentally poor in its vitamin B content, further impoverished by milling, washing and storage, poor in its protein and mineral content, is the most inferior among the cereal foods. Even this moiety of nutrient elements, if they are to be of use for normal metabolism, must be properly absorbed by the human system. But unfortunately the bulky food of the rice eater who fills his stomach up to the euphoric sense of a comfortable distension, interferes mechanically with the digestibility of rice and consequently there is defective absorption of protein and vitamin contained in it. One may say he supplements his rice meal with dhal, butter, butter-milk and vegetables which will add to its vitamin value. No doubt technically this is true and theoretically it looks like a mystery if such a patient with a generous dietary containing all the proximate principles should develop symptoms of beri-beri. But if one pauses to

3. Ozena.
4. Alimentary putrefaction.
5. Chronic pulmonary disease, chiefly bronchiectasis.
6. Uraemia, due to kidney disease or diabetes.

* * *

9. *Tr. of Musk*.—It is given as a routine in pneumonia, not so much for its reputation as a cardiac stimulant, but for its property in producing Leucocytosis, essential to the formation of antigen in the body.

* * *

10. *Enemata*.—The different uses to which they are put may be summarised thus:—

- i. To relieve the bowels: here ordinary soap and water enema is indicated. Constipation is usually due to the impaction of hard stool in the rectum or sigmoid.
- ii. Turpentine enema to relieve flatulence. Avoid this enema in kidney diseases.
- iii. Starch and opium enema to relieve the extreme tenesmus of dysentery.
- iv. Rectal saline as a treatment for shock and collapse and for cholera.
- v. Rectal irrigation of astringents or antiseptics, as in colitis, dysentery, proctitis and parasitic disease of the Colon. The drugs used are tannic acid, gallic acid, weak solution of silver nitrate, alkalies, yatren, infusion quassia etc.
- vi. Rectal infiltration of absorbable medicaments, such as chloral hydras and bromide (e.g., Infantile convulsions, Tetanus, etc.,)
- vii. Nutrient enema in shock, coma, gastric and duodenal haemorrhage, stricture of the Oesophagus where food cannot be taken by mouth and in acute diseases where unconsciousness supervenes. It is doubtful whether eggs, fruit juices sugar, and milk are absorbed by the rectal mucus membrane. Dextrose and brandy are quickly absorbed. Hence 5 to 10% solution of dextrose and freely diluted brandy are better chosen for this purpose. It must be given at the rate of 20 to 40 drops per minute and the bowel washed with normal

saline before nutrients are introduced.

viii. Diagnostic enema for an X-ray picture of the colon. Barium sulphate is used for this purpose. Don't confuse it with Barium sulphide which is a very poisonous compound. The Bombay tragedy of 5 years ago is a warning lesson where the compounder, it was so reported in the news papers, gave Barium Sulphide instead of Barium Sulphate and the doctor was found guilty of not having been able to differentiate between Barium Sulphide and Sulphate.

ix. Sometimes, Volvulus, intussusception or acute abdomen due to impaction of faecal matter is relieved by enemata and there-by avoid a serious surgical procedure.

Enema should be given in the left lateral position and the height of the can should not be more than three feet above the patient to avoid painful distension. Enema given for therapeutic and nutrient purpose must be given by drip method, 20 to 40 drops per minute.

* * *

11. *Tannic acid treatment of burns*.—It was Davidson of the Henry Ford Hospital Detroit, who introduced it in 1925. The principle underlying this treatment is that tannic acid coagulates the damaged protein and prevents its absorption. Thus, toxæmia, one of the serious complications of burns, is effectively avoided. Earlier this treatment is instituted lesser the chances of toxæmia. It is done as follows:—Soon after the subsidence of initial shock, the patient is anaesthetised with gas and oxygen. The burnt area is swabbed with ether, vesicles are opened and any damaged tissue is snipped away, 2½% aqueous solution of tannic acid is sprayed with an ordinary throat spray every hour, 6 or 7 times a day until the area is turned dark brown. Then put the patient under electric lamps. It takes about 2-3 weeks for the spontaneous separation of co-agulum. The granulating area is then treated with Acriflavine ointment (1-1000).

* * *

12. *Atropine in Strangulated Hernia*. Sometimes, in some cases of strangulated hernia, an injection of 1/30 Gr. of atropine sulph relieves the strangulation. If with this, there is no spontaneous reduction, the injection at least helps manual reduction.

A. V.

(To be continued)

question whether these nutritive elements are being utilised by his body, one will find in its answer the solution to this mystery. It is said by some observers that "rice is absorbed with great completeness in the intestines while its progress through the stomach is slow." No physiologist need doubt this statement but MacCay points out that this is true only when rice is eaten in comparatively small quantities and that the rate of absorption varies with the actual volume or bulk of the diet. We give below his figures which are really illuminating.

In diets containing 30 ozs. of dry rice 6.55 gms. N were absorbed			
..	26	..	7.55
..	24	..	8.50
..	23	..	8.09
..	20	..	8.40
..	19	..	8.47

On this MacCarrison remarks:—"The relatively poor absorption of protein in a bulky diet of rice may be taken as an indication that the absorption of anti-neuritic vitamin will likewise be poor. So, where we hear of diets consisting of as much as 2½ pounds of washed deteriorated rice and 2 to 3 oz. of dhal being associated with beri-beri, it is very probable that the vitamin B provided by the dhal is not being fully utilised. It will presently be shown that true beri-beri occurs in 23.3 per cent of pigeons receiving a diet of washed polished rice and dhal in which the pulses form as much as 8 per cent of the total food intake. It seems likely, therefore, that so bulky a diet as one consisting of 2½ pounds of rice and 2, 3, even 4 oz. of dhal would be likely to provide optimum conditions for the development of beri-beri in human beings; and that the more white rice eaten, the greater the impediment to the absorption of protective amounts of this vitamin. The danger, then, of using a bulky diet of a cereal fundamentally poor in this vitamin is very great."

There are certain beliefs among medical men regarding rice and its relationship to beri-beri, and it is but proper one should try to know how far they represent the whole truth. We shall quote in extenso the pertinent observations of MacCarrison as it is impossible to improve his statement. "A number of misleading statements are current in the literature on this subject: misleading because they do not represent the whole truth. Such statements are the following:—

1. 'When decorticated rice is used as the main staple of the diet for any length of time, beri-beri appears'. This is

not necessarily so and in India it is not commonly so.

2. 'Outbreaks of the disease disappear when whole or under-milled rice is substituted for decorticated rice.' This may or may not be so.
3. 'Beri-beri never appears when under-milled or home-pounded rice only is used'. This is not so in India, though it may be so in other countries where a fair use is made of supplementary foods.
4. 'Beri-beri does not occur when par-boiled rice is eaten'. This is not so in India.
5. 'A rice which contains 4 per cent of P_2O_5 will not cause beri-beri'. This is often so, sometimes it is not so.
6. 'The incidence of beri-beri depends on the treatment to which rice is subjected before consumption.' There is a great deal of truth in this statement. The treatment to which it is subjected includes, however, not only milling or polishing but washing in many changes of water before the rice is used by the consumer."

It is not difficult to judge the quality of rice. As we mentioned earlier, fine rice is long, slim and translucent and if you put it under the microscope you will find small granules in fine pockets with a delicate cellulose envelope; coarse rice has larger granules in larger pockets and a coarser envelope with knots. Diseased rice can be made out by soaking it in water or glycerine for a few minutes when the translucence is replaced by opacity. Specific infection with spore-forming aerobic organisms can be made out by cultural methods. Gloster however finds, after much examination of different samples of rice from different parts of our country, both from endemic and epidemic localities, that such an infection of rice is not greater than what occurs in soil, water, cereals, flour, bread, tinned provisions etc.; that under certain conditions of humidity and temperature (between 80 and 82 degrees F. and a humidity of 60 to 90 per cent.) they may multiply and cause decomposition of foods, and that there appears to be no more reason to suspect these bacilli of forming beri-beri producing toxins in rice than in many of the canned and other foods in which they are constantly present. The small tunnels which we sometimes see in rice are due to the larvae of beetles and moths. *Aspergillus* infection causes mouldiness of rice.

(Fungi). Unscrupulous dealers adulterate rice with 'brushings' or pieces of broken up diseased rice.

Now, a few words about vitamin B and how its total deprivation or insufficiency causes beri-beri in man.

The present knowledge of vitamin is rather confusing, though more extensive than before. From the first three alphabets A, B, C, we have gone further to D, E and F, and that is not to say we are at the end of the whole affair. Each of these vitamins is not a simple atomic nutrient unit, but is a complex compound of unknown chemical matter. Take for example the vitamin B under discussion. We do not know what it is, but we know where it is available in nature and that its continued absence or insufficiency in our food means ultimate disaster to our health. Jansen and Donath of Bavaria claim to have isolated this vitamin in the form of a crystallised hydrochloride. So also certain Japanese scientists. Their results await further proof and verification. It is said or suggested that vitamin B is made up of two distinct factors—the growth producing factor and the anti-neuritic factor. The growth producing factor, being water-soluble, is easily lost when the rice is washed a number of times in water before it is actually put into the boiling pot. The anti-neuritic factor is affected to a greater or lesser degree by the various processes to which rice is subjected to make it edible for man. Hence, it is necessary, for reasons mentioned elsewhere, that man will do well by himself if he reduces the bulk of this starchy menu and supplements it with a generous amount of dhal, atta, vegetables, and tomato juice, which are rich in vitamin B content as well as in other vitamin values, in order that there may be proper metabolism conducive to all round growth of tissues of the body. We want to impress on our readers, what is not commonly realised even by some eminent workers on this subject, that a diet obviously rich in vitamin B is not necessarily an anti-beri-beri food, for its prevention or production is entirely dependent on the efficient absorption of vitamin B in optimum quantities. That is probably the reason why certain cases of wet beri-beri and epidemic dropsy do not quickly respond to diets rich in vitamin B. Here, in these cases owing to diarrhoea, the power of intestinal absorption is reduced to a minimum and vitamin insufficiency is thus perpetuated. Or, in those cases which do not actually suffer from beri-beri, but who are victims to chronic diarrhoea or dyspepsia or dysentery due to

various specific causes, the insufficient absorption of vitamin B in optimum quantities necessary for its prevention may precipitate an attack if this insufficiency is maintained for any length of time either as a result of poverty of diet or of intestinal diseases mentioned above. We must also say that it is not so much this negative factor of vitamin insufficiency which is directly responsible for the production of human beri-beri as the positive factor—a toxic agent produced in the course of disordered metabolism arising out of insufficiency of vitamin B in the food. What this toxic agent is, we are not yet able to find out. But its existence can be demonstrated on pathological grounds. A close analysis of MacCarrison's experiments suggests almost conclusively that the absence of a sufficiency of certain vitamins lashes certain unknown endogenous toxins to a state of malignant activity, producing toxic lesions in the various tissues and organs in the body, such as the liver, the heart, the peritoneum, intestines and so on, which we see in different degrees of engorgement and fatty degeneration in autopsies on cases dying of human beri-beri. The post-mortem findings in experimental birds dying as a result of continued insufficiency of vitamin B in their feeds which were tested beforehand both for insufficiency and for freedom from any aerobic spore-bearing bacilli or any pathogenic bacilli for the matter of that, closely resemble those of the cases of men dying of beri-beri. Besides "a well-balanced diet of mixed grains which maintained pigeons in perfect health, was rendered highly beri-beri-producing by autoclaving in an alkaline medium. Unless poisonous bases were produced as a result of the autoclaving, the malady was not due to any toxin originally present in the grains." (MacCarrison) That is to say in plainer language, autoclaving while sterilizing the diet of any pathogenic organisms reduces its vitamin content and thus affords opportunities for the endogenous toxin to work its mischief in man.

We have said enough about rice and its vitamin value and our justification for it is that such a knowledge is absolutely necessary to intelligently assess the value of different theories held regarding the causation of beri-beri in man and to know exactly whether there is any justification for the aetiological differentiation between the common and acknowledged types of beri-beri and epidemic dropsy. Our next attempt shall be to detail as briefly as possible, certain epidemiological observations and pathological features in connection with beri-beri and epidemic dropsy.

THE POISONS ACT IN THE UNITED PROVINCES

We publish elsewhere the amended rules under the Poisons Act, as published in the *U. P. Gazette* of 30th September 1933, part I, pages 948-949, and the G. O. No. 1000/VI-1776-1930, Judicial department (Criminal Miscellaneous) dated 15-4-1935. It is preposterous that practically all the poisonous preparations of the British Pharmacopeia should be included in the schedule of poisons for which license has to be obtained even by fully qualified and registered practitioners and a regular register of sale and purchase of the drugs for the scrutiny of the excise officer has to be maintained by them. A glance at this list of excisable articles will reveal the ludicrous nature of the selection of "poisonous" drugs. To specify only a few: Tr. Digitalis, Tr. Belladonna, Tr. Camphor Co., Creosote, Tr. Strophanthus and solutions containing more than 3% carbolic acid—remedies which are most commonly used—thus fall within the ambit of this amended Poisons Act! It looks as if the Government of the United Provinces has no confidence in its own registered practitioners and is determined to set at naught the legal and ethical implications of a recognised medical qualification and of the registration of the same by a medical council of its own creation.

One can very well understand the necessity of a Poisons Act to prevent illicit and nefarious traffic in and purchase and sale of such narcotics as opium, cocaine, cannabis indica, alcohol, etc., which are dangerous to human life and which by their habit-forming nature injure the moral and physical well being of the citizen. But to extend this act to cover drugs which are practically unknown to engender a drug habit and which are exclusively used by medical men for therapeutics, is, to say the least, a misuse and misapplication of the Poisons Act. The Government is not probably unaware that there are many indigenous practitioners who possess no qualification whatsoever but who pretend to pass off as regularly qualified to practice by using the stethoscope and the thermometer and even by resorting to therapeutic injections and supplementing their own drugs with allopathic drugs as commonly understood. It is to this set of unrecognised, unqualified and unregistered practitioners that the provisions of these new amendments should be made to apply exclusively, not only from the point of view of misuse of drugs but also from the dire necessity of the times to prevent them

from practising in the name and under the guise of allopathic practitioners. We take this to be the intention of the Act; for, the objects enunciated even in the Government Order No. 253 V-157 of 28th Feb. 1933 (U.P.) are two-fold:

1. To prevent persons not possessing registrable qualifications from prescribing certain poisonous preparations of the B. P. and
2. To prevent such persons from storing these poisonous preparations except under a license.

Further the original Poisons Act XII of 1919 distinctly lays down that nothing in the act or rules made there-under shall extend to or interfere with anything done in good faith in the exercise of his profession as such by a medical or veterinary practitioner. Thus it is obvious that this new diversion of the Poisons Act contravenes its original provisions and intention and sets at naught the legal utility and value of a medical qualification and registration.

The worst of it all is that these amendments were passed in the U. P. Legislative Council against a solid opposition by the elected legislators and against the unanimous and universal protests by many individuals and eminent members of the profession, by several medical associations in that province, and lastly, by the very medical council which has in it a preponderance of Government medical members. We ask, what is the justification or the urgency for these amendments? Has there been one proved instance of a qualified medical practitioner in that province abusing or misusing the B. P. poisons and their various therapeutic preparations? None to our knowledge or to that of the sponsors of this measure, as otherwise it would have been stated or quoted in support during the legislative discussion. The only reason which Col. Proctor, the I. G. of Civil Hospitals, U. P. had adduced was that this was in pursuance of the covenant of the League of Nations concerning international regulation of poisonous drugs and that such a measure was in actual operation in Great Britain and that therefore the objections and difficulties raised by the opposition were beside the mark. We are firmly convinced that these amendments as they affect the duly qualified practitioners are unwarranted by circumstances and unjustifiable on principles of professional ethics, dignity and common sense. We fervently appeal to the Government of the United Provinces to alter these amendments in such a manner as to exclude the qualified

and registered practitioners from the operation of these new rules.

Though the amended rules of the Poisons Act are operative only in the United Provinces, we very much wish and appeal that the medical profession in other provinces of India should join hands with those in U. P. in their efforts to repeal these obnoxious amendments. Lay control of the medical profession must be completely eliminated and galling restrictions which interfere with efficient medical aid should be swept away at the earliest opportunity. Any silence

or passivity in this matter will but mean its extension to other provinces in course of time, when protests and agitation are likely to prove futile and abortive. *A stitch in time saves nine.*

We regret very much that, in our column "Conference Proceedings", Vol. XXIX, No. V, pages 285 and 286, the name of Dr. A. N. Khosla was omitted under the list of members of the standing and the Property committees. He was elected as a member of both these committees.

Current Comments

We observed in our last issue that *Vested interests* stand in the way of reformation of the provincial medical councils of India. We may be accused of using this phrase of political parlance or shibboleth in the description of these Councils which have nothing to do with politics of any kind. But we find no better words, as crisp and precise as the two contained in this phrase. Let us first of all acquaint our readers with what we mean by this phrase, before its "*Clinical*" application.

Vested interests are interests that are engendered by an attitude of selfishness and superiority of any kind. That attitude represents least little trace of fairness, justice and equity. We want the readers to understand that they are not necessarily nor invariably associated with those types which are usually labelled as the vested interests of landed and monied aristocracy. There are other types, which are very subtle and difficult of recognition, as for example the vested interests of the priest. Under this type will perhaps fall the vested interests which characterise certain section or sections of the Indian medical profession. These vested interests are impersonal in nature and probably have nothing to do with personal worth and integrity. They are the result of sentiment and fancy born out of a sense of inherent superiority. We shall not labour to define the phrase any further.

What are the features of the vested interests which perpetuate the differences within these medical Councils. The first feature is that those who have got British registered qualifications feel a sense of aristocracy and believe that they possess such diplomas and degrees which cannot stand comparison with those granted in India, either by her Universities or

by other duly constituted examining faculties. They may believe so honestly; but whether it is right or wrong will ever be a question of opinion. This sense of superiority would have been less aggressive had those possessing such qualifications not been the 'rulers' of the medical administration and of medical councils here—due, of course, to historical causes. That gives an added weight and prestige to their natural and excusable sense of superiority.

That also reasonably accounts for the divisions kept up within the medical councils and the consequent sectional classification of the registered medical practitioners. They probably know that such divisions do not exist in medical councils in other parts of the civilised world and that they are unique to this country only. They probably know also that any medical council if it is to deserve and justify that appellation ought not to divide the ranks of the registered medical practitioners into mutually exclusive and invidious compartments.

Yet the wonder of it is, such divisions have been made possible and the name "Medical Council" is given in a solemn manner. And the world believes that the provincial medical councils of India are of the same pattern as in other countries.

Another bogey which vested interests raise is the "minimum standard of medical education" which is the fundamental qualification for a medical registration. It is said that the minimum standard—we will confine ourselves to two countries only, Great Britain and India—varies and as such those possessing two different minimum ought

to be classified separately. The British minimum standard is fixed by the British medical council and the Indian minimum standard is fixed by the provincial medical councils of this country. The tragedy lies in the fact that the Indian minimum is practically and really fixed by "the superior" section of the provincial medical councils and still it is said that this minimum is not up to the British measurement. Granting that it is so, we ask, why and how is it that an inferior minimum is set up for this country? Are we incapable of that British minimum? The only thing that strikes us—we may be wrong in holding this opinion—is that these differences, if any, are set up to keep down the Indian medical profession from claiming an independent and international status.

If the Indian minimum is to be made acceptable to-day, two conditions seem essential. One is that the Indian medical profession should accept the sovereignty of the British Medical Council. The second is that the profession should tolerate its interference and accept its decision as final. How, for a time, The Calcutta University was treated is an historic instance of the attempt of that council for supremacy over the profession here. Of course, the Indian Medical profession will not allow such a state to prevail, if it can. And that it is not in a position to prevail, at least for the present, is proved by the way in which the All India Medical Council was piloted and anchored. If we cannot call these as the results of vested interests, we do not know how to call them.

Let us leave aside The British medical council for a time, and think a little about this "Minimum standard of medical educa-

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tion". As the affairs stand at present in our country, and as we understand them, there are two different minima, recognised by the provincial medical councils of India—and they are, "The British minimum Standard" and "The Indian minimum standard". The latter is further divided into (1) the minimum Indian University standard (2) The minimum standard as imposed by the different boards or faculties of medical examination. In reality therefore there are not two but three different minimum standards all of which are registrable as such in the provincial medical councils. That is how the triple classification of registered medical practitioners is sought to be justified and perpetuated. One thing which we wish our readers to keep clear in their minds is that the registered practitioners possess the minimum registrable qualification, whatever may be the differences between the minimum standards as recognised by these provincial medical councils.

The question of "minimum standard of medical education" is so important that it deserves separate consideration. We shall discuss it in our subsequent issue.

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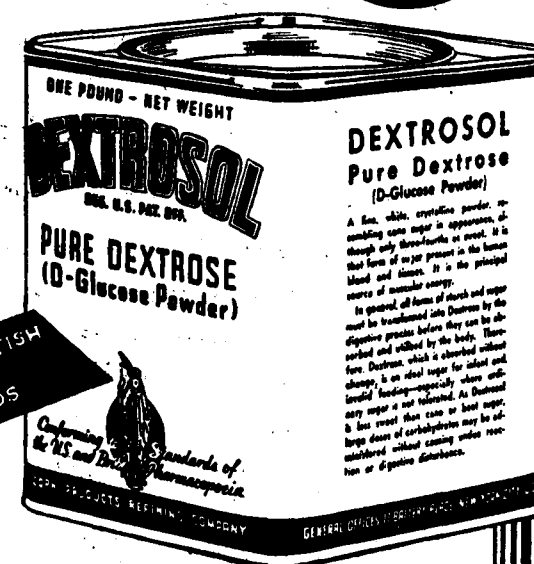
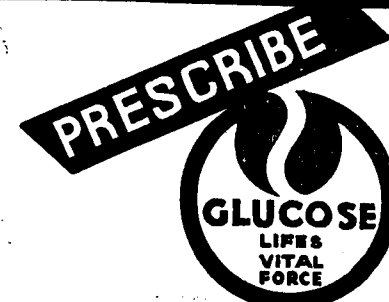
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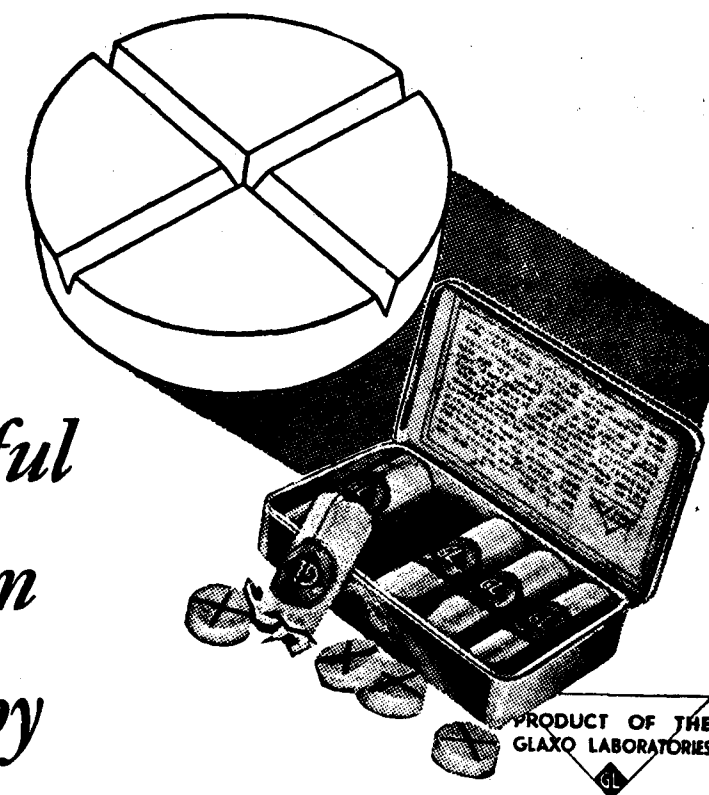
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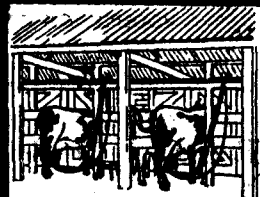
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Notes and News

U. P. Poisons Act—A Protest by the Ahmedabad Medical Society

That this meeting of the members of qualified medical men of Ahmedabad held under the joint auspices of the Gujarat Branch of the All India Medical Licentiate's Association, Ahmedabad and the Ahmedabad Medical Society, strongly protests in sympathy with the registered Medical Practitioners of the United Provinces against the new Poison Rules promulgated by the U. P. Government as per their G. O. No. 1000/VI—1776—1930 dated 15th April, 1935 published in the U.P. Gazette of 18th May 1935, whereby undue restrictions are placed on all registered medical practitioners in that province by the said rules; and requests the U. P. Government not to enforce the said rules, as they are likely to entail great hardship upon the Medical Practitioners in that province.

And that a copy of this resolution be submitted to the U. P. Government and to the press for publication.

Moved by:—DR. JACOB E. SOLOMON *President*, The Ahmedabad Medical Society. Seconded by:—DR. JAMIATRAM B. DESAI, *Vice-President*, All India Medical Licentiate's Assn. Supported by:—DR. HARIPRASAD V. DESAI, *Vice-President*, The Ahmedabad Medical Society.

Amendments to the Poisons Act in the United Provinces

The following amendments have been passed into law: (Extracted from the U. P. Gazette, Part 1. Pages 948-949, Dated 30th September 1933.)

(1) The following note shall be added to rule 3.

Note 1.—A medical Practitioner registered under the United Provinces Medical Act 1917 with the U.P. Medical Council, who directly supplies his own patients with medicines at his own dispensary wherein his own prescriptions only and not those of any other Medical Practitioner are dispensed shall be deemed to be exempt under the provisions of Sub-Section (1) of Section 9 of the Act and shall not be required to take out a Licence under these rules:

Provided that:—

(i) The Medical Practitioner keeps in book and forms a register of his purchases and sales of the poisons enumerated in the schedule,

one page being used for each poison, wherein entries shall be made as such purchase or sale takes place:

- (ii) the medicines containing these poisons are only supplied on the written order or prescriptions signed in fully by the Medical Practitioner with date;
- (iii) the full name and address of the patient is written on the order or prescription;
- (iv) the register or records of purchases and any stock of such drugs and preparations are at all times available for inspection by any duly authorised Excise Inspector.

Note 2.—A medical Practitioner whether registered under the United Provinces Medical Act 1917, or not, who maintains a dispensary wherein not only his own prescriptions to his own patients but also the prescriptions of other Medical Practitioners are dispensed shall be deemed to sell the medicines to his clients, and such medicines shall not contain any of the poisons enumerated in the schedule unless the Medical Practitioner holds a licence for their sale.

(2) The following sentence shall be added at the end of rule 4.

Medical practitioners not possessing registrable qualifications should not be granted licence for the sale of any of the poisons mentioned in item No. 6 of the Schedule.

(3) The following sentence shall be added at the end of rule 9.

"He shall not sell or dispense the poisonous preparations of the B. P. enumerated in item No. 6 of the schedule except on a prescription given by a Medical Practitioner possessing qualifications registrable under the United Provinces Act, 1917."

(4) The following shall be added as a new item No. 6 in the schedule to the rules:

Poisonous preparations of the British Pharmacopœia:

Aconitine and all B. P. preparations containing Aconite. All B. P. preparations of Arsenic, derivatives of Arsenic, including its organic compounds. Atropine, its salts and B. P. preparations. All B. P. preparations of Belladonna containing more than 1 per cent of its alkaloids, except Belladonna plaster. Cantharidin and all its B. P. preparations. B. P. preparations of Cannabis Indica. Creosote. Carbolic Acid and all its B. P. preparations containing more than 5 per cent of it. Chloral Hydrate. Chloro-

form and preparations containing more than 80 per cent of Chloroform. Cocaine, its salts and B. P. preparations. B. P. preparations of Dhatura. Diethyl-barbituric acid and such derivatives as Veronal, Proponal, Medinal. Digitalis and its B. P. preparations. All B. P. preparations containing Ergot. Homatropine Hydrobromide and its preparations. Hyosein Hydrobromide, Hyoseyamine Sulphate. Liq. Ammonium Fortis. Mercuric Chloride and Iodide. All B. P. preparations of Nucis Vomica containing more than 2 per cent. Strychnine, and all its alkaloids with their salts and preparations. Oxalic acid. Phosphorus and all preparations containing 0.005 or more per cent of free phosphorus. Physostigmin sulphate. Pilocarpine nitras. Prussic Acid and all preparations containing more than 1 per cent of it. Strophanthus and its B. P. preparations. Sulphonal and its B. P. preparations containing more than 1 per cent of it, also its derivatives and organic compounds.

The Latest Amendments to the U. P. Poisons Act Judicial Department Criminal Miscellaneous 15th April, 1935. No. 1000/VI-1776-1930. In continuation of Notification No. 1971/VI-1776-1980, dated the 5th September 1934, it is hereby notified for General information that the Governor in Council has, in Exercise of the powers conferred by Section of the Poisons Act, 1919 (XII of 1919), and after previous publication required by Sub-section (2) of Section 8 of the aforesaid Act, made the following amendments to the rules regarding the possession for sale and the sale of certain poisons published with this Department notification No. 681/VI-1149, dated the 15th February 1931, as amended from time to time.

Amendments

1. (a) In rule 8 for the provisos to Note 1 substitute the following.—

"Provided that the Medical Practitioner keeps in book form a register of his purchases of the poisons enumerated in the schedule, one column being used for each poison and the balance in hand in each case being entered on the last day of each month."

(b) For Note 2 to the said rule substitute the following.—

"A practitioner who is not registered under the United Provinces Medical Act, 1917, and who maintains a dispensary wherein either his own prescriptions to his patients or the prescriptions of other Medical Practitioners are dispensed, shall be deemed to sell the medicines to his clients and such medicines shall not contain any of the poisons enumerated in

the schedule unless a medical Practitioner holds a licence for their sale. A Practitioner registered Under the United Provinces Medical Act, 1917, who maintains such a dispensary will be required to register his name with the district magistrate and maintain a full record of all sales to other than his own patients; he will also file all prescriptions or vouchers in support of such sales for a period of 12 months."

By order,
(Sd.) L. S. WHITE,

Secretary to Government, United Provinces

Dr. T. C. Basu Chowdhary of Agra writes:

Dr. Srivastava is the first non-I.M.S. principal of the Agra Medical school. He took his B.A. degree in 1899 (Allahabad University), joined Medical College, Lahore in 1900, and passed the M.B. in 1905 with high distinction. He was awarded The Neil Memorial Medal in Surgery. He entered the U. P. provincial medical Service in 1905 and worked as civil surgeon for about 15 years with much credit to himself and appreciation from the public and the government. As a recognition of the qualities of his head and heart he was awarded Coronation Durbar Medal in 1911, and the title of Rai Bahadur was conferred on him in 1928. He was appointed as the Principal of The Agra Medical School in 1932. He was responsible for many salutary changes and reforms in that school. He was as much popular with the students as with the teaching staff. His services



Rai Bahadur Dr. Ram Suroop Srivastava B.A., M.B., F.S.M.S. (U.P.) K.I.H.

as the Principal of the Agra Medical School earned for him The Kaiser-i-hind silver medal in 1934 and the honorary fellowship of the State Medical Faculty, U.P.

His services were keenly appreciated by the Agra branch of the A.I.M.L.A. and as a token of the same it is now awarding a silver medal in his name to the best student of the Medical School, Agra, in pathology.

He retired from the service on 4-2-1934 and was succeeded by Lt. Col. Bharucha. I. M. S.

May he enjoy his well earned rest!

Special Article

EXTRAVASATION OF URINE*

By N. S. NARASIMHAN, L.M.P. (Mad.)

L.R.C.P., M.R.C.S., F.R.C.S., (I)

Tutor in Operative Surgery,
Medical College, Madras

The most recent case of extravasation of urine that was admitted into my wards when I was in charge was treated outside the hospital for fever for a week, the extravasation not being recognised by his doctor. He died within half an hour after admission.

Looking up to all the available text-books on the treatment of this condition, Choyce's System of Surgery, Volume II page, 848, has the following: "Immediate multiple incisions should be made wherever the infection has spread in the perineum, scrotum, and abdominal wall, and washed through several times in the 24 hours with hydrogen peroxide or biniodide solution." Later on, while discussing the treatment, I will show the importance of this procedure.

Anatomy.—It is important to realise the relation of the male urethra to the true pelvis. The anterior urethra lies outside the pelvis, while the posterior urethra is a pelvic organ. The attachment of Colles' fascia and its continuity with the abdominal wall are familiar, and cases have been known where the infection had extended right up to the nipple.

It is advisable to have a correct mental picture of the Cave of Retzius. Extraperitoneal fat has very little attachment either to the peritoneum or to the pelvic fascia, and therefore it is very easily displaced. The area extends from the hypogastric artery of one side round the front of the bladder to the hypogastric artery of the opposite side, downwards to the visceral layer of the pelvic fascia, between the bladder and the pelvis, displacing the soft fat until the level of

*Published by special permission of the author; A lecture delivered under the auspices of the Madras University extension Board on 18-1-35.

the ureter; it extends upwards between the obliterated hypogastric arteries to the umbilicus. The anterior border of the bladder and parts of the infero-lateral surfaces of the bladder form the posterior boundary of the lower part of the cavity of the space of Retzius. The same arrangement holds good also in the female.

Clinical Symptoms.—For what clinical symptoms does the patient seek aid?

1. Retention of urine due to stricture or instrumentation and hæmorrhage.
2. Periarethral abscess, perineal abscess.
3. Lacunar abscess and stricture.
4. Injury. The types of injury in this country are.—

(a) Fall from: (i). Lift well, (ii). mason falling astride on his perineum, (iii). children falling on water taps and iron pipes, (iv). kicks on the perineum by horses.

(b) Fall from a height, pelvic injury, caught between boats, buffer accidents, cart wheel accidents, central acetabular fracture, etc.

The patient's history of long standing stricture and frequent retention of urine or a recent gonorrhoeal infection and a painful swelling in the perineum, or a history of injury may be obtained. The common type of extravasation is when in a recent gonorrhoeal infection a periurethral abscess may open into the urethra and an infiltration may take place.

One must have a definite method of examining these cases.

1. The male perineum, being partly hidden by the scrotum, is liable to escape scrutiny. Lift the scrotum and try to fold it on the abdominal wall. This can be done without any pain or discomfort even with a very large elephantoid scrotum. If there is a catch in the perineum or pain is felt by the patient, or inability to do so by the surgeon, then there is surely an inflammatory condition in the perineum. Several instances have occurred where a urinary extravasation has been mistaken for lymphangitis of the scrotum and valuable time lost.
2. Notice if any blood is trickling from the meatus. Look for any phimosis or tight prepuce, and see if the external meatus is stenosed.
3. Examine the perineum for any ecchymosis, swelling or deep seated tenderness.

4. Examine the pelvis by gripping the two iliac bones together. Palpate the ischio-pubic rami on either side for any fracture.
5. Make a rectal examination in men and vaginal examination in women if a pelvic injury is suspected.
6. Note if the bladder is distended or not.

The following clinical types may occur: Diffuse phlegmonous urethritis or due to solution of continuity of the urethral walls, allowing the urine to find its way into the perineal and scrotal tissues.

Causes: A. *Sudden onset.*—(i) Overdistension of the urethra behind a neglected stricture; this is characterized by violent effort during micturition followed by ease. (ii) Traumatic laceration of the urethra.

B. *Gradual onset.*—usually preceded by a peri-urethral abscess which bursts into the urethra.

The actual location of extravasation may be:

1. Infiltration in the inferior superficial perineal compartment.
2. Infiltration in the superior perineal compartment. (There were two cases of this type in 1934).
3. Extravasation is by no means always confined to the definite areas described by anatomists; a diffuse deep-seated perivesical cellulitis may follow, or may be combined with perineal infiltration. Both forms may be of prostatic origin; if the patient's condition is progressively becoming worse after a perineal operation for urinary infiltration, the upper region should be explored through the hypogastrium.

The signs of ruptured bulbous urethra are four in number: urethral haemorrhage, perineal haematoma, retention of urine, and pain. The severity of the mucosal tear is judged by a posterior urethroscope, but this is not available always.

To distinguish between a complete and an incomplete lesion, a sound or a coude catheter should be used. This should be done only in the operation theatre with the usual precautions and must be followed by operation.

Catheterization is fallacious in distinguishing between extra-peritoneal rupture of the bladder and intrapelvic lesion of the urethra. Intrapelvic rupture occurs at the apex of the prostate, that is, the prostatic urethra is severed from the membranous portion. In addition, the pubo-prostatic ligaments are torn. The loss of these ligaments, aided no doubt by the pressure of the extravasated products

in the Cave of Retzius, causes the neck of the bladder with the prostate to be displaced backwards. It is this which makes this type of case extremely difficult and the continuity of the urethra must be restored. A catheter may draw some blood-stained fluid from the pre-vesical space. One may not be able even to make out if the bladder is distended or not. It is only on opening the suprapubic space and examining the space of Retzius that it is possible to make out if there is an extra-peritoneal tear of the bladder or whether there is an intrapelvic rupture of the urethra; even then it may not be easy to determine the exact site of the lesion.

Treatment.—How to treat retention of urine on board the ship or in a village in a case of rupture? By repeated supra-pubic aspiration.

What are the sequelae of incomplete rupture? Tied-in catheter and infection lead on to stricture.

Treatment of incomplete rupture.—In these cases bleeding may be very severe. No catheterization at first, but when there is retention catheterization should be done with a large catheter (and not small). Perineal section and drainage by a catheter should be done (Reginald Harrison, 1880) behind the point of rupture for 48 hours.

Interstitial rupture.—Catheterization may be done but the danger is that it may injure the urethra and open into an intraperitoneal haematoma. A hypogastric puncture should be done if the catheter fails and an external urethrotomy should be done if a perineal swelling develops.

Treatment of complete rupture.—There are many methods of finding the posterior end of the divided urethra. The first step in a complete rupture of the urethra is suprapubic cystotomy and retrograde catheterization. (Retrograde catheterization has been used by the French school from 1757 and is a very satisfactory procedure). The following are the methods of dealing with complete rupture of the urethra.

1. End-to-end anastomosis. For many years this was used but the end-results are poor.
2. Suprapubic cystotomy, perineal section and no suturing, gives good results. No sutures are to be used when extravasation has taken place.

In complete ruptures the roof has to be stitched (Rutherford Morrison). Mobilise the ends before suturing.

Heitz-Boyer operation of excision of the lacerated ends, suture, and suprapubic cystotomy may also be done.

The after-treatment consists of raising the foot of the bed, confining the bowels for 3 to 4 days, and keeping the wound clean.

Urethroscopic control (Frank Kidd) in the follow-up of cases is very essential.

The diagnosis of intra-pelvic rupture of the urethra from extra-peritoneal rupture of the bladder is difficult unless one can make out a distended bladder. In this variety of rupture of the urethra there is no perineal swelling, but echymosis may be present.

Intrapelvic rupture of the urethra is treated by opening the space of Retzius, suprapubic cystotomy and drainage. The continuity of the urethra should be restored before it is too late.

The methods of correcting backward displacement of the neck of the bladder are:—

1. Direct suture of the urethra and retrograde catheterization.
2. Correction by an indwelling catheter. The only indication for an indwelling catheter in intra-urethral injuries is in complete intrapelvic rupture. The membranous urethra, unlike the bulbous, shows very little tendency to stricture formation.

In rupture of the penile urethra the following is the procedure to be adopted, except in recent cases. Go at once to the hypogastrium, open the bladder above the pubis, provide siphon drainage and relieve the infiltrated tissues by free incisions made with thermocautery. This is the best method of cutting short the threatening local and general conditions and of arresting the progress of gangrene of the penis. In recent cases, if micturition is impossible, frequently irrigate the urethra with sterile water; make a long incision on the under surface of the penis should any swelling develop. When the patient cannot pass urine, or does so with difficulty, a gentle attempt should be made to pass a catheter into the bladder, but if any difficulty is experienced, do an external urethrotomy behind the ruptured segment or a suprapubic cystotomy; the latter is preferable.

In cases of impacted calculus with retention of urine, try to push the calculus into the bladder; if unsuccessful, do an external urethrotomy.

Meatotomy for a pin hole meatus is often required and has to be done with proper technique, to prevent strictures later.

Urinary extravasation in the perineum.—Make no attempt to pass a catheter. Waste no time by making superficial inadequate incisions in the most oedematous areas. Go to the perineum at once. Make an incision in the median raphe and steadily

deepen it, always keeping to the middle line until a jet of urine and pus escapes. Enlarge the deep part of the channel so that the drainage may be as free as possible. Make drainage incisions in the scrotum, on the sides of the penis and on the pubic region always parallel to the long axis of the body. If the swelling is not great, two or three long pubo-scrotal incisions and a number of scattered punctures will provide the necessary ways of escape for the extravasated fluid. On the penis punctures are to be preferred as they do not give rise to subsequent troublesome contraction. This is a very satisfactory method.

Urinary infiltration in the superior perineal compartment.—This is very much less obvious in the initial stages and invades the cellular tissue of the pelvis and shows itself in the ischio-rectal fossae or in the hypogastric region. If it occurs in the ischio-rectal fossae it may be mistaken for ischio-rectal cellulitis and periproctitis. There were two cases of extravasation with swelling in the hypogastrium, in the year 1934. The visible lesions are really deceptive. A guarded prognosis has to be given. The peculiar gravity of the case depends on the difficulty which is experienced in recognizing at an early stage, and on the diffuse gangrenous pelvic cellulitis which is already in existence when the first external signs appear. If the leak is small and if the patient is able to pass water, the difficulty of diagnosis is really very great. The suprapubic space must be opened up and drained, with drainage in the perineum.

Treatment of urinary abscess.—Incise the swelling at once; do not wait till superficial fluctuation appears. Incise in the middle line of the perineum until the cavity is reached. The pus sometimes tracks laterally into the ischio-rectal fossae. Make a free counter-opening and drain. The greatest extension is most frequently found above and externally along the ischio-pubic rami and over the corpora cavernosa, and these extensions give rise to most obstinate sinuses and fistulae. Always drain them by making counter-incisions.

Subsidiary measures in treatment and examination are: Subcutaneous salines and intravenous glucose and salines are often administered. Continuous bladder drainage is adopted. Hiccough is usually a sign of infection and not of uraemia. Estimation of the blood-urea may be necessary. The blood urea is often normal, and the presence of hiccough should make you examine the case thoroughly on the table for locating pus or infiltration in the superior compartments.

The following prophylactic measures are valuable:

1. Immediate treatment of all urinary abscesses
2. Systematic treatment of stricture of the urethra. (a) Cases of stricture with urgent symptoms—gradual temporary dilatation. Dilate the stricture up to 22 (French) as quickly as reasonably possible and keep it to this size. Internal urethrotomy and subsequent dilatation is the practice

in our wards. (b) If the urethra will not admit an instrument and the patient has retention, he will have to be admitted as an in-patient and treated.

3. Never tie a catheter in the urethra for more than 24 to 48 hours.
4. Careful after-treatment of traumatic rupture with urethrotomy is required.

Our Contemporaries

THE CLINICAL IMPORTANCE OF FIBROSITIS IN GENERAL PRACTICE

By W. H. MAXWELL TELLING

M.D., B.S., F.R.C.P.,

(Extracted from the British Medical Journal No. 3874 of 6-4-35)

There is need for much clearer clinical appreciation of white fibrous tissue pain. When fibrous tissue undergoes acute or chronic inflammation, injury or chronic strain, it becomes painful and since it is very widely spread throughout the whole body, many causes of pain can be explained in this way. Not only does it become painful, but it undergoes painful inflammatory proliferation forming either linear stringy thickenings, thickened plaques or sheets, fibrous lumps or nodules. The pain is variable continuous or intermittent, dull and aching or sharp and paroxysmal varying with the state of bodily health and weather.

Certain special methods of clinical investigation are required. White fibrous tissue is accessible to direct palpation to a very large extent. It is always more or less tender to pressure or strain when it is affected. Strain may be caused by any form of pulling and dragging and is particularly associated with movement.

Fibrositis is most commonly called "muscular rheumatism" inaccurately as it is neither muscular nor rheumatic, though there are close anatomical and clinical associations. Neuritis is another popular term used and it is partially accurate.

The true rheumatic infection in younger subjects is a common cause of fibrositic pain.

Aetiology

There are 3 main factors to be recognised.

- (1) Septic and toxic influences—as in influenza, as is noticed from the widespread pains in the disease. Gonorrhoea also affects the white fibrous tissue and also as pointed above, acute rheumatism.

It is also found in many other toxic and infective conditions as in oral sepsis, Erythema nodosum etc. Gout also predisposes to white fibrous tissue pain.

(2) Injury—acute in the form of contusion or laceration. This type differs from that of infective and toxic types, both in pathology and in localisation.

Injury may be chronic caused by strain as in the act of winding up a car or lifting up a weight, or repeated and persistent adoption of certain strainful attitudes as is seen in lumbago.

(3) Climate—The fibrositic pain increases with the advent of rain, exposure to cold etc.

Special Clinical Manifestations

If the aetiology and pathology of the white fibrous tissue affection is well understood, then various clinical manifestations are recognised easily. Some of them are specially mentioned here below.

(1) Fibrositic head-ache. This is the commonest cause of chronic, continuous or intermittent head-ache, such cases frequently and wrongly sent out to the ophthalmic surgeon attributing them to defect in their eyes. The headache is recurrent and persists for varying periods, worse in the morning, passing off in the day. Pain is concentrated in the basi-occipital area extending down the muscles of the back of neck; the whole fibrous area of the neck may be tender and painful, frequent in temporal regions, round the supra orbital nerve. This pain is attended with tenderness on pressure over the tendons and aponeurosis at the base of the skull. The diagnostic features are (a) persistence (b) thickening (c) nape of neck localisation and (d) tenderness on pressure.

"Trigeminal" Neuralgia

However severe and paroxysmal the pain may be if one finds the characteristic pain on pressure over the muscles of the jaw and face, treatment by massage should be tried, since these are rather cases of fibrotic neuralgia than Trigeminal neuralgia.

Chest cases

Rib cases—Small areas of fibrotic thickening and tenderness are present when the white fibrous tissue of ribs and their cartilages and muscular attachments are attacked. The pain is continuous due to the continuous movement by respiration. A large number of above cases is diagnosed as heart disease, when the pain occurs in or near the precordia. These are due to strain affecting pectoral muscles. Many cases of pleurodynia are of this nature.

Abdominal Cases

The fibrous tissue connected with the abdominal muscle sheaths or attachments is liable to be affected. Diagnosis of gastric ulcer and cholecystitis are sometimes made mistakenly. The characteristic pressure pain on palpation over a hard bony surface as the nape of the neck is much less reliable over the abdominal wall. The fibrotic pain is more superficial whereas visceral pain is elicited by the pressure of the tip of a finger. The rectus muscle is commonly affected showing numerous spots of tenderness, without any muscular rigidity. The visceral pain is better elicited by a broader and stronger pressure of the hand into the abdominal cavity.

The diagnostic criteria in fibrositis in these abdominal case are

- (1) localisation of painful areas which are multiple and sharply defined by finger tip pressure,
- (2) these areas occupy positions not usually associated with visceral disease and are also found more on the bony margins,
- (3) the great variability in intensity with frequent relation to strain or weather,
- (4) no history of the characteristic syndrome of visceral disease.

Lumbago

This is localised or diffused fibrositis. In the former, it causes agonising pain fixing one in a fixed attitude or preventing one from normal movement or bending.

Sciatica

Gluteal muscles are often the seat of fibrositis. This condition spreads to the sciatic nerve, as it emerges from the pelvis, a secondary perineuritis results, just as is the case with the supra orbital nerve. Two signs are usually present (1) marked and maximal pain on deep palpation over the sciatic nerve at its point of emergence (2) pressure pain in other areas of gluteal region remote from this diagnostic spot.

Other situations

Periarthritic cases are common. Fibrositic heel and tennis elbow are other frequent conditions.

Nodular cases

In some cases we get thickening of the fibrous tissue in the form of strands, tracts or sheaths. The nodules are occasionally obvious and visible.

Treatment

Discover the causal factor, as trauma, or strain or toxic or infective condition and treat the same. Dental sepsis should be attended to. Post influenza, gonorrhoeal and rheumatic cases demand rest. In head-ache and in chest cases, rest is not indicated.

Aspirin must be given in 20 gr. doses, repeated in half an hour if necessary.

Massage is of great use in relieving the pain.

Y. S. R.

SPRUE AND VITAMIN DEFICIENCY

By

LUCIS NICHOLAS, M.D., B.C., B.A., (CANTAB).

(Extracted from Ceylon Journal of Science, Vol. III, Part 3, 8th Dec. '34.)

It has been suggested by Elders (1919, 1922), Nicholls (1918), MacCarrison (1919) and others that sprue is a vitamin deficiency disease. But this has not received general acceptance, because the disease has occurred in well-to-do persons.

The arguments brought forward by those who advocate the deficiency etiology of sprue are based on the similarities of pathological changes of sprue and other diseases, which are accepted as due to vitamin deficiencies, on the changes which take place in animals when fed on vitamin deficient diets. For instance the pathology of sprue resembles that of pellagra; common to both diseases are extreme general emaciation, fatty degeneration and shrinkage of liver to two-thirds its normal size, wastage of the spleen to an even greater degree, glossitis and thinning of the intestinal walls with erosion of the villous processes.

Sprue is an apyrexial disease, and apyrexia is more characteristic of a deficiency disease than of a chronic infection.

The treatment of sprue has always been dietetic; and present day knowledge suggests that Manson's strawberry diet, Cantle's raw beef diet, and the milk and liver diets have been efforts to force vitamins upon the patients. It has generally been believed that sprue is more common among Europeans living in the tropics than among the indigenous population. This has probably been true in the past as concerns the later stages of the disease. But 'sore mouth' indistinguishable from that of sprue is very prevalent

among the poorest classes in Ceylon. Recently I have made extensive survey of prisoners in jails, patients in asylums, for certain clinical signs which may be attributed to vitamin deficiencies, among these are: a dermatosis, night blindness, keratomalacia, hypoplastic teeth, 'nerve symptoms', stunted growth and 'sore mouth'. The details of this survey have been published in The Indian Medical Gazette (1934) and it will be sufficient to state here that on examination of over 8,000 school children of the poorest classes, approximately 8% of them had varying degrees of 'sore mouth' characterised by soreness and superficial erosion of the tongue leading to a raw, glazed appearance. This 'sore mouth' was even more prevalent among the prisoners in jails and the pauper patients in the asylum. On the other hand this condition either does not occur or is uncommon among the better class school children such as the boarders in colleges, schools and among the better class prisoners in jails, and patients in the asylum who receive an adequate diet.

I have concluded that the principle factor which causes this 'sore mouth' is vitamin A deficiency because.—1. The general pathology of Vitamin A deficiency, as shown by animal experiment, is damage to epithelial tissue. 2. The diets of the children, prisoners and patients consist principally of polished rice and a little dried fish and vegetables. The commonest vegetables are gourds and water pumpkins, which by analogy with vegetables which have been biologically assayed do not contain much vitamin A and the addition of two small eggs daily cures 'sore mouth' in the asylum patients.

The superficial erosion of the epithelium of the tongue and mouth frequently extends to the pharynx and oesophagus and those affected complain of soreness when swallowing.

As this 'sore mouth' is indistinguishable from that which occurs in sprue it is reasonable to suggest that the cause in both cases may be similar; yet it is improbable that many European patients have acquired sprue because of a lack of vitamins in their diets. But presumably there may be two other ways in which a person may develop signs of a vitamin deficiency:—1. The vitamin in the food may not be absorbed by the alimentary tract (2) A disordered metabolism may prevent the normal assimilation of vitamins after they are absorbed.

Perhaps pernicious anaemia is an analogy of this (2) in which although the substance necessary for the normal elaboration of the red blood cells are present in the food, yet the disordered metabolism fails to make use of them for this purpose.

Doubts that food deficiencies are the causes of such diseases as pellagra and beri-beri must often have arisen in those who have treated patients suffering from these diseases, because the administration of a generous diet, rich in the particular vitamin, which has been lacking, is not always followed by recovery. Many of the numerous deaths from these diseases are instances of failure of dietary treatment. It may be that a metabolism which has been deprived of substances necessary for its normal functions, reaches a stage when it breaks down and cannot easily recover.

This chain of reasoning leads me to believe that the chief signs of sprue appear as the failure of absorption of necessary vitamins, and that at a later stage the metabolic process for the normal assimilation of the vitamins becomes disordered.

And if this is true the vicious circle must be started by some preliminary break down of the absorptive mechanism, and it is probable that this may be brought by various causes.

Acton and Knowles (1928) regard sprue 'as due to a secondary infection of the ulcerated gut with streptococci after a preliminary Flexner Bacillus infection'.

Chronic bacillary dysentery may be one of the causes which starts sprue; but secondary infection of an ulcerated large gut by streptococci may not be a necessary factor, because in all forms of dysentery normal digestion and absorption is affected throughout the length of the alimentary tract.

Dr. R. T. Spittel, a leading practitioner in Ceylon, recently expressed the opinion that sprue is less common than in the past because it is often a sequela of amoebic dysentery, and sequelae of that disease are now uncommon because a great improvement in treatment has taken place.

Possibly a specific infection is not necessary to start the sequence of events and sprue may follow any prolonged irritation of the intestinal tract which damage the epithelium and produces intestinal indigestion. Twenty years ago sprue showed the classical signs of sore mouth and voluminous pale frothy stools leading to marked emaciation was a common disease among the Europeans in Ceylon. At that time tea and rubber were being opened up; and many of the pioneers led rough lives; and were confined for months on end to their estates, because few of them had cars. Tinned foods, local coarse vegetables, stale potatoes, rice and the poor meats of the country entered largely into the diets of many of them. Fear of intestinal infections caused the avoidance of uncooked food and some of

them consumed stimulating and irritating rice curries.

In recent years advanced cases of sprue have become rare; this has followed the establishment of the estates and labour has become available for the care of cows and poultry and the planting of gardens. Cold storage has been opened in the towns and lorries and cars bring English and Australian meats and fresh fish to the planters.

Summary: The Pathology and clinical course of sprue are those of a deficiency disease. The deficiency is not in the diet, but is due to various causes producing a preliminary damage of the epithelium of the small intestine, which lowers its capacity to absorb the necessary vitamins and this may lead to impairment of the metabolic assimilation.

CARCINOMA OF THE RECTUM— SOME CAUSES FOR THE POOR PROGNOSIS

BY J. ARNOLD BARGEN, M.D.,

AND

EUGENE T. LEDDY, M.D.

(Extracted from *The Journal of the American Medical Association*, Vol. 104, No. 14, April 6, 1935.)

Carcinoma of the rectum is a very serious disease; although it may be uncommon in the experience of any individual physician, its early recognition is essential to the life of the patient. Many patients who have carcinoma of the rectum appear at the Mayo Clinic and elsewhere for examination when the local lesion is hopelessly inoperable. This also implies that many of these lesions are even beyond palliative irradiation when first seen. Rankin, in a review of 1727 cases of malignant disease of the rectum that were observed at the clinic, discovered that only 55 per cent of the lesions were operable and that resection was possible in only 85 per cent. When it is recalled that Carcinoma of the rectum causes definite and annoying symptoms, such as rectal bleeding, pain, constipation and diarrhoea, which get progressively worse, and that 95 per cent of all these lesions are within reach of the examining finger, these facts are disheartening.

We realise that Carcinomas of the rectum are not alone in not being treated at their most favourable stage. However, after following many patients who have had Carcinoma of the rectum, from the time of their admission to the clinic until they are entirely relieved of the trouble or until their demise, we have come to be of the opinion that postponement of care and procrastination are more prevalent among those who have most other types of Carcinoma. The

questions that obviously arise are: Why should this be so? Are the methods of diagnosing Carcinoma of the rectum at fault? Are physicians more likely to be indifferent to lesions in this part of the body than to lesions in other parts? Does the ubiquitous advertising of cures for piles and constipation hinder the early diagnosis of Carcinoma of the rectum because the patient treats himself?

To find out the truth, each of us questioned 200 patients who came under our observation and the following is the list of questions we put and had the replies verified when necessary by an interview with a relative of the patient.

What were the first symptoms which you noted?

What was the progress of the disease?

What do you think was wrong with you?

Do you attempt to treat yourself?

How long had the symptoms been present before you consulted a physician? If there was a delay; Why?

What kind of an examination did the physician make and what treatment did he prescribe?

Ninety two of the 200 patients had consulted a physician within a month from the onset of symptoms; the other 108 consulted only after their own treatment failed. Granting that a tumour must progress to a certain stage before it can produce symptoms, it seems obvious that in these 108 cases the malignant condition must have progressed to a less favourable stage during the time these patients were treating themselves. It was among this group of patients that adequate treatment could not usually be employed, because of the advanced condition of the disease. Only two patients, both of whom had severe symptoms, came directly to the clinic before they had consulted any physician.

The American society for the control of cancer and most authors who have written on the subject regard one month as an average amount of time during which a patient may have symptoms before a correct diagnosis is made and treatment instituted. We also believe that a correct diagnosis should be made within one month after the symptoms are present. As there are but two methods of treatment that are accepted generally, irradiation and operation, we have regarded the use of any medical treatment as an indication of wrong diagnosis, provided we could exclude deliberate experimentation on the part of the physician or quackery.

In this group, the earliest symptom was bleeding; pain occurred next, then constipation and diarrhoea finally. Though these symptoms were annoying,

yet they were having self-medication; the regulation of diet, the notorious remedies for constipation and the equally famous "Piles cures".

We tried to discover, by questioning the patient, why the first physician who had been consulted had failed to make a rectal examination in so many instances and learned there had been several reasons for this. Often the patients had objected to such an examination. Secondly the relief they had under palliative treatment which the physician gave, owing to their refusal of rectal examination, thirdly the patients, as a result of partial relief believed they were not suffering from Carcinoma. Meanwhile, the Carcinoma had progressed in silence.

Another reason for delay in starting correct treatment had been the fact that both patient and physician often had felt that the operation for Carcinoma of the rectum was too formidable. It is not commonly realised that the pre-operative Vaccination against peritonitis, the thorough emptying of the Colon, the replenishing of a depleted water balance, the forced storage of carbohydrates and the isolating of the patients who have disorders of the colon as a unit under medical and surgical care have tended to increase the safety of rectal surgery. Surgical opinion is unanimous that earlier the patient comes for treatment greater is the likelihood of cure by operation, whereas later the diagnosis is established lesser is the chance of cure by any treatment.

The group of 200 cases demonstrates that inoperable Carcinomas of the rectum occur largely because patients treat their own disease under the impression that their symptoms are common to most people and are not serious. Both patient and physician make a great mistake in gambling that a lesion is benign. As the patient nears the end of his torture and learns that he might have been cured by relatively simple measures and that he has been deluded by false hopes through the treacherous theories of dishonest prophets until his case is hopeless and his family is penniless, his lot is indeed pathetic. As Carcinoma of the rectum can nearly always be diagnosed with the index finger, it is lamentable that so many patients who are afflicted with this condition do not consult a physician until it is too late to secure the greatest benefit.

Conclusion

A careful analysis of the answers obtained from 200 patients has led us to conclude that the poor prognosis of Carcinoma of the rectum is the result of the following causes:—

1. The frequent wasting of valuable time on the part of patients by self diagnosis and self-treatment

and by regarding the symptoms as unimportant.

2. Delay by the physician to make a digital examination of the rectum.

3. Lack of knowledge on the part of the patient, concerning the safety and satisfactory end-results of rectal surgery.

CONTRACTION RING: TREATMENT BY AMYL NITRITE, WITH OBSERVATIONS ON THE PHARMACOLOGICAL ACTION OF NITRITE

By C. R. CROFT, D.M., M.R.C.P.

(Extracted from the proceedings of the Royal Society of Medicine, Vol. XXVIII, No. 5. March, 1935)

Introduction.—Contraction ring is a rare condition, but any one who meets and recognises it appreciates at once its reality, as well as its gravity. Surgery offers a convenient, if rather elaborate way out in this, as in other, obstetrical difficulties, but it is a ruse that offers little satisfaction as a solution to these problems, quite apart from its danger in cases where other manipulations have already taken place.

In 1927, I had the misfortune to deliver a woman with contraction ring of a foetus affected with gas gangrene. The method adopted was morcellement, a crude and hap-hazard proceeding, with little or no literature attached to it. The main difficulty lies in getting the foetal pelvis past the obstruction, which in this instance was a contracted zone from two to three inches long, and of a size closely to fit the wrist. Chancing upon a method of doing this, I feel it is worth putting it on record for future performers.

The head and arms must first be removed, and the spine cleared of ribs and abdominal walls. These are best stripped off with strong forceps assisted by the fingers; a proceeding which is greatly helped if the cervical spine is held firmly and some traction exerted, so that as each part is removed further parts are drawn into reach of the fingers. The breech then lies above the obstruction, attached to the denuded spine. The spine is steadied by an assistant while the operator, using cleidotomy scissors, snips through the bone, close to the junction of the spine and pelvis on each side, in the region of the sacro-iliac joint. If the spine is then twisted, it is easy to divide the soft parts with a finger, and the spine is detached and removed, together with sacrum. The symphysis pubis is then divided anteriorly, and after the soft tissues are torn through each leg is

removed separately, together with the corresponding ilium, ischium and pubis.

It is not suggested that this is a delicate procedure, but it is a possible one.

It was from a study of the literature of Contraction Ring, subsequent upon this, that the use of Amyl Nitrite appeared to offer a sound and effective method of treatment, the value of which has long

lain dormant and unconnected in the archives of medicine.

Amyl Nitrite may be regarded as a safe and efficient method of treating contraction ring. Another advantage in the use of Amyl Nitrite is, that the effect of sudden delivery in cases of contraction ring of the uterus treated by Nitrites, does not cause subsequent flaccidity of the muscle wall, such as would give rise to post-partum hæmorrhage.

Correspondence

MEDICAL EDUCATION IN BENGAL

To

THE EDITOR,

INDIAN MEDICAL JOURNAL

Sir,

The proposed third Medical College in Calcutta, has raised a good deal of controversy. The arguments put forward against the proposal mainly rest on the overcrowding of the Medical profession. The Institution which is going to be converted into a Medical College, was so long turning out Medical Licentiates of the State Medical Faculty, and if overcrowding of medical men is the only grievance, then the agitation should have been started long ago, when the Government decided to open a number of medical schools in the mofussil districts of Bengal. The All-India Medical Licentiates' Association has been continuously protesting against the policy of indiscriminate opening of these medical schools, on the grounds of ill-equipment and inefficiency. The public opinion which has all along been in favour of this policy of opening a number of medical schools, originated mainly from the erroneous idea that being a poor province, Bengal could ill afford to pay for really qualified men, and so for the suffering mass, medical men with any sort of qualification would suffice to bring relief to the people.

The policy of opening medical schools indiscriminately stands condemned by the Government's own action. It refuses to include the Medical Licentiates in the Indian Medical Council. The people should now realise that in their clamour for a supply of more medical men the Government has been manufacturing and supplying them with medical men who are not to be trusted with anywhere except in their own province, due to their alleged inefficiency; and our people are also beginning to condemn them on the authority of the Government.

The argument put forward by the All-India Medical Licentiates' Association against the policy of opening these inefficient medical institutions, throughout the country, is not overcrowding of the medical profession but that quality is going to be sacrificed for quantity. The Madras Government has fully realised this and has recently replaced the too many inefficient institutions by an efficient one, with a proper course of study for five years. I would request our countrymen to consider that the lives of our fellow brethren living in villages are as valuable as those of the more fortunate ones living in towns and cities; and so to urge on the Government to properly equip the medical institutions with a five-year course of study, so that doctors coming out of them may really prove useful to the people. Financial stringency may stand in the way of equipping so many institutions properly; in that case there is no other alternative than to abolish some of them. It is more in the interest of the public than in the interest of the profession, that some of these institutions should be closed down for their inefficiency.

The All-India Medical Licentiates' Association do not see with unfavourable eye the opening of a number of medical colleges and schools in Bengal, provided the institutions are properly equipped and run, to enable the medical men, turned out of them, to enjoy the confidence of the people as well as of the Government. It is only then, that real medical relief will come to the people. Otherwise, money spent, as at present, is mere waste of public money and it also proves a dark future for the medical men turned out of these institutions.

Alibhusan Mukherjee,

Provincial Secretary,

The All-India Medical Licentiates'

Burdwan,

Association, Bengal.

4-7-35.

Notice

"CHARAK MEMORIAL PRIZE"

of the value of
ONE HUNDRED RUPEES
for a Thesis on

Antiquity of Syphilis (Venereal Diseases) in India.
CONDITIONS

[Dr. Franklin H. Church in his letter to us (published on pp. 177-178) mildly rebukes his colleagues for their seeming indifference towards the important subject of medical antiquities. In order to arouse real interest in such subjects, we are offering this prize with a firm belief that the competitors will probe into the mysteries of yore and bring out a classical monograph on the subject.]

The names of the judges will be published later.

It is also intended to make this "Prize Scheme" a special feature of this Journal and subjects and prizes will be announced in our future issues. *Editor, Ind. Jour. Ven. Dis.*

1. The thesis should be in English. Short quotations from original references in Sanskrit or other languages will be accepted.

2. Complete bibliography of authors, facts and figures, data of matter in the thesis should be given.

3. The thesis should be submitted, typed on one-side only, in foolscap size paper with double spacing and margin on the left, and should not exceed fifty such pages. The manuscript should reach the Editor, 'Indian Journal of Venereal Diseases' 94, 97, Girgaum Road, Bombay 4, by registered post by the 30th December, 1935

4. There is no territorial bar for competitors.

5. The thesis submitted will be judged by a small Board of Examiners.

6. The winning thesis will become the property of the Indian Journal of Venereal Diseases, and published in one of the issues. The Journal will have its copyright.

7. No reason will be given for refusal or rejection of any or all the theses submitted. The decision of the Editor shall be final on all matters.

8. An authoritative, literary and scholarly article will be appreciated.

Medical Councils

Bombay Medical Council

The following extracts from the summary of the proceedings of the meeting of the Bombay Medical Council held on 7th February 1935 are published for information :—

The Council considered the application of Mr. K. P. Deshpande, a medical practitioner at Panvel, Kolaba District, for the registration of his name under section 7 (8) of the Bombay Medical Act, VI of 1912, and resolved that, before taking a decision, further information should be obtained from him regarding the curriculum and its length which he underwent in order to get his Diploma.

The Council proceeded to consider the application of Mr. S. P. Luila, M.B., B.S., for the restoration of his name to the Bombay Medical Register and decided that his application should not be granted yet.

The Council proceeded to ballot for the election of an Executive Committee for the year and, in accordance with the result of the ballot, declared the following six members elected :—

Lieut.-Col. Sir Jamshedji N. Duggan, Kt., C.I.E., O.B.E., D.O., etc.

Dr. D. A. D'Monte, M.D., F.C.P.S., etc.

Lieut.-Col. W. C. Spackman, F.R.C.S., I.M.S.

Dr. Mangaldas V. Mehta, O.B.E., F.R.C.P., etc.

The Honourable Khan Bahadur Dr. Sir Nasarvanji Choksy, Kt., C.I.E., M.D., F.C.P.S., etc.

Dr. Rajabally V. Patel, M.D., F.C.P.S.

The Council resolved that the Visitors appointed last year to visit Professional Examinations should be continued as such and, as regards the examination to be visited by them, the attention of the Executive Committee should be drawn to rule 111 of the Rules of the Council.

The Council proceeded to consider the suggestion made by the Local Government, viz., that, as the question of restricting the practice of medicine and dentistry in India to the Nationals of India is a matter affecting the whole of India and therefore more appropriate for the consideration of the Government of India and the Medical Council of India, it should be taken up with those authorities, and it was resolved that this suggestion should be accepted and the Government of India and the Medical Council of India addressed accordingly.

The Council considered a proposal made by the Executive Committee for the appointment of a Sub-Committee to revise the "Warning Notice" and the "Code of Medical Ethics." A Sub-Committee was appointed accordingly for the purpose.

The Council took up the re-consideration of the conduct of Mr. Ganpat Subrao Kasyapi, L.M. & S., Medical Officer, in charge Municipal Dispensary, Barsi, in completing and submitting on 23rd July 1933 *Post-mortem* Examination Reports on 3 dead bodies received by him for the purpose on the same day from the Police and answering every one of the several questions laid down in the form of Report regarding the different parts, internal and external, of the bodies, whereas he had actually not opened any of those bodies, so that the detailed information given by him as to the internal organs of the bodies must have been untrue to his knowledge, and thus rendering himself liable to be proceeded against for infamous conduct in a professional respect.

After hearing the Solicitor representing Mr. Kasyapi, the Council decided that Mr. Kasyapi had been guilty of infamous conduct in a professional respect and directed the Registrar to erase his name from the Bombay Medical Register.

The Council proceeded to consider the application of Mr. M. T. Ramchandani, M.B., B.S., for the restoration of his name to the Bombay Medical Register and decided that his request for the restoration of his name to the Register should not be granted yet.

The Council proceeded to consider the Reports received from the Visitors appointed to visit Professional Examinations for the L.C.P.S., Bombay, last year and resolved that the attention of the College of Physicians and Surgeons of Bombay should be drawn to the deficiencies indicated by the Visitors.

The Punjab Medical Council

Judgment has been delivered by a First Class Magistrate, Ambala City in a case under Section 28 of the Punjab Medical Registration Act II of 1916, under which one Pars Ram, an unqualified medical practitioner, described himself as a registered medical practitioner. The accused has been convicted and sentenced to pay a fine of Rs. 100 on a complaint lodged by the Punjab Medical Council.

The Bengal Council of Medical Registration

Extracts from the Minutes of the Bengal Council of Medical Registration, held on the 18th August 1934.

1. The statement of minimum requisites to be satisfied by the Jackson Medical School, Jalpaiguri, for continuation of affiliation as drawn up by the

Committee appointed to inspect recognised medical schools was approved.

2. Government order accepting the proposal of the Council that under section 21 of the Bengal Medical Act, 1914 the title "License in Tropical Medicine" granted by the Calcutta School of Tropical Medicine may be entered in the Register of Registered Practitioners as an additional qualification against the name of a registered medical practitioner was recorded.

3. Reports on the inspection of the undermentioned institutions by a Committee appointed by the Council were discussed and approved :—

(a) Ronaldshay Medical School, Burdwan.

(b) National Medical Institute, Calcutta.

(c) Bankura Sammilani Medical School.

4. Report of the Committee appointed by the Council to consider the Rules for the Provident Fund of the office was approved.

5. Government Notification announcing the appointment of the undermentioned gentlemen as members of the Council were recorded :—

Dr. Subodhchandra Mitra, M.B., F.R.C.S.—under section 4(t) Bengal Medical Act, 1914.

Major P. C. Banerjee, F.R.F.P. & S., I.M.S., under section 4(e) Bengal Medical Act, 1914.
Major S. Nag, M.R.C.P., F.R.C.S., D.T.M. & H., I.M.S.
Major T. H. Thomas, M.D., M.R.C.P., I.M.S.

6. The undermentioned gentlemen were nominated representatives of Council and the Governing Body of the State Medical Faculty of Bengal on the Bengal Sanitary Board :—

(1) Dr. Taraknath Majumdar, L.M.S., D.P.H., D.T.M.

(2) Dr. Abdul Majed, M.B., D.P.H., D.T.M.

7. It is decided that the undermentioned schools be inspected during the next 6 months :—

(1) Campbell Medical School, Calcutta.

(2) Jackson Medical School, Jalpaiguri.

(3) Chittagong Medical School.

8. The reports of the Committee proposing amendments in (a) the Bengal Medical Act, 1914 and (b) the election rules under the Act were postponed for consideration at a special meeting before the next ordinary meeting.

9. A report of the Penal and Ethical Cases Committee was considered.

10. The Council decided to recommend to Government that the title F.S.M.F. (Bengal) granted by the State Medical Faculty of Bengal be recognised

as an additional qualification registrable under section 21 of the Bengal Medical Act, 1914.

11. The proposal for revision of the Appendix to the Annual Medical List (Ethical suggestions etc.) moved by Sir. Kedarnath Das, Kt., C.I.E., M.D., F.C.O.G., was referred to the Penal and Ethical Cases Committee.

12. On an application from the Registrar, Andhra University it was decided that a report be made to the Local Government under section 18 recommending that the M.B., B.S. degree of that University be recognised as registrable in Bengal.

13. Entry under section 21 of the Act of the qualifications D.T.M. (Liverpool) against the names of Dr. Mohinimohan Ghosh and Dr. Aminuddin Abamad and D.T.M. & H. (London) against the name of Lt. Col. M. Das were approved.

14. With regard to the entry of the qualification D.B. (London U.) against the name of Dr. Ganapati Panja it was decided that an enquiry be made of the London University whether the diploma was one similar to that of D.O., D.O.M.S. etc., granted in the United Kingdom.

15. A statement of actual income and expenses of the Council during the year ending 31st March 1934 was recorded.

16. The report on the audit of the accounts of the Council during the year 1933-34 was recorded.

17. The consideration of an application from Dr. H. Treu, M.D. (Cologne U.) for entry of his name under section 18 of the Act was postponed.

Resolutions moved by Dr. S. L. Sharma F. S. M. F. (Hon.) in the meetings of the U. P. State Medical Faculty held during the year from November 1932 to March 1935.

1. It is hereby resolved that a deputation consisting of the following members of the Governing Body should wait on the Hon'ble Minister for Local Self Government and Public Health Departments in order to represent the necessity of extending the course of the Agra Medical School to five years. The president is authorized to arrange for the interview and the Secretary of the State Medical Faculty should accompany the deputation:—

- (1) Dr. B. N. Vyas.
- (2) Dr. S. L. Sharma.
- (3) Dr. J. P. Sanyal.
- (4) Dr. Begum Abdul Ghafur.

2. "Resolved that the President of the Governing Body of the United Provinces State Medical Faculty be elected from among the members and rule No. 4 be accordingly amended."

3. Resolved that if Government is unable to introduce the full five years' course the transitory period should be extended by another two years.

4. "Resolved that in place of the Inspector-General of Civil Hospitals and the Director of Public Health, who have hitherto been nominated by the United Provinces Government as members of the Governing Body of the United Provinces State Medical Faculty, two members out of the teaching staff of the Medical School, Agra and the King George's Medical College, Lucknow be elected to the Governing Body of the United Provinces State Medical Faculty by the All India Medical Licentiate's Association, United Provinces Branch."

5. "Resolved that in order to bring the status of the transitory M. S. M. F. to the same standard with M.B., B.S. which the diplomas of the conjoint board of medical Examinations bear with the Medical degrees of England, the State Medical Faculty recommends that the subjects of Hygiene and Jurisprudence be included in the curriculum of the transitory M.S. M.F. and the one year's extra training which is imparted to them at the Agra Medical School should be taken as completed the fifth year's training."

6. "Resolved that the admission to the Agra Medical School should be made by competition in the following subjects:—

General English reading, Essay and Letter-writing.
Physics and Chemistry.
One mile race."

7. "Resolved that the admission to the Agra Medical School be limited to 80 in number."

8. Resolved that the report of the Sub-Committee be approved. The following persons are elected, subject to the approval of Government, as Fellows of the United Provinces State Medical Faculty, and on the understanding that a fee of Rs. 200 is paid for each Fellowship Diploma in accordance with rule 1, chapter II, page 9 of the State Medical Faculty rules.

- (1) Dr. Avadh Behari Lal Mathur, P.S., M.S. Medical School, Agra.
- (2) Dr. Rai Sahib Hari Singh Bhat, Medical School, Agra.
- (3) Dr. Rai Sahib Lekh Raj Singh, Hathras.
- (4) Dr. Rai Sahib Daya Nidhan, Lucknow.
- (5) Dr. Suraj Mall Sarin, Chief Medical Officer, Dholpur State.
- (6) Dr. Rai Sahib Panna Lal Sood, Sandila, Haridwar District.

(7) Dr. Ram Nath Trivedi, Eye Hospital, Moradabad.

The following persons are elected, subject to the approval of Government Honorary fellows of the United Provinces State Medical Faculty.

- (1) Dr. G. N. Vyas P.M.S., Medical School Agra.
- (2) .. Ranchordas Pandya, Medical School, Agra.
- (3) Dr. Khan Sahib Akbar Ali, Medical School, Agra.
- (4) Dr. Rai Sahib Ram Narain Lal.

9. "Resolved that a deputation of the members of the State Medical Faculty be formed to wait on His Excellency the Governor of the United Provinces to place personally before him the views of the Governing Body of the State Medical Faculty about the introduction of the five years' course at the Agra Medical School and to impress upon him the urgent necessity of its introduction there at an early date."

10. "Resolved that the final examination of Pathology be taken in the fourth year instead of third year."

11. "Resolved that an Assistant Lecturer of Pathology be appointed to coach the students and to help the Lecturer in giving practical demonstrations to the students."

12. "Resolved that a student who passes in Anatomy and Physiology and fails in Materia Medica at the Intermediate examination be promoted to the third year and be allowed to appear in the latter subject at the supplementary and subsequent examinations."

13. "Resolved that a student who has failed in one or more subjects, and has been allowed to appear at the supplementary examination, be not required to re-appear in those subjects in which he has been declared to have passed, if he has failed again in the subject or subjects at the supplementary examination. The rules 44 and 54 be amended accordingly. The fee for the supplementary and subsequent examinations shall be Rs. 8 for the Intermediate and Rs. 10 for the final examination."

14. "Resolved that the result of the Pre-medical, Primary, Intermediate and Final examinations of the Medical School, Agra, be published in the daily papers such as "Leader," "Pioneer" "Hindustan Times" and "National Call" as is the case with the University results."

15. "Resolved that the answer books of the examinees of the State Medical Faculty Examinations be re-examined on payment of Rs. 5 per subject."

16. "Resolved that the Lecturers of the Medical School, Agra, with a view to know the merits and demerits of their individual students personally, should examine them orally daily and on week days specially before commencing their lectures."

17. "It is hereby resolved that the qualifying examinations be held twice a year in April and October at the Medical School, Agra, as are in vogue in most of the medical institutions in India."

18. "Resolved that in view of the importance and the number of subjects which are taught in the senior course at the Agra Medical School the period of two years fixed for their completion is very inadequate, that, therefore, in the interest of students and public as well that of the senior course of L.S., M.F. it be raised from two to three years."

19. "In view of the admittedly inadequate arrangements at the Agra Medical School for teaching practical Physiology, Pathology and Pharmacology, and of the adverse reports of the examiners on the students' knowledge of these subjects, the State Medical Faculty urge that early steps be taken to remove the defects."

20. This Faculty views with regret the Government's decision not to change the method of recruitment of teachers to the Agra Medical School as suggested by them."

21. "Every candidate for the fellowship must be nominated and seconded by a member of the Governing Body of the State Medical Faculty. The member who nominates the candidate must submit in writing the record of service and the grounds on which his nomination is recommended. Such recommendation must be circulated to the members of the Governing Body with the agenda of the meeting of the State Medical Faculty at which the nomination is to be considered."

22. "It is hereby resolved that the transitory period of M.S. M.F. training at the Agra Medical School be extended for two years till October, 1937."

23. "It is hereby resolved that a supplementary examination of failed students of the M.S., M.F. class be held in April."

24. "Resolved that the Rule No. 43 be modified and clause 4 be dropped altogether and the Principal should have the power to take the student back if he thinks him capable of improvement."

25. Resolved that the State Medical Faculty regrets that, after careful consideration, it is unable to revise the syllabus for clinical subjects for the final Licentiate examination within the scope of two years, as this would result in the continued

turning out of insufficiently trained medical men unfit to cope with the present day needs of an ordinarily efficient medical practitioner. In this connection the State Medical Faculty draws the attention of Government to Government Medical Department, resolution No. 144. C/V. 102 dated June 8, 1916.

26. "The United Provinces State Medical Faculty has learnt with great concern that the United Provinces Government has not been pleased to accept its recommendation to raise the course of the Agra Medical School from four or five years, and did not give due consideration to the scheme submitted by it in which it clearly showed that there would be no extra expenditure on that account at present, if its proposal be carried out into effect immediately.

The United Provinces State Medical Faculty is of strong opinion that the raising of the course of the Agra Medical School from four to five years is much over due and is most essential from an efficiency point of view and for the benefit of the students and public as well, as the deficiency in the art of healing seriously affects the health and economic well being of the nation. If any how the United Provinces Government consider it insuperable to find funds to carry out this most necessary reform then it hereby proposes that the Women Medical School Agra, be amalgamated with the Men Medical School. It would be evident from the enclosed statement that in the last three years only nine women students have come forward from the United Provinces for admission into the Women Medical School, Agra, which is a very small number in comparison to the expenses which are incurred in running it, hence it would be most justifiable to amalgamate both the institutions. By this amalgamation the tax payer will have the full value of his money, as there would be one efficient institution instead of two deficient ones and their out-turn would be efficient and up to date in their knowledge, and their inferiority complex with which they are suffering at present would be cured which would be a great gain from every one's point of view. Moreover, this change would create a healthy spirit of progress and rivalry in the future students of the Agra Medical School."

27. "Resolved that the curriculum of studies of the Nurses and Midwives Classes should be prescribed in Vernacular and facilities be provided to the Indian Women to enter the most useful profession of Nursing and Midwifery. Those who could read and write Hindi, Urdu and Roman fluently be admitted in the above mentioned classes."

28. "The examiners be requested to set up papers for the October Examination also without any extra

charge, as it has been the practice in the past to set up papers without any charge for the supplementary examination held in October."

29. "Resolved that the teachers who are appointed to the Medical School, Agra should receive post graduate training in any Medical College in that subject prior to their appointment to that post."

30. "Resolved that the Thomson Hospital, Agra, which is a teaching institution of the Agra Medical School should not be under the superintendence of the Civil Surgeon, Agra and he should have nothing to do with the different departments of the Agra Medical School such as Medicine, Surgery, Gynaecology and Ophthalmology which should solely be under the charge of the Principal, Medical School Agra. The present dual arrangement should be done away forthwith as it seriously interferes with the proper education of the students and discipline of the school and is a source of great dissatisfaction and irritation to the teachers and causes a sense of insecurity of tenure in their minds which is detrimental to the interests of The Medical School."

Reviews

The Madras Medical Directory, second edition, 1935. Published by T. S. Lakshmipathy. Available from Mathews & Co., 15, General Muthia Mudali Street, Madras. Price Rs. 2-8.

This is the second edition, and is more elaborate and complete than the first edition published in 1932. It is a medical directory of the Madras province in the real sense of the word. Lt.-Col. V. Mahadevan, M.R.C.P., F.R.C.S., I.M.S. has written an appreciative foreword with which we entirely agree. Its get-up is good and it is bound to be useful to the Public and to the medical profession in South India.

Some facts and observations on the outbreak of Epidemic Dropsy in Manbhum during 1934 by Jimeet Bihan Sen, M.A. (Edin), Chairman, Purlia Municipality.

This is a short report issued to the public by the Chairman of Purlia municipality in the hope of arousing greater interest and attention regarding Epidemic dropsy than before. The author, who is a non-medical man, is naturally anxious for the discovery of the cause of and effective remedy for this disease which has occasioned much suffering and mortality in his district. We very much appreciate his efforts and enthusiasm to conduct a proper

enquiry into the incidence of this disease and his campaign to alleviate the suffering fraternity of his district by calling to his aid the local practitioners, the research workers of Bengal and of course the public health authorities. His work is an example of what the chairman of a municipality should do under similar circumstances.

Epidemic dropsy still eludes the research worker and the physician. Various are the theories of its causation but none is yet conclusive or comprehensive. Nor its treatment can be satisfactory so long as the cause is shrouded in mystery. Infected rice or oil; badly stored rice; overmilled rice; rice defective in vitamin B and its phosphorous contents brought about by any cause; defective absorption of an otherwise balanced diet; auto-intoxication and many such theories have till now been put forth as probable causes of this disease. But these theories do not always fit in with the recorded clinical and epidemiological observations. It looks more probable and it is more largely in consonance with experimental and clinical findings that Beri-beri and epidemic dropsy are not etiologically different entities and that the latter may be taken as an expression of an epidemic exacerbation of an endemic disease—such as Beri-beri is—brought about by a concatenation of predisposing causes at one given time, such as severe monsoon, post-diarrhoeal diminution of intestinal functions, overcrowding, insanitation and poverty, more acute in the rainy season than otherwise, than the theory of specific causation.

Indian Journal of Venereal Diseases.—Quarterly. Vol. I. June 1935, Number 2, Edited by Dr. U. B. Narayan Rao, with the help of a Board of Editorial Collaborators, Indian and Foreign. Annual subscription: Indian Rs. 5. Foreign 10s. or 2.50 dollars.

We had the pleasure to peruse its first Number during the last quarter. The present one is as good as its predecessor. It contains original articles of no mean order from the pen of well-known Venereal specialists; as such, these articles have a value of their own. To the general practitioners who find no time to wade through voluminous books on Venerology, this journal will give the desired help at a minimum cost of time and money.

The get up is excellent; the articles are interesting and instructive—no verbiage and plagiarism. We heartily commend this Journal to the specialist and the general practitioner alike.

Marriage Hygiene.—Vol. I, No. 4, May 1935—Quarterly, edited by Dr. A. P. Pillay, O.B.E.,

M.B., B.S., with the help of an Editorial Advisory Board. Annual Subscription, Rs. 10.

The present one under review, like its previous Numbers, maintains its high level of production. There is an innate prejudice in the mind of an Indian to deal with or discuss the sex problems in all their aspects. That this prejudice is unjustified and unjustifiable is obvious. That the want of sound scientific knowledge on sex problems is one of the causes of avoidable social distemper is also not properly realised. We are quite confident that those who peruse *Marriage Hygiene* will soon have their prejudices removed and be benefitted.

Each number is a book by itself which can be read with profit and pleasure, not only by the physician but also by the lay man.

Information Bureau

(This column is specially opened to give such information as will be useful to the medical licentiates of India. For more detailed information, write to Dr. U. B. Narayan Rao, General Secretary, A. I. M. I. A., 94, Girgaum Road, Bombay 4, who will respond to enquiries promptly. Ed. I.M.J.)

Post Graduate Courses for Licentiates can be had in the following Colleges, Hospitals and Schools in India. The fees charged and the term of the courses are noted against each.

B. J. Medical School, Ahmedabad.—The post Graduate Course for L. O. (Licentiate in Ophthalmology, Madras) can be had. The student has to pay a fee of Rs. 20 for a term of 6 months. No other course for Licentiates in this school.

Government Ophthalmic Hospital, Madras.—Post Graduate Courses are given to all Medical Graduates and Licentiates. Can sit for the L. O. Examination after putting up the required period of training.

Fees.—Candidates for the Post Graduate & Licentiate Course in Ophthalmology Rs. 100 for the 1st quarter.

Candidates for the Post Graduate & Licentiate Course in Ophthalmology, Rs. 100 for subsequent quarters.

Entrance fee for qualifying Examination (for each appearance) Rs. 50.

For full particulars apply to "Superintendent, G. O. Hospital" Madras.

G. S. Medical College, Parel, Bombay.—Licentiates can attend Post Graduate Course in

Medicine, Surgery, Gynæcology, Ophthalmology, Ear, Nose, Throat, Dermatology and Venerology.

The period of attendance is for 8 months in each department and the fee is Rs. 45. Subsequent attendance in continuance of this, a further fee of Rs. 15 is levied. Students can join at any date and must make a special application to the Dean, who likes to interview all applicants. Application form can be had from the "Dean, K. E. M. Hospital," Parel, Bombay.

Orissa Medical School, Cuttack :—A General Post Graduate Course lasting for three months from January to March each year, is given. The course is meant for Government (S. A. Surgeons) and District Board Medical Officers. No Provision for outsiders. No fee is charged for any of the Licentiatees attending this course. Post Graduate Courses are given in the following subjects.—*Medicine; Midwifery; Hygiene; Surgery; Ear, Nose & Throat and Medical Jurisprudence.*

Women's Medical School, Agra, U. P. :—The Post Graduate Course is held in Midwifery for D. D. H. Course. No other course are held here.

Dacca Medical School, Dacca :—Open only to those serving under Government or under the District Board but not to the Licentiatees in general. Post Graduate courses can be had in Medicine; Surgery; Ear, Nose & Throat; Pediatrics; Pathology; Ophthalmology; Radiology; Electro-Therapy, Gynecology; Dentistry and Venereal Diseases. The period of the course is for three months and the fee charged for the same is Rs. 87-8-0.

Darbhanga Medical School, Lahersarai :—The Post Graduate Course for the Licentiatees in this school is held every year from April to June in Medicine, Surgery, Midwifery, Pathology, Medical Jurisprudence and Hygiene.

Regarding fee etc., please refer to I.G.C.H. Bihar and Orissa, Patna.

National Medical Institute, Calcutta :—Passed students are allowed to get supplementary training as House Surgeons and House Physicians for a year.

Venereal Clinic, Bombay (Municipal) :—Clinical assistants are appointed without any remuneration for a period of three months which is extended by three months if necessary. The Posts are open to Medical Practitioners whose names are in the Medical Register. The last appointments were made with effect from 1-8-35.

Grant Medical College, Bombay :—No Post Graduate Courses for L. C. P. S. students at this college, but they are permitted to attend the same provided there is a vacancy, as a special case. The

Courses are in Medicine; Surgery; Midwifery Pathology; Bacteriology; Ophthalmology; Physics and Hygiene.

The Government Hospital for Women and Children, Egmore, Madras :—The post graduate course is for one month only. Fee Rs. 100 to be paid to the Superintendent for his personal instruction. Taught on the ordinary clinical cases which happen to come to Hospital during his month of residence. Lodging arrangements will be made in the House Surgeon's quarters if there is accommodation. Boarding arrangements will have to be made in the hotels nearby.

On receipt of a definite reply and payment of an advance of Rs. 50 a vacancy will be reserved.

Minto Ophthalmic Hospital, Bangalore :—Purely an Ophthalmic Hospital. Post-Graduate Clinical courses are given to all Medical Men and Women possessing registrable qualifications. Fee for 8 months or less is Rs. 100. Courses are recognised by the conjoint Board of England.

Victoria Hospital, Bangalore City :—There is Post Graduate course for qualified Medical Men in General Surgery and Medicine and also in the diseases relating to the Ear, Nose & Throat. The period of the course is for three months and a fee of Rs. 100 is prescribed for the full course.

The General Hospital, Madras :—Post Graduate Courses for Medical Practitioners are also open in the following subjects :—

Name of the Special Subjects.	Name of the Institution in which the Post Graduate Training is given.	Fees to be Levied.
Ophthalmology.	Govt. Ophthalmic Hosp. Madras.	Rs. 50 for a month's course or less.
Bacteriology X-Ray.	King Institute, Guindy. Barnard Institute of Radiology, Madras.	Rs. 75 p.m. Rs. 150 p.m.
Dentistry.	Dental Department, Government General Hospital, Madras.	Rs. 75-full course.
Diseases of the Ear, Nose and Throat.	Ear, Nose & Throat Department, Government General Hospital, Madras.	Rs. 75 p.m.
Anaesthesia.	Government General Hospital, Madras.	Rs. 80 p.m.
Clinical Surgery.	Do.	Rs. 80 p.m. for 8 months do.
Clinical Medicine.	Do.	do.
Practical Anatomy.	Medical College, Madras.	do.

Note :—All fees levied from Candidates should be credited to the Government and no remuneration is payable to the staff. The Surgeon-General is authorized to sanction the admission of Medical Practitioners to the above courses. The fees for Non-Madras candidates have recently been increased

by 50 per cent above the fees specified in the Civil Medical Code.

Carmichael Medical College, Calcutta :—The fee for Post-Graduate students possessing a registra-

ble qualification undergoing a course of a special training in any one of the laboratories, shall be Rs. 90 for a period not exceeding six months and shall be Rs. 50 for Hospital Practice for 8 months.

Association Notes

Copy of the letter No. 7118-G., dated Lahore 28.6.35, from Lt. Colonel D.H. RAI, M.C., M.A., M.D., M.R.C.S., I.M.S., Offg. Inspector General of Civil Hospitals, Punjab to The General Secretary, A.I.M.L.A., 94, Girgaum Road, Bombay, 4.

REFERENCE your letter No. 1039, 85, dated the 12th March, 1935, forwarding copies of certain resolutions passed by the All-India Medical Licentiatees' Association on the 24th, 25th December 1933.

Resolution 6

Indian Nurses. Government is already making provisions for the training of the Indian Nurses and Dais.

Dispensers. A class for the training of dispensers-dressers has already been opened at the Medical School, Amritsar.

Resolution 12

Action on the lines suggested cannot at present be taken on this resolution.

Resolution 14

The question of starting a post-graduate course for Sub-Assistant Surgeons is under the consideration of Government.

Resolution 16

No Honorary Medical Officers are at present employed as Visiting Surgeons and Physicians to Government Hospitals in the Punjab and it is not proposed to consider this question at present.

Resolution 18

Five percent of the total seats in the King Edward Medical College, Lahore, and the Medical School, Amritsar are reserved for the sons of Medical men who fail to get admission in the ordinary way. The question of extension of the concession to daughters of Medical men does not arise at present as the total number of seats reserved for lady students in the College and School is only 10 to 15 respectively and the number of candidates applying for admission does not exceed the number of seats reserved for them.

Resolution 20 and 25

A copy of each of these resolutions has been forwarded to the Director of Public Health, Punjab, for disposal.

Resolution 22

It is regretted that the concession of study leave cannot be extended to Sub-Assistant Surgeons.

Resolution 29

As Civil Surgeons are the best judges in matters connected with the distribution of work among Hospital staff, I do not propose to deviate from the existing practice.

Resolution 30

The list of changes among Sub-Assistant Surgeons is supplied to the Association for publication in the Indian Medical Journal.

Resolution 31

It is not considered necessary to recommend to Government the grant of horse allowance to all Sub-Assistant Surgeons. The allowance is admissible only to those Sub-Assistant Surgeons who are in charge of Canal Dispensaries.

Resolution 32

As the most capable Sub-Assistant Surgeons irrespective of qualifications, are at present selected from the cadre of Sub-Assistant Surgeons for promotion to the rank of Assistant Surgeons it is not considered necessary to make any change in the existing practice. Six posts are however reserved in the P. C. M. S. cadre for the Sub-Assistant Surgeons and nothing more can be done at present.

Resolution 33

It is not possible to take any action on this resolution due to financial stringency.

Resolution 34

It is regretted that the Sub-Assistant Surgeons cannot be permitted to perform post mortem examinations.

Resolution 35

No scale of fees has been fixed by Government for Sub-Assistant Surgeons for attendance on non-entitled patients. It is a mutual arrangement

between a medical officer and a patient to fix the amount of fee for Medical attendance. The question of charging fees for Medico-legal work is at present under the consideration of Government.

Resolution 36

As the recruitment of medical officer in charge of rural dispensaries is entirely made by the District Boards, it is not possible to act on this resolution.

Calcutta Branch

A meeting of the All-India Medical Licentiates' Association, *Calcutta Branch*, was held at 69/1 Serpentine Lane, Calcutta on Tuesday, the 19th February 1935 at 7 P.M.

Agenda

1. Confirmation of the proceedings of the last meeting.
2. Consideration of the circular No. 2 regarding the amalgamation of the A. I. M. L. A. with I. M. A.
3. Consideration of the letter from the Secretary, Reception Committee, Bengal Provincial conference.
4. Miscellaneous.

Proceedings.—Dr. A. D. Mukharji was in the chair.

Dr. A. D. Mukharji on behalf of the Calcutta Branch accorded a hearty welcome to the President of the Association, Dr. Ram Narain Lal, Rai Sahab, who had come to Calcutta on Association work. He stressed on the sincerity of the President in the cause of the Association. The business of the meeting then commenced.

1. (a) The circulars No. 2, 3 and 4 of 1935 from the General Secretary were read and it was resolved that the circular No. 2 regarding the president's suggestion concerning the amalgamation of the A. I. M. L. A. with the I. M. A. be circulated to all the members of the branch and a special meeting be convened on the 4th March '35 to consider the same.

2. (b) That a sub-committee consisting of the following eight members be formed to consider the draft rules of the Association and the decision arrived at by the committee be placed before the general meeting specially convened for this purpose for its approval and the approved draft rules be sent to the General Secretary. It was further resolved that three members should form the quorum of that meeting:—

1. Rai Sahib Dr. P. C. Roy. 2. Dr. P. K. Sen. 3. Dr. P. N. Ghosh. 4. Dr. K. N. Mukharji. 5. A. D. Mukharji. 6. Dr. M. S. N. Khan. 7. Dr. S. L. Roy. 8. Dr. A. N. Roy.

(c) Consideration of the election of delegates to the ensuing conference be made in the meeting of the 4th March '35 to be called here-after.

2. (a) Notice of the Secretary, Reception committee, Bengal Provincial conference of the All India Medical Licentiates' Association was read and it was resolved that the following two members of this branch be sent as delegates to the ensuing conference.

1. Dr. Santi Lal Roy, R. M. O. Quarters, Campbell Hospital. 2. Dr. Sudhir Chandra Roy, Beliaghata, Calcutta.

(b) That the members be requested to send resolutions, if any, to the Secretary of the Provincial conference who is requested to send them to the Secretary, Reception committee.

3. Consideration of the way in which the money received from Dr. K. N. Bose of Dacca (raised for giving a party to Lt. Col. K. K. Chatterjee of Campbell Hospital,) be held in abeyance till the ensuing Provincial Conference.

4. That Dr. A. N. Roy, the Hony. Secretary of the Branch be authorised to operate on the Savings Bank account No. 358829 standing in the name of the Calcutta Branch of the A. I. M. L. A. at the Saldah Postal Savings Bank, in place of Dr. K. N. Bose, the previous secretary who was in charge of the funds. Resolved further that the P. M. G. be requested to effect the necessary change.

Then, Rai Sahab Dr. Ram Narain Lal, the President of the A. I. M. L. A. on being requested by the chairman to address the house said that he was really very glad to see the lively discussion in the Calcutta Branch of the A. I. M. L. A. He attended many meetings, he said, but did not find such representative gathering which justified their claim to send two representatives to the conference. He also told the members that U. P. Branch was also very active in asserting the rights of the Licentiates in the medical council and was glad to announce that Licentiates in U. P. have been elected as honorary fellows of the State Medical Faculty and the cause of their success lay in their unity. He also dwelt upon the question of amalgamation of the A. I. M. L. A. with the I. M. A. in detail and requested the members to help him by giving their suggestions so that a definite scheme may be adopted in the next conference. The chairman then thanked the President on behalf of the Calcutta Branch and was followed by Dr. K. P. Sen who thanked the chairman for conducting the meeting smoothly. The meeting terminated at late hours of the night.

Rules Sub-Committee meeting

A meeting of the rules Sub-committee was held on Tuesday the 26th February, 1935 in the R. M. O. Quarters, Campbell hospital, at 8 P.M. to consider

the rules of the A. I. M. L. A. published in the Indian Medical Journal (September issue 1934.) The following members were present.—

1. Dr. Priya Nath Ghosh. 2. Dr. Khagendra Nath Mukherjee. 3. Dr. Santi Lal Roy. 4. Dr. Amirta Nath Roy. Dr. Priya Nath Ghosh was voted to the chair. The members sat up to 10 P.M. when the meeting was adjourned after considering some portion of the rules. The adjourned meeting of the Rules Sub-committee was held on Wednesday, the 27th February, 1935 and also on the following day i.e., 28 inst. with Dr. P. N. Ghosh in the chair.

The remaining portion of the rules was discussed and resolved that the amendments as suggested, be sent to the Branch for approval. The meeting terminated at late hours of the night.

A special general meeting of the *Calcutta Branch* of the All India Medical Licentiates' Association was held on Monday, the 4th March 1935, at 7-30 p.m. at 69/1 Serpentine Lane, Calcutta. The following members were present.

1. Dr. A. D. Mukherjee (in the chair) 2. Dr. A. N. Roy. 3. Dr. S. K. Sen. 4. Dr. S. C. Roy. 5. Dr. M. S. N. Khan 6. Dr. P. N. Ghosh, 7. Dr. S. L. Roy. 8. Dr. K. N. Mukherji, 9. Mrs. N. B. O'Brien, 10. Dr. S. N. Maitra, 11. Dr. P. C. Gupta, 12. Dr. P. C. Chakraborty, 13. Dr. K. P. Sen.

After heated discussion on the circular No. 2, Ref. No. 812 regarding the proposal for amalgamation or federation of the A.I.M.L.A. with I.M.A. the following was passed with majority of votes.

1. Resolved that the question of amalgamation of the A.I.M.L.A. with the I.M.A. be held in abeyance till such time as the I.M.A. incorporates as one of its objects to bring about unification of all medical qualifications in India and work out for the statutory recognition of medical licentiates in all spheres.

2. Resolved that further in response to the generous idea of co-operation between the two associations on common problems this branch is of opinion that maintaining the separate existence and integrity of the A.I.M.L.A. the question of federation may be given a trial but on no account should the Journal of the A.I.M.L.A. cease to exist and the question of quota per capita of membership be referred to the ensuing annual conference.

3. That Drs. A. D. Mukherji and A. N. Roy be elected delegates to the ensuing annual conference to be held at Indore and in case they fail to attend Dr. Sachindra Kumar Sen and Santi Lal Roy should represent the Calcutta Branch.

4. The draft rules of the All India Medical Licentiates' Association as amended by the Rules

Sub-committee be sent to the General Secretary to be placed before the conference for consideration.

Madras Branch

Proceedings of the Executive Committee meeting of the All-India Medical Licentiates' Association, *Madras Branch* held on 31-8-35 at 6 p.m. at No. 57 Thambu Chetty Street, Madras. Members present. 1. Doctors, Ramanjulu Nayudu, 2. G. Subbarayudu, 3. C. S. Mohanrangam, 4. T. V. Ranganatha Rao, 5. U. D. Gopal Rao, 6. P. C. Ramachandra Raju, 7. A. Viswanathan, 8. D. V. Venkappa and 9. K. S. Sivarama Krishna Iyer.

Dr. U. D. Gopal was "at home" to the members. Dr. R. Ramanjulu Nayudu conducted the proceedings.

The Minutes of the previous meeting were read and confirmed.

The secretaries were asked to note in the Minutes the acceptance of the resignation letters sent by the Ex-Secretaries. They were also instructed to send a covering letter to the General Secretary requesting to omit the allegations referred to in the Minutes of the Executive Committee Meeting held on 21-1-35 and to see that they are not published in the Indian Medical Journal.

The accounts for the months of January, February and March aggregating to a sum of rupees fourteen, annas seven and pies six only were placed on the table and passed unanimously.

Five applications for re-admission and admission as members of the Association by the following Medical Practitioners were placed on the table and passed as admitted.

Re-admissions

1. Dr. P. Murugesan, 59 Thambu Chetty Street, G. T. Madras.
2. Dr. M. Sivaprakasam Mudaliar, Medical Officer, Corporation Dispensary, Royapuram, Madras.
3. Dr. M. Ethirajulu Chetti, Medical Registrar, Corporation Dispensary, Royapuram, Madras.

New Admissions

4. Dr. P. Krishna Rao, 108, Iyah Mudali Street, Chintadripet.
5. Dr. I. M. Venkatramana Rao, 130, Thambu Chetti Street, G. T. Madras.

The following resolutions were then passed.

1. The Executive committee of the A. I. M. L. A. Madras Branch, places on record their sense of appreciation of the good services rendered towards the Association by Drs. Y. Suryanarayan Rau and Venkat Rau as secretaries of the Madras Branch during the years 1933 and 1934 respectively. The resolution was moved from the chair and passed unanimously.

2. Drs. Y. Suryanarayana Rau and K. Venkat Rau shall be the members of the Executive Committee for the two seats that have fallen vacant by the appointment of Drs. U. D. Gopal and P. C. Ramachandra Raju as the Secretaries of the Branch. The resolution was proposed by Dr. G. Subbarayudu and seconded by Dr. C. S. Mohanrangam. The resolution was passed unanimously.

3. That the business of all the committee meetings shall not exceed more than an hour. The resolution was moved by Dr. K. S. Sivaramakrishna Iyer, Seconded by Dr. D. V. Venkappa and passed unanimously.

4. That separate cards shall be printed locally (not at the expense of the mother Association) for all the clinical meetings of the Branch. Moved from the chair and passed unanimously.

5. That the delegate from the Madras Branch shall be asked to move a resolution at the next annual conference regarding the supply of re-prints of the Madras Lecturers and he should also press for the supply of re-prints to Dr. A. Lakshminaraswamy Mudaliar B.A., M.D., as it is understood that all the other lecturers have since received the re-prints. Moved by Dr. G. Subbarayudu, Provincial Secretary, Madras, seconded by Dr. C. S. Mohanrangam and passed unanimously.

The meeting terminated with a vote of thanks to the chair and the host proposed by Dr. P. C. Ramachandra Raju, the Secretary.

Under the auspices of the above association Dr. K. S. Sivaramakrishna Iyer, Lecturer in Midwifery, Stanley Medical School, Madras, delivered an interesting lecture on "Abortion" on Wednesday, the 19th instant at the Government Lady Wellington Medical School, Egmore at 5-80 p.m., under the presidentship of Dr. (Miss) H. M. Lazarus, the Superintendent of the School. There was a large gathering of medical men and students. Lt. Col. Plumpro, I. M. S. Superintendent, Government Hospital for women and children was also present on the occasion.

The lecturer in the course of his learned speech dealt at length on the various etiological factors that bring on abortion and quoting figures from the statistics taken in the "Raja Sir Ramasami Mudr's Lying in Hospital," Madras, pointed out that out of nearly 8000 cases treated annually in that institution, about 1,800 cases are grouped under abortion. He emphasised the need for a careful diagnosis of pregnancy, undue interference of cases, and prompt and skilful treatment of early cases. While appreciating the services rendered by the child welfare centres of the Corporation of Madras,

the lecturer was of opinion that much more useful and good work could be turned out by these organisations provided they are equipped with efficient men and sufficient requisites for an up-to-date treatment of all the cases.

During the discussion that ensued several questions, such as the use of adrenalin in Asthma of pregnancy and in abortion; use of quinine in cases of malaria of pregnancy; abortion as a cause of sterility etc., were put by those present and answered suitably by the lecturer. The learned president in the course of her remarks pointed out the necessity for legislation regarding criminal abortion, the need for a study of pulse to diagnose pregnancy and the importance of the study of fibroids in pregnancy and febrile abortions.

The meeting terminated with a vote of thanks to the lecturer, the president, Lt. Col. Plumpro, members present and the authorities of the institution proposed by Dr. G. Subbarayudu, Provincial Secretary, Madras.

Nainital Branch

A meeting of this branch was held at Dashipur on 10th April, 1935 at 6-15 P. M. Dr. H. D. Pant was in the chair.

Members present. Drs. H. D. Pant; G. Thapa; R. S. Gorga; Brijmohan Singh Bishit; S. R. Agarwala and Patiram Kale.

The proceedings of the last meeting were read and confirmed.

Resolved that the following office bearers be elected for the year.—President—Dr. H. D. Pant; Vice President—Dr. G. Thapa; Secretary—Dr. Balmukund and Joint Secretary—Dr. R. S. Gorga.

That the contingent bill of the branch for March '35 be passed.

General Secretary's circular No. 7/35 was read and noted.

The meeting dispersed with a vote of thanks to the chair.

Surat Branch

The monthly general meeting of the A.I.M.L.A. Surat Branch was held at 5 P.M. on 11-4-35 at the G. H. Surat. Dr. Kinariwala was in the chair.

The following members were present.—Dr. C. N. Kinariwala, Dr. C. N. Vyas, Dr. A. D. Patel, Dr. J. J. Athugar, Dr. M. H. Mallik; Dr. V. N. Oza, Dr. P. M. Vora.

The proceedings of the last meeting were read and confirmed, Letter No. 85, dated 11-3-35 embodying the resolution passed in connection with the amalgamation of I.M.A. with A. I. M. L. A. from the Branch

Secretary, Ahmedabad, was read before the meeting and was unanimously approved.

Circular No. 6 from the General Secretary was read before the meeting. It was proposed by Dr. J. J. Athugar that Dr. C. N. Vyas may be sent as a delegate to represent the Surat Branch at the 27th conference of A. I. M. L. A. at Indore and was seconded by Dr. M. H. Malik and was passed unanimously. It was passed that attention of the general secretary may be invited to the proceedings of the last meeting wherein 2 more members had been enlisted and yet no cognizance has been taken of that.

It was passed that Drs. V. N. Oza and P. M. Vora may be enlisted as members of the A. I. M. L. A. and the journal may be sent to them by V. P. P.

It was proposed by R. S. Dr. A. D. Patel and passed unanimously that the certificates issued in private capacity either by Licentiate or Graduates (Registered) should not be required to be countersigned as the motive of Registration is thereby frustrated.

There was a good deal of lively discussion on local anaesthesia even in major operations.

The meeting dispersed after tea from Dr. C. N. Vyas.

Gwalior Branch

Proceedings of the meeting of Gwalior Branch held on 31-3-35 at Dr. Pustake's Residence.

Members present; R. S. Dr. Sunderlal; Drs. Miss Manolkar; Lakshminarayan; Gupta Changaonkar; Sholapurkar; Patki; Pustake; Shukala and Bapat. R. S. Dr. Sunderlal was in the chair.

Resolved that Dr. Lakshminarayan and Dr. Shivaprasta should send scientific papers to be read at the next conference.

Resolved that Dr. Miss Manolkar should attend the conference at Indore as a delegate from this branch.

Resolved that this branch agrees in all other respects except items No. 5. and 6 of the circular No. 2 of the General Secretary which was read and discussed.

Resolved that the members of the branch should be requested to contribute towards the conference to be held at Indore on the 17th, 18th and 19th April 1935.

The meeting terminated with a vote of thanks.

Kolhapur Branch

A monthly meeting of the branch was held on the 28th April 1935 at 5 P.M. in Dr. Shendis Dispensary,

Shahupuri when Dr. Patil was in the chair. The following members were present.

Drs. B. R. Patil; G. B. Shine; D. M. Shinde; Purohit; Miss E. D. Silva and Tembe.

Last month's proceeding were read and confirmed.

1. A condolence resolution for late Dr. Kale was passed unanimously. The resolution runs like this:—

"This association regrets to record the sad death of Dr. D. K. Kale on the 31st March 1935 and that in Dr. Kale's loss the Association has lost a valuable guide, patron and sympathiser of our class. The president is authorised to forward a copy of this resolution to his relatives expressing deep sympathy of the Association in that sad bereavement."

2. The secretary is authorised to inquire about the donation of Rs. 150/- given to this local branch by the late Dr. D. K. Kale to the General Secretary, Theosophical Society, Benares. This inquiry should be made as per letter of late Dr. D. K. Kale dated 4-8-35.

3. ARREARS OF SUBSCRIPTION. Once more the related circular be taken to each member and he be requested to pay the arrears as soon as possible. Henceforth from this year 1935 the members are requested to pay their subscription every quarter (i.e., annas eight every three months) and those who wish to pay the whole year's subscription at one time may do so.

4. Dr. G. B. Shinde is requested to translate his paper on "Care of infants" into Marathi. The translation should be put before the Managing committee for consideration of its publication.

After these resolutions were passed, the members discussed about some new preparations such as Transpulmin, Spirocid, Camphosaly, Ethylchloride as a general anaesthesia, S. U. P. Injection, Coramin etc.

With a vote of thanks to the chair the meeting dispersed after light refreshment.

Bengal Provincial Branch

A meeting of the Bengal Provincial Branch was held on 3rd February, '35 at Calcutta.

Members Present.—Dr. K. P. Sen. President; Dr. S. C. Maitra, Vice-President; Dr. Mrs. N. B. O'Brien 86, Dharamtala Street, Calcutta; Dr. A. D. Mukharji, Dr. P. K. Mukharji; Dr. A. B. Mukharji, Prov. Secretary.

Resolved unanimously.

1. The proceedings of the last meeting, held on 21st January '35 be read and confirmed.

2. The following members were co-opted in the Provincial committee. Dr. A. D. Mukharji; Dr.

Surendra Nath Maitra and Dr. Anant Kumar Sen Gupta.

3. The working committee shall consist of the following members.—Dr. Peritosh Kumar Mukharji, the Vice-President and the Provincial Secretary.

4. Two silver medals, worth Rs. 12/8/- each, be awarded to the prize winner of the last essay competition with suitable inscriptions on them.

5. In the opinion of the Provincial Branch, the time has not yet come for amalgamation of this Association with the Indian Medical Association. The Indian Medical Journal cannot at present be amalgamated with the journal of the Indian Medical Association. Efforts may be made whenever possible to hold the annual conference of this association at the same place where the annual conference of

the Indian Medical Association may be held. A Federal council composed of equal numbers of members of both the Associations may be constituted as suggested in the General Secretary's circular letter No. 2 of 4-2-35.

6. A committee constituted of the Vice President, Provincial Secretary and Dr. P. K. Mukherji, shall go through the draft rules as published in the I. M. Journal and this committee is further authorised to send their recommendations to the Provincial Branch.

7. A sum not exceeding Rs. 200- be created as a loan to the organising body of the Provincial conference of the All India Medical Licentiates' Association, if the said committee requires it to hold the conference in the month of March next.

Service Notes

LIST OF P. S. M. S. OFFICERS (U. P.) TRANSFERRED DURING THE MONTHS OF JANUARY, FEBRUARY AND MARCH 1935

JANUARY 1935

Name.	From	To	Remarks
Bai Sahib Dr. Amir Sahai	Ghazibad, Meerut	Hapur, Meerut	
Dr. Abdul Rahim	Hapur, Meerut	Ghazibad, Meerut	
" Murli Manohar Agrawal	Reserve, Etawah	Saidpur, Ghazipur	
" Hazura Singh	Reserve, Gonda	Sadullanager, Gonda	
" Narain Doss	Leave	Police, Etawah	
" Dewan Chand	Police, Etawah	Purwa, Unao	
" A. N. Vyas	Purwa, Unao	Reserve, Lucknow	
" Mahesh Chandra Sharma	Jahangirabad, Bara Banki	Jail and Police, Sitapur	
" Jagdamba Prasad	Jail and Police, Sitapur	Police, Meerut	
" Mohd. Yunis	Police, Meerut	Jahangirabad, Bara Banki	
" Narotam Dass	Leave	Gannaur, Budaun	
" Kanhaiya Lal Sharma	Gannaur, Budaun	Reserve, Bareilly	
" Mohd. Yar Khan	Reserve, Bareilly	Karbhana, Allahabad	
" Ram Ratan Singh	Karbhana, Allahabad	Bilhaur, Cawnpore	
" Bashirul Rahman Khan	Bilhaur, Cawnpore	Reserve, Cawnpore	
" Jamil Ahmad Khan	Usehat, Budaun	Reserve, Bareilly	
" Khazan Singh	Leave	Usehat, Budaun	
" Himmat Singh Grewal	Korihar Station, Rae Bareilly	Central Prison, Naini	
" Mangal Sen Wohra	Central Prison, Naini	Korihar Station, Rae Bareilly	
" Man Mohan Lal Misra	Leave	Bhim Tal, Naini Tal	
" Deoki Nandan Pant	Bhim Tal, Naini Tal	Reserve, Aligarh	
" Ambika Prasad Sinha	Leave	Reserve, Bareilly	
" Kameshwar Nath Johri	Reserve, Saharanpur	District Jail, Bareilly	

FEBRUARY 1935

Dr. Gur Saran Lal Kacker	Reserve Banda	Jail and Police, Banda	
" Ishwari Prasad	Jail and Police, Banda	Lachmipur Forest, Gorakhpur	
" Abdul Haque Qureshi	Reserve, Lucknow	Reserve, Agra	
" Narain Das	Leave	Reserve, Etawah	
" Brij Mohan Narain Chaudhry	Reserve, Cawnpore	Central Jail, Lucknow	
" Kanhaiya Lal Gupta	Central Jail, Lucknow	Pihani, Hardoi	
" Hari Shanker Bhatia	Reserve, Etawah	Reserve, Civil Disp. Lucknow	
" Raja Ram Shukla	Reserve, Lucknow	Sahaswan, Budaun	
" Tulsi Ram	Sahaswan, Budaun	Boren, Etah	
" Ambika Prasad Sinha	Reserve, Bareilly	Barhaji, Gorakhpur	
" Sadhu Saran Pande	Barhaji, Gorakhpur	Reserve Gorakhpur	
" Mithoo Lal	Leave	Kaula, Gorakhpur	

Postponed for 8 months
Postponed till May 1, 1935

Cerebrospinal meningitis duty

Cerebrospinal Meningitis duty

MARCH 1935

Name	From	To	Remarks
Dr. Bashirul Rahman Khan	Reserve, Cawnpore	Reserve, Lucknow	
" Shiam Lal Mathur	Reserve, Allahabad	Khalilabad, Basti	
" Balak Ram Negi	Kotdwara, Garhwal	Srinagar, Garhwal	
" Mahadeo Prasad Pande	Leave	Sadullanager, Gonda	
" Hazura Singh	Sadullanager Gonda	Central Prison, Bareilly	
" Har Kishen Lal	Leave	Jail and Police, Fatehgarh	
" Hari Shanker Saxena	Jail and Police, Fatehgarh	Reserve, Cawnpore	Cerebrospinal Meningitis duty
" Chima Dutt Pant	Leave	Jail, Almora	
" Jiva Nand Pant	Jail, Almora	Kotdwara, Garhwal	
" Jagannath Prasad	Sardhana, Meerut	Salone, Rae Bareilly	
" Sidh Nath Sharma	Salone, Rae Bareilly	Reserve, Lucknow	
" Jamii Ahmad Khan	Reserve, Bareilly	Katra, Shahjahanpur	
" Jai Krishna Lal Arora	Kunwarpur, Sitapur	Jail and Police, Bahraich	
" Mohd. Iqbal Rathore	Reserve, Meerut	Fatehabad, Agra	
" Bashirul Rahman Khan	Reserve, Lucknow	Central Jail, Lucknow	

LIST OF P. S. M. S. OFFICERS (U. P.) GRANTED LEAVE DURING THE MONTHS OF JANUARY, FEBRUARY AND MARCH 1935

JANUARY 1935

Name.	Attached to	Period	Name of acting incumbent.
Dr. Chima Dutt Pant	Jail, Almora	3 Months	Dr. Jiva Nand Pant.
" Jagdamba Prasad	J. and P., Azamgarh	2 Years 4 Mths. P.R.	" Zakir-rur-Rahman
" Man Mohan Lal Misra	Kitcha, Naini Tal	2 Months	" Sri Nath Singh
" Mahadeo Prasad Pande	Sadullanager, Gonda	"	" Hazura Singh

FEBRUARY 1935

Dr. Badri Prasad	Lachmipur Forest, Gorakhpur	1 1/2 Months	Dr. Iswari Prasad
" Har Nath Tandon	Bikapur, Fyzabad	3 Weeks	Local Arrangements
" Bishan Singh	Tanda, Fyzabad	2 "	"
" Hans Raj	Ujhani, Budaun	14 days	"
" Ram Sarup	Pihani, Hardoi	3 1/2 Months	Dr. Kanhaiya Lal Gupta
" Mithoo Lal	Kasia, Gorakhpur	1 Month 2 Weeks	" Sadhu Saran Pande
" Parmanand Khanduri	J. and P. Basti	2 Months	Local Arrangements
" Shiam Narsin	Okhla Canal, Muttra	11 Days	"
" Devi Sahai	Khalilabad, Basti	4 Months	Dr. Shiam Lal Mathur

MARCH 1935

Dr. Rasik Behari Lal	Katra, Shahjahanpur	10 days	Local Arrangements
" Ajodhia Prasad	Khair, Aligarh	1 Month	"
" Sayed Allauddin	Gangoh, Saharanpur	15 days	"
" Hari Shanker Mathur	J. and P. Bahraich	2 Months	Dr. Jai Krishna Lal Arora

STATEMENT SHOWING THE POSTINGS AND TRANSFERS OF THE L.P.H. OFFICERS IN THE PUBLIC HEALTH DEPARTMENT (U. P.)

January and February 1935

No.	NAME	FROM	TO
1	Dr. Rama Shanker-Srivastava	Etah	Allahabad for Magh Mela.
2	" Shiam Lal Saxena	Bareilly	Leave on average pay form 8rd to 22nd February 1935 (both days inclusive).
3	" Anand Saroop Gupta	Fyzabad	Leave for 15 days already granted has been cancelled.
4	" Mukut Behari Mathur	Etah	Leave on average pay from 30th January 1935 to 10th February 1935.
5	" Hidayat Nabi	Meerut	Leave on average pay for 1 month in continuation of the previous leave.
6	" Ram Ratan Dass Rastogi	Meerut	To hold charge of P.H. Travelling Dispensary. No. 2, in the leave arrangement of Dr. Hidayat Nabi.
7	" Mukut Behari Mathur	Etah	On the expiry of the leave to proceed to Bareilly for the charge of Travelling Disp.
8	" Mohd. Hussain Jafari	Gonda	Leave on average pay for 8 months.
9	" Mangal Sen	Allahabad	Basti
10	" Ram Shanker Srivastava	Allahabad	Etah.
11	" Shiam Lal Basi	do	Bahraich.
12	" Ram Ratan Dass Rastogi	Meerut	Rae Bareilly for the charge of P.H. Travelling Dispensary No. 21.

STATEMENT SHOWING THE POSTINGS AND TRANSFERS OF THE L. P. H. OFFICERS SERVING IN THE PUBLIC HEALTH DEPARTMENT U. P.

March and April 1935

No.	NAME	FROM	To
1	Dr. Bhagwati Saroop	Ballia	Leave on average pay for 15 days from 15th to 31st March 1935
2	" Sada Ram	Muzaffarnagar	Bijnor for the charge of P. H. Travelling Dispensary No. 19.
3	" Gurdit Singh Mali	do	Muzaffarnagar on epidemic duty.
4	" Dur Datta Dikhit	Ballia	Garhwal on pilgrim route.
5	" Shiam Lal' Basi	Bahraich	Garhwal on pilgrim route.
6	" Gokul Prasad Rathore	Gorakhpur	Return from leave to the charge of District Board T. Dispensary No. 2.
7	" Narain Dass Bhargava	Gorakhpur	To take the charge of the P. H. T. Dispensary No. 18 Gorakhpur.
8	" Mangal Sen	Basti	Barhwal on pilgrim route.
9	" Daya Shanker Mathur	Lucknow	Banda for Ramnaumi fair at Karwi.
10	" Rama Shanker Srivastava	Etah	Badri Nath.

May 1935

1	Dr. Shambhoo Nath Saxena	Hardoi	Amroha as Municipal Medical Officer of Health
2	" Farzand Ali	Amroha	Hathras as Municipal Medical Officer of Health
3	" Ram Narain Varma	Allahabad	Sitapur as Municipal Medical Officer of Health
4	" Chattar Singh	Hathras	Hardoi as Assistant Medical Officer of Health
5	" Brij Basi Lal Agrawal	Sitapur	Bulandshahr as Assistant Medical Officer of Health
6	" Chotey Lal Gupta	Bulandshahr	Fyzabad as School Health Officer
7	" Nand Lal Varma	Fyzabad	Allahabad as School Health Officer
8	" Indra Narain Saxena	Jhansi	Gorakhpur as School Health Officer
9	" Raghunath Sahai Johri	Gorakhpur	Jhansi as School Health Officer
10	" Farooq Ahmad	Muzaffar Nagar	Sabarapur on Piran Kaliar duty
11	" Syed Alley Mohd.	Partabgarh	Leave on average pay for one month
12	" Budh Sen Gupta	Badaun	Leave on average pay for one month

June 1935

1	Dr. Sada Ram	Muzaffarnagar	Bijnor
2	" Gurdit Singh Mali	Bijnor	Garhwal for epidemic duty.
3	" Syed Alley Mohammad	Partabgarh	Leave on average pay for one month.
4	" Pratap Narain Saxena	Ballia	Gorakhpur as School Health Officer.

STATEMENT SHEWING THE TRANSFERS AND POSTINGS OF SUB-ASSISTANT SURGEONS SERVING IN THE PRESIDENCY OF BENGAL FOR THE FORTNIGHT ENDING

15th May 1935

NAME	FROM	To
Jogesh Chandra Ganguly	Supernumerary duty at the Campbell Hospital, Calcutta.	1st Sub-Assistant Surgeon, Central Jail Hospital, Midnapore. The move was in the interest of public service.
Heramba Lal Laskar	Under order to do supernumerary duty at the Campbell Hospital, Calcutta.	Hijli Detention Camp, Midnapore. The move was in the interest of public service.
Jogesh Chandra Chakravartty, I	Hijli Detention Camp, Midnapore.	Supernumerary duty at the Campbell Hospital Calcutta. The move was in the interest of public service.

NAME	FROM	To
Surendra Nath Biswas	Demonstrator of Anatomy, Lytton Medical School Mymensingh.	Held charge of the Tangail Subdivision and Dispensary, from the 8th to 10th April, 1935 both days inclusive during the absence of Dr. Radha Raman Roy summoned to give evidence at Mymensingh. The move was in the interest of public service.
Baroda Kanto De I	Held charge of the Serajunj Subdivision and Dispensary, District Pabna, on the 10th and 11th April, 1935, during the absence of Dr. Tara Prosad Singh summoned to give evidence at Alipore, District 24-Pargannas. The move was in the interest of public service.	
Shamsuddin Ahmed	Held charge of the Netrokona Subdivision and Dispensary, Dist. Mymensingh on the 9th April, 1935, during the absence of Dr. Ramani Mohan Mukerji summoned to give evidence at Mymensingh. The move was in the interest of public service.	
Sudhansu Bhusan Ghosh	Supernumerary duty at the Sadar Hospital, Jalpaiguri.	Jail Hospital, Jalpaiguri.
Md. Hossainuddin	Police Hospital, Rangpore.	Held charge of the Gaibandha Subdivision and Dispensary, on the 24th April, 1935 during the absence of Selection Grade Sub-Assistant Surgeon Dr. Abinash Chandra De summoned to give evidence Rangapore. The move was in the interest of public service.
Jotindra Mohan Joy	On leave.	Supernumerary duty at the Campbell Hospital Calcutta. The move was in the interest of public service.
Rakhalraj Sanyal	Under order to do supernumerary duty at the Campbell Hospital, Calcutta.	Buxa Detention Camp, Jalpaiguri. The move was in the interest of public service.
Rajendra Chandra Das	Held charge of the Baraset Subdivision and Dispensary, District 24-Pargannas, from the 23rd to 25th April, 1935, both days inclusive during the absence of Honorary Jamadar Selection Grade Sub-Assistant Surgeon Dr. Nagendra Nath Mitra summoned to give evidence at Mymensingh. The move was in the interest of public service.	

LIST OF SUB-ASSISTANT SURGEONS WHO HAVE BEEN GRANTED LEAVE DURING THE FORTNIGHT ENDING

15th May 1935

NAMES	WHERE ATTACHED	PERIOD AND NATURE OF LEAVE
Mathura Mohan Barory	1st Sub-Assistant Surgeon, Central Jail Hospital, Midnapore.	Leave on average pay for 2 months under F. R.
Mati Lal Mukerji	Jail Hospital, Jalpaiguri.	Leave on average pay for 4 months under F. R.
Bibbuti Bhusan Mukerji	Teacher of Physiology and Pathology, Ronaldshay Medical School, Burdwan.	Leave on average pay for 1 month (the entire period being P. Leave) under F. R.
Jotindra Mohan Joy	Buxa Detention Camp, Jalpaiguri.	Leave on average pay for 3 months under F. R.

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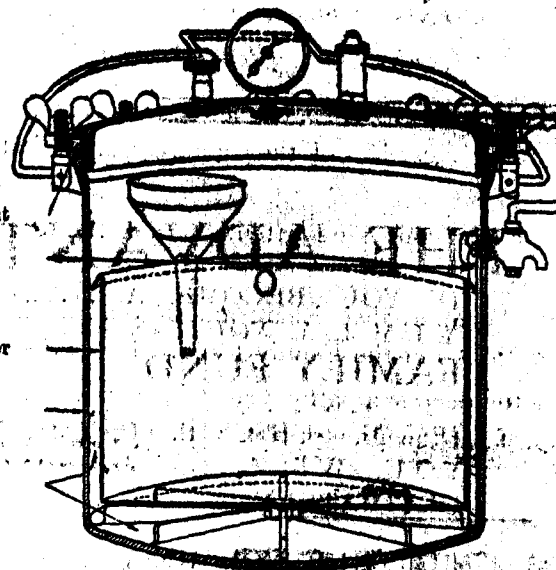
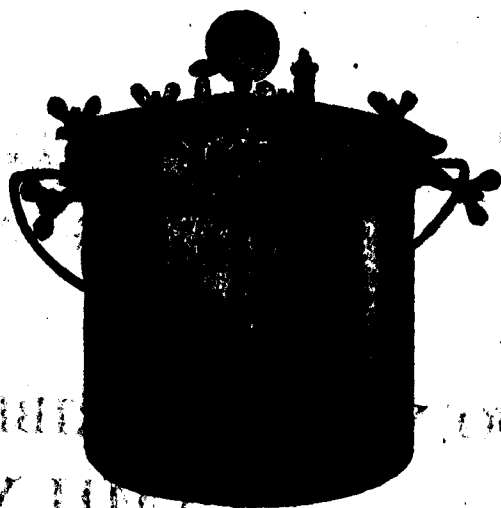
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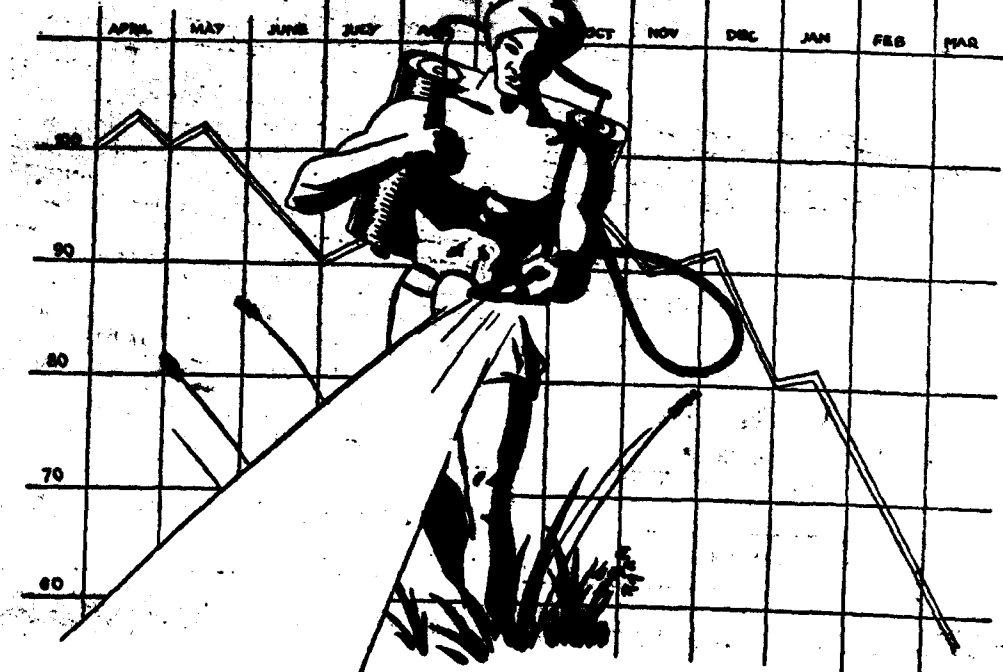
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SYRUP AURI COMPOUND

(An unique preparation of Gold, Phosphorus
and strychnia to their adequate
strength)

The highly effective Gold preparation for.—Anaemia (pernicious, malarial and pregnancy), Nervous debility Beri Beri, Diabetes, Tuberculosis, Chronic bronchitis, Hysteria, Enlarged spleen, Cirrhosis of liver, Chronic alcoholism, in convalescence after exhausting illness and in all conditions in which resisting power of the body decreased.

body decreased.

For the tonic and metabolic action it brings surprisingly rapid and lasting improvement through stimulation of the hematopoietic glands, hence it is extensively prescribed by the medical men. It is the safest medium for administering Gold when required by the patient.

by the patient.

Syrup Auri Triple. Bromide
WITH
Arsenate of Antimony

Each fluid dram of the preparation contains Gold Bromide gr 1/16, Potassium and Sodium Bromide grs 5 each and Arsenate of Antimony gr 1/100. It checks Epileptic fits by regulating the over-excitability of the Medulla. It is a specific remedy for melancholia, insanity, hysteria and nervous troubles associated with painful menstruation and menopause. It is also efficacious in sleeplessness, nocturnal seminal emissions, sea-sickness, asthma and vomiting (cerebral) and of pregnancy).

Price 6 ozs. phial No. 5

Price 6 ozs. phial Rs. 5

Dr. Hazra's Laboratory,
27-A, D. L. Roy Street, Calcutta.
Stockists:—**SMITH STANISTREET & Co., Calcutta.**
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VERLIN '29 Regd.

The Remedy of T. B.

Verlin '29 contains ions and free electrons of copper and globulins of the milk of India rubber in sterilized water. Cu. 10 C₁₀H₁₆. Copper quickly kills TB germs, rubber supplies elastic fibres for repair of lung tissues.

Dose ; Oral, 10-20 drops on tongue direct from the phial. May be taken with one ounce cold water in a glass.

Directions : In TB (or suspected) of the lungs the dose to be taken twice daily, morning and evening, for the first 3 or 4 days. Afterwards only one dose daily at bed time will do. Stop the medicine as soon as fever is checked. For improvement of health, repeat once or twice a week at bed time only.

Consult your doctor at least once a week

In PHTHISIS meat diet strictly prohibited

N.B.—Keep the bottle in a cool place, away from sun's rays. Do not touch the medicine with metal spoons. Other medicines incompatible. Verlin is absolutely harmless. May be given to infants or pregnant women. Bottle of 1 oz. Rupee One nett. No discount.

P. BANERJI, MIHIJAM (INDIA).

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