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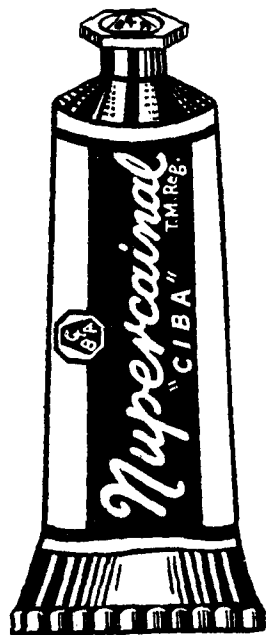
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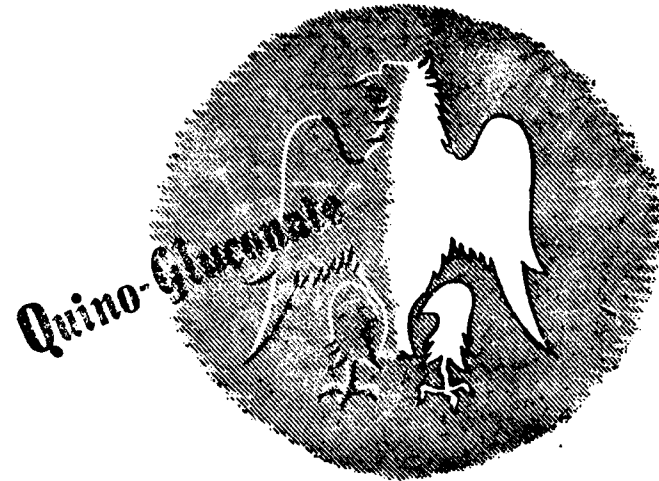
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Indian Medical Journal

(Journal of the All-India Medical Licentiate's Association)

Vol. 39. Madras: October, 15, 1945. No. 10.

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We regret to record the death of Lt. N. C. Lahiri, I.A.M.C. while on active duty. He is one of the active members of the A.I.M.I.A. and has done good work in Rajshahi Branch. We offer our Condolences to the bereaved family.

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OUR MONTHLY SURVEY.

Chemotherapy in Tuberculosis:—The successful strides which chemotherapy is making in the treatment of bacterial infections have raised hopes in the minds of the research workers that tuberculosis may be made to yield to some as yet undiscovered chemical agent. So far neither penicillin nor sulphonamides has been found to attack the tubercle bacillus in the body. That is because *Mycobacterium Tuberculosis* has certain unusual properties. It has an inert protective coat which chemical agents are unable to pierce through. It produces lesions which are not supplied with blood-vessels, and therefore any chemical agent which has to be carried through the blood stream is unable to reach the lesion or the foci

of infection. Yet the American workers have been trying hard to find out an agent which would be lethal to the *Mycobacterium Tuberculosis* in the body without being harmful to the human tissues. Promin, Promizole, sulphone, and streptomycin are some of the drugs still in the experimental stage. For the time being conventional modes of treatment—good food, fresh air and exercise—must be followed as there is no hope of simplified therapy on chemotherapeutic or anti-biotic lines although the new line of research holds out a reasonable promise for the future.

Mass Sulfadiazine Prophylaxis:—Alvin F. Coburn, has observed in the course of his article that mass sulfadiazine prophylaxis among 600 naval personnel has resulted in a marked reduction in the morbidity rates for respiratory diseases and meningococcal infections were eliminated. The effective dosage was 1.0 gram daily. The effectiveness of chemoprophylaxis in the control of streptococcal infections, he writes, became apparent at the end of the first week. After two weeks, the incidence of rheumatic fever began to decline and then progressively. By the end of one month the incidence of scarlet fever, tonsillitis, and rheumatic fever reached a relatively low level in each group receiving chemoprophylaxis. It has no effect on the incidence of influenza, measles, atypical pneumonia and other diseases believed to be caused by filtrable virus. Drug reactions were observed only in about 0.5 per cent of cases under chemoprophylaxis. There was also no development of sulphadiazine-fast respiratory pathogens. His work, however, indicates that chemoprophylaxis could only be undertaken in a closed community and not among general population.

The Future of Preventive Medicine:—In this issue, we publish a thoughtful article on this subject by Prof. Mackintosh, which is of special interest to our country where preventable diseases are yet contributing a large toll of mortality. "How can science help? The answer lies in the integrating concept of social medicine, the study of man in his environment—the individual and his family, his house, his food and his work". Other observations of his are equally interesting and instructive. Our country is far from the ideal which Prof. Mackintosh advocates so passionately. Malaria is an engineering problem. Good water supply is another need in rural India. Bad housing, one of the prolific cause of tuberculosis and its spread, is the order of the day. A national government alone could tackle these problems with boldness and imagination, and raise the necessary money.

ADDRESSES AND ARTICLES

Future of Preventive Medicine*

BY PROF. J. M. MACKINTOSH

In addressing his students one of the leading anatomists of the early nineteenth century offered the following illustration:—

"Anatomy may be likened to a harvest field. First come the reapers who, entering upon untrodden ground, cut down a great store of corn from all sides of them. These are the early anatomists of modern Europe, such as Vesalius, Fallopius, Malpighi, and Harvey. Then come the gleaners, who gather up ears enough from the bare ridges to make a few loaves of bread. Such were the anatomists of last century—Valsalva, . . . Hunter, and the two Monros. Last of all come the geese, who still contrive to pick up a few grains scattered here and there among the stubble and waddle home in the evening, poor things, cackling with joy because of their success. Gentlemen, we are the geese."

The author of this sally of wit saw only one narrow strip, when (as Osler pointed out) the broad acres of biology lay open before him. Perhaps we are less myopic today, yet only a few weeks ago a medical writer made this rash prophecy about surgery:—

"Though surgeons are as busy and as necessary as ever, surgical science is nearing completion."

It is probably more true to say that surgical science is still in the clumsy experimental phase of its childhood, and that preventive surgery has only just begun to take shape. The recent advances in plastic surgery, for example, are not merely refinements in technique but the progressive application of new biological knowledge; and recent work on the lungs, the nerves, and the blood vessels open up great highways for the march of science. Surgery has lately secured a powerful ally in biochemistry, and increasing safety in the operating field should lead to bold adventures in the use of mechanical devices for the repair of tissues.

We badly need the mechanical expert in the surgical repair shop, and we must call in the chemist to help us in the search for non-irritant materials which can be used in surgical architecture. I look forward confidently to the time when the "foreign body" will be a friend, and when the restoration of the disabled will reach a mechanical and functional perfection undreamed of today.

Turning to preventive medicine, we must first recognise two broad divisions of the subject: the environmental, represented by sanitary science, housing, town planning, and the like; and the personal, with its family and social background. Sanitary science made great strides in the latter half of the nineteenth century, and some progressive areas read the benefit in a good and abundant water supply and

efficient drainage. Yet these advances were hardly more than pioneer demonstrations. The immediate blessing that sanitary science should bestow is to make living more gracious for the whole community. Its future flows along the pipe and the wire, and its secret is water.

Water is the treasure house of health and the good life, yet here we are, even in some of our great cities, eating soap by the ton and drinking other people's bath water, furring our kettles, and ruining our clothes and our boilers—when within easy reach abundant supplies of clear soft water are waiting to be gathered. Here we are, in the year 1945, with the pitcher still going to the foul well, and typhoid lurking in the crevices of our gathering grounds.

The giant power of water is better utilised than its other virtue, but we still lag far behind in the provision of cheap supplies of electricity to home and factory. Meanwhile we misuse coal by allowing countless chimneys to pour their smoky filth into the atmosphere. It is the urgent duty of sanitary science to apply technical knowledge to the practice of health, and smoke prevention is one of its immediate tasks.

On the personal side preventive medicine stands at the door of opportunity. The brilliant discoveries of bacteriology and biochemistry are too limited in their distribution, and they have yet to be fully applied to prevention. Our methods of introducing biochemical and immunizing substances are clumsy; we must bend our energies to the study of the respiratory tract as the receptor of measured and graduated doses of protective material. It is notorious that doctors tend to escape infections such as influenza, in which there can be no question of lasting immunity; and the simple explanation is that in the course of their daily rounds they received immunizing doses of the infecting organisms via the respiratory tract.

In recent years we have learned a great deal about the production of mists of fine droplets; we can regulate the size and rate of flow, and we already know something about their course and distribution when introduced into the human body. Further, we are learning how to charge these droplets with protective materials in a suitable form, and it is but a short step to gain scientific control over dosage. Generations to come will smile indulgently, when they think of our crude methods of blood transfusion; but they will remember how they saved innumerable lives.

In the battle for preventive medicine we have been strangely content with numbering the dead. More effort should be spent in counting the wounded. Science cannot help us as it should, unless it is provided with the raw material—the numbers and the causes. Count the syphilitics and you know what the problem is; talk cotton wool about them and you will not.

To know the extent of your task is the first step in prevention. Otherwise, "where your mind should go straight, it will dodge; the difficulties it should approach with a fair front and grip with a firm hand it will be seeking to evade or circumvent". For some years past the Department of Health for Scotland has been making serious attempts to analyse

the causes of disability among industrial workers, and the recent "Clydeside" experiment is the logical outcome in preventive medicine.

In the strategy of prevention science can help both in the study of the campaign as a whole and in directing the spearheads of local action. Taking the latter first, tuberculosis provides me with a convenient illustration. Here is a problem of specific infectious disease against a broad social background. It is not enough for one body of scientific workers to study the infecting agent, another to deal with early detection and treatment, and a third to tackle housing, industrial conditions, and so forth. There must be a concerted attack in the name of science.

Let me illustrate this principle in another way: in the Tennessee Valley the creative work calls for men of many different kinds of professional and technical experience: geologists, agricultural and forestry experts, chemists, architects, doctors, engineers, and many specialists of more limited scope. Even under the best conditions it is not easy for each specialist to estimate the importance of his own job in relation to the work as a whole, and specialists are seldom trained to look beyond the wild wood to the wide world.

"It is an ironic fact," says David Lilienthal, "that the very technical skills which are employed to further the progress of men, by the intensity of their specialisation create disunity rather than order and tend to imperil the whole success of their common objective. Resources cannot be developed in unity until each technologist has learned to subordinate his expertness to the common purpose, has come to see the region and its problems 'in their entirety'. The problems of power, flood, control, conservation of soil, prevention of malaria, and general welfare march shoulder to shoulder, and the decision to be taken on any issue has to be the one which will yield the best results as judged by the common purpose—the health and well-being of the people."

It is in this spirit that science must tackle the public health in our country. It is not within my sphere to deal with food or housing, but surely there also lie the foundations for a common purpose in which the State, the man of business, and the scientist must join. With preventive medicine in general, both personal and environmental, the same principle of unity holds firm.

In this age of destruction we are deeply concerned with the more positive aspects of prevention—the promotion of health. How can science help? The answer lies, I think, in the integrating concept of social medicine, the study of man in his environment—the individual and his family, his house his food, and his work. Let me take work as my example.

Hitherto, the promotion of health in industry has suffered from two great limitations: it has been confined for the most part to the larger factories and so covers only a minority of workers; and it has failed as a rule to bring together the vital elements of industry to create a compound of safety, health, and welfare. In both respects we have been feeding the fat with the cream and the lean with the skin milk. Naturally enough the big firms with immense resources tend to have the highest standards of health

and welfare, and they are often the most strict in their rejection of the unfit. The firms which have least need of salvation are the most frequently inspected. The consequence is that the smaller industries have to be content with relatively inferior human material; they have not resources enough for good social services; and they are liable to fall below even the minimum standards laid down by the Factory Acts.

I am not blaming the smaller firms, nor the larger; but this is a prime example of lack of scientific organisation. They that are whole get all the medical attention. There is need for a new spirit of health organisation in industry, especially for the benefit of the smaller occupations and the widely distributed activities of transport and service. This is in itself a scientific problem, but in the narrower sense there is abundant scope for a fresh scientific approach to the whole question of health and welfare in industry, and the physician is only one of many partners in this enterprise.

I have left the most fascinating chapter in the story to the last. In the application of science to international health quarantine still plays an important part, but the whole scene has changed. Diseases such as malaria and yellow fever are no longer limited by time and space in the shrunken world.

An infected traveller may reach this country by air with all his sins upon him; or he may be apparently recovered on arrival and subsequently go down with a relapse, passing his infection to a legion of local anophelines. The *Aedes Aegypti*, once infected by the virus of yellow fever, may carry the unwelcome guest for life, and has no difficulty in becoming a stowaway in an aeroplane. Or a dangerous vector may be brought into a country and multiplying there, spread a local disease. The risks are enhanced when travellers visiting endemic areas have been immunised by vaccination.

The insect-borne and tropical infections are not the only physical ills demanding international scientific control. As W. A. Sawyer says, "a dying man with a weakened heart and swollen legs, a sufferer from beriberi contracted by eating over-polished rice, is just as much the victim of preventable disease and community neglect as if he were succumbing to cholera or typhoid. . . . After a prevalent nutritional deficiency has been investigated and identified by the health authorities, the correction of the causes in the community often involves co-operation with agencies interested in economics and agriculture. The responsibility for the trouble is frequently shared by other countries and international co-operation is therefore necessary."

Dr. Sawyer believes that the future of international health depends on the skilled distribution of current information about epidemic and other diseases, the provision of facilities for education in public health, above all, the international control of disease, wherever it is discovered. "As such control will be of universal benefit, we hope that it will be fitted into a world plan, formulated internationally, and that expert or financial assistance, needed by the international health organisations in any country, will somehow be made available by the central organisations."

An address on "Preventive Medicine" delivered by Prof. J. M. Mackintosh at the British Association Conference on "The Place of Science in Industry" held in London on January 13, 1945.

It is of world-wide importance, if for example, that the control of yellow fever should be centred in the edemic areas of Africa and South America and supported by the combined agency of all the benefiting countries. When world strategy requires that an intensive fight must be made in some country to keep it from becoming a stepping stone for a disease or insect vector, like *Anopheles Gambiae*, toward other lands, then the world should be ready to help to direct the effort to pay for it.

Whether we ask the question locally, nationally, or internationally, the answer is the same, that science can foster progress in three main ways. It can help by universal distribution, through mass production and other economics, of the modern-public services which are essential to the good life; by co-operation between the medical and other technical experts, in which each is ready to subordinate his ideal to the common purpose; and by shortening the time-lag between scientific discovery and its application to human welfare.

A Review on Peptic Ulcer and its treatment

BY DR. B. B. GUHA, L.M.F. (CAL.)

215, Sir Bhal Chandra Road, Lamba Building, Matunga, Bombay.

The etiology of the peculiar type of ulcer, which forms only in the stomach and duodenal bulb, has not yet been properly elucidated. A careful study, however, of the numerous cases has revealed that not one but a combination of several factors is responsible for the pathogenic lesion.

In the opinion of certain authors it is of bacterial origin and a septic focus at any common place like teeth, tonsil, nasopharynx, appendix, gall bladder is an important source of infection and development of ulcer at the vulnerable part of stomach or duodenum. The impaired vitality of gastric or duodenal mucous-membrane, according to them, is the result of the action of toxins and the devitalised tissue is ultimately necrosed by the action of gastric juice to form into ulcer.

While many other clinicians conclude that the origin of its cause can be traced to the disturbance of the autonomic nervous system, which is precipitated by the psychic and emotional strain, and that such functional disorders may produce local areas of ischaemia of the gastric or duodenal mucous membrane. As a result, these areas of lowered vitality is slowly acted upon by the corrosive action of the gastric acidity to develop into ulcer. Crohn says "The unknown factor which causes indigestion and dyspepsia in one patient and gastric ulcer in another has not yet been determined. Perhaps as has been said by many writers this factor is in the hypothalamus or the autonomic nervous system" Crohn believes that two common factors control the condition of the gastro-intestinal tract, which are the autonomic nervous system and the digestive fluids and between these two the cause of the ulcer can be found. Experimental ulcers have been produced in dogs by injuring the base of the brain and the conception of the nervous

role has further been confirmed by the prevalence of peptic ulcer, during the war period, amongst the front line soldiers as well as the war weary women at home.

Excessive smoking, hard digestible food, chemical irritants etc., usually cause a hypermotility and hypersecretion and thus favour the initiation of the pathologic process and interfere with the healing of an acute or chronic ulcer. Hepatic dysfunction, and other debilitating disorders have been mentioned as some of the systemic contributory factors.

It is generally not difficult to recognise a gastric or duodenal ulcer as the compilation of the chronological symptoms make the diagnosis easy. It should, however, be remembered that reliance on a single sign, symptom or examination may lead to gross errors in the diagnosis of ulcer. Positive X-Ray diagnosis is possible only when the pathological processes have become extensive. One of the most characteristic feature of the ulcer is its paroxysmal outbursts separated by periods of complete remission. The tardy pains occur daily for 2 or 3 weeks on an average, and followed by complete disappearance of the uneasy feeling. Sharp nocturnal pains accompanied or not by acid vomittings should immediately attract the attention even when they appear for the first time. It has often happened that the ulcer has remained undiagnosed for a long time and only in the course of search for other disease that it has been detected. Gastritis in its erosive form usually gives rise to ulcer and can be determined or excluded by gastroscopy. In the diagnosis of peptic ulcer Palmer has introduced a method called "acid test" which appears to possess a great diagnostic value. The chemical test shows that the instillation of 200 cc. hydrochloric acid in physiologic concentration induces in a patient with a fresh sensitive peptic ulcer the typical epigastric distress which is promptly relieved by aspiration and immediate instillation of sodabiecarb solution. Similar phenomena, however, will never be observed in case of pain due to functional disorder.

Treatment:—While discussing about the treatment of gastro-duodenal ulcer we must remember the man first who harbours the disease than the disease itself. It is not enough to keep the patient under strict regimen as it has been observed that patients who are subjected to vigorous diet control and other therapeutic measures do not show any improvement until the clearing of the nervous strain. His knowledge of understanding of the entire problem must be developed, which of course is a difficult job and it has been appropriately said that the physicians do not find themselves in a better position than the patient when the problem of applying the knowledge of psychotherapy confronts them. The patient must be made to realise that it is an individual problem and he must not feel hopeless or fatalistic about it. Free from any nervous tension and proper after-care for a sufficiently long time being taken, the disease can be completely got rid of.

As soon as the diagnosis is made the patient should be put on diet, prescribed some suitable, alkalies as medicine and advised complete rest. The object of the treatment should be to reduce the gastric secretion and to neutralise the hydrochloric acid so that the ulcer will be protected from further damage.

Diet:—The patient should be put on a bland diet which is non-irritating and at the same time acid-neutralising and to this end milk serves best.

Milk should be the only food in the acute stage and should be an adjunct to the menu for many years after the case has been declared as cured. Cream may be added to milk in varying proportions but should not be forced on patients who do not like it. Frequent and regular feedings are essential in the acute stage in order to neutralise the gastric contents. It should be hourly in the beginning and subsequently the interval between the feedings may be increased as the food is liberalised with rice, toast, eggs, mashed potatoes, etc. The quantity and the quality of food should be sufficiently nutritive and may be supplemented with vit. B. and C. Regularity in diet should be observed throughout the patient's life. The food should be eaten slowly and thoroughly masticated. It must be impressed upon the patient that as the causative factor of ulcer is not known it is all the more essential for him to follow individual prophylactic measure throughout the rest of his life in order to prevent relapses. Hard digestible food, stimulating pickles, wine, vinegar, etc., should be avoided for many months as they cause hypermotility and hypersecretion and thus interfere with the healing of the acute and chronic ulcer.

Since pain of peptic ulcer is of chemical origin and the presence of free HCl being the initiative cause, Sippy in 1915 devised a regimen, which is known as Sippy treatment of gastric ulcer. The original Sippy treatment consisted of the administration of alkaline powders containing soda bicarb alternated with meals but was found to cause alkalosis and has since been greatly modified. The insoluble alkaline salts are more common in use at present, as there is no danger of alkalosis or any after-secretion of acid. The two antacids, Magnesium trisilicate and Aluminium hydroxide, now in vogue, have proved very satisfactory in the treatment of gastric ulcer. Mg of Magnesium trisilicate combines with the chloride ion of HCl and releases Silicon dioxide in a very fine state of division which serves as a protective coating for the ulcer. The Silicon dioxide further acts as a valuable adsorbing agent. The neutralising action of Mg is quite prolonged but the disadvantage is its slowness of action.

Aluminium hydroxide was used as an antacid in 1929 but only recently its effectiveness in the treatment of gastroduodenal ulcer has been properly realised. Like calcium and Magnesium salts it is a non-systemic antacid. It is supposed that the non-systemic reaction depends upon the amphoteric character of aluminium hydroxide which means that it can act both as an acid and as a base. It acts as a base in the stomach to neutralise the acidity. It is also believed that Aluminium hydroxide due to its colloidal character neutralises the acidity mainly by its physical property of adsorption.

The adsorption power of Aluminium Hydroxide is not limited to HCl but probably extends to toxins, gases and bacteria. Due to its colloidal character Aluminium Hydroxide acts as an effective demulcent and affords a protective coating to the inflamed and ulcerated area. In severe cases Aluminium hydroxide has been used as a continuous drip method with

highly satisfactory result. Its only drawback is that it can cause constipation and elimination of phosphates. Gastric mucin is another antacid which has been used with satisfactory result in peptic ulcer. Its salty taste and characteristic odour of peptone are, however, the two main points of objection.

Rest in bed is the best means of resting the stomach, which may be insisted on during the first three weeks of treatment. Constipation should be corrected with agar or liquid paraffin at bed time or magnesium oxide.

Two other points which require careful attention are the conditions of mouth and teeth and the problem of smoking. In the early stage smoking should be strictly prohibited and should never be allowed on empty stomach.

Various other methods of treatment have been tried from time to time, some of which are mentioned below.

Folliculine:—On the basis of experimental data which show a fundamental sex divergence in the frequency of peptic ulcer, 51 cases were treated with Folliculine and 47 recoveries have been registered. Although spontaneous cure should always be taken into account it seems however that Folliculine plays a favourable role in the healing of the ulcer in as much as those 47 patients were neither treated by any other medicament nor they were submitted to any regimen. That the treatment can protect the subject from relapse of the disease has been established by numerous experiments and prolonged follow up of the cases.

Intravenous injection of sodium bromide and atropin sulph:—Dapra and Silvani treated 9 cases of peptic ulcer with daily injection of sodium bromide 1 gm. and atropin sulph 1 mgm. and after 10-12 injection complete radiological healing was observed in all except one. The mechanism of action seems to be two fold:—(1) Atropin diminishes the secretion of hydrochloric acid and bromide being eliminated through the gastric mucosa forms hydrobromic acid in the stomach which replaces part of HCl. (2) Atropin and Bromide influence the neuro-vegetative equilibrium which plays an important role in the pathogeny of gastric ulcer.

Olive Oil:—Leon Meunier contends that duodenal ulcer is either due to gastric hyper-secretion with normal duodenal secretion or due to normal gastric secretion with duodenal hyposecretion and as a result the acid chyme on its arrival in the duodenum is not properly neutralised. He considers that insufficient duodenal secretion and particularly insufficient biliary secretion might be the cause of dyspepsia which ultimately results in the formation of ulcer. A rational therapeutics should therefore be directed to excite the normal biliary secretion and the treatment with olive oil helping the organ to perform its physiological function appears to the author as the only logical treatment. Olive oil acts simultaneously by diminishing the gastric secretion and increasing the biliary secretion. It is prescribed at the dose of one to two tablespoonful in the morning and between meals with or without the addition of lime juice.

Histidine:—In 1933 Weiss and Aren propounded a theory that deficiency of aminoacid might be

accountable for the production and persistence of peptic ulcer and Histidine treatment owes its origin to the experiments performed by them on dogs. Many clinicians reported favourable results in peptic ulcer with daily injection of 4% Histidine for weeks. But in the long run it was found that the benefit obtained with this treatment was transient and symptomatic and was in no way superior to alkaline and dietetic treatment. Parathyroid ext, Protein therapy etc., have also been tried in peptic ulcer with uncertain result.

Treatment of complications:—Haemorrhage from peptic ulcer vary in amount and initial small haemorrhage may be followed by a severe one. Haematemesis of the severe type should be treated with injection of Morphine $\frac{1}{4}$ - $\frac{1}{2}$ gr. and atropine 1/100 gr. and the patient should be removed to a dark room with least disturbance. Glucose-saline per rectum or by continuous drip method subcutaneously or intravenously may be necessary for the restoration of blood volume after a very severe haemorrhage. Blood transfusion may even be resorted to according to the gravity of the case. The former methods of starving the patient after a serious haematemesis has been completely revolutionised since the publications of Meulenchrecht, who obtained excellent results by feeding a large number of cases of hamatemesis and melaena from the very outset or as soon as vomiting has ceased, with an abundant pure or sieved diet of great variety and ample caloric value.

Perforation:—Acute perforation demands prompt surgical intervention; operation should be performed within 5-6 hours of the diagnosis as otherwise death may occur in spite of all possible treatment.

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Ayurvedic Treatment of Malaria

BY DR. SURENDRA MOHAN, B.A.,

Ayurvedacharya, Principal, Dayanand Ayurvedic College, Lahore.

Leaving aside theories and hypotheses of the disease, the subject is dealt with merely from practical point of view. The treatment of malaria can be divided under the following heads:—

(a) Acute Malaria, (b) Chronic Malaria, (c) Preventives and (d) After-effects and Complications.

(a) Acute Malaria.

I. Purgatives:—Unloading the liver and evacuation of the bowels form the first step of dealing with the malady. For this purpose, the under-mentioned aperients may be used according to the condition of the abdomen:—

(a) Amaltas (Cassia Fistula).

Put 2 tolas of the black discs in 4 ozs. of water or arq saunf, warm gently, rub a little, decant the brown solution, mix 10 or 15 grains of ammonium chloride (nausadar) and administer in the morning, when the temperature is normal or below 100° F.

Within 4 or 5 hours the patient will pass 3 or 4 loose motions.

(b) Harar pulp, dry rose-buds (gulab-ke-phul), and dry grapes (munakka)—all equal. Boil 3 tolas of the mixture in 1 lb. of water, reduce it to $\frac{1}{4}$ th, strain through coarse cloth, add 1 tola sugar and administer in the morning. This is a very palatable decoction and acts well, if followed by cups of warm water after short intervals.

(c) Triphala (Harar, Bahera and Amla in equal parts)—2 tolas, boiled in 1 lb. of water, reduced to $\frac{1}{4}$ th, filtered and mixed with Castor Oil 1 oz., is very serviceable in clearing the bowels.

(d) Trivrita (Nisoth, Turpeth) powder 6 mashas, mixed with an equal quantity of sugar and swallowed with warm milk, brings 4 or 5 yellow watery motions.

(e) Trivritaleha (A confection or majun of trivrita, scammony, jalap, gulkand, etc.)—6 mashas, swallowed with warm milk, preferably at bed-time, clears up the bowels in the morning.

(f) Ichhabhedhi Rasa (a compound of purified croton meal, black sulphide of mercury, borax, dry ginger and black pepper, prepared according to Rasendra Sar Sangraha)—one or two pills, taken with fresh water or shikajbin in the morning, serves as a good cathartic. Water or shikanjbin should be taken repeatedly by the patient. At the end 6 mashas of Tukham Malanga be swallowed with simple syrup to allay irritation, if any. In tried hands this is a very cheap, but efficacious purgative, specially for sturdy patients.

II. Curatives:—(a) Sudarshan Churan (a famous compound from Sharangdhar), consisting of chirata, triphala, daru-haldi, triamana, gilo, nim, atis, kaur, pitpapa, etc., in all 55 ingredients, chirata being one-third of the total quantity of the remaining 54 drugs, is a well-known antiperiodic. Two or three doses of 1 to 3 mashas of the powder, repeated after 3 hours' intervals with warm water during non-febrile condition, checks the paroxysms within a day or two. It stimulates the liver and bowels and acts as a mild laxative. It may be taken in one masha doses for several days even after the fever has subsided.

(b) Sudarshan Churan 1 masha + 2 rattis of mall-sphutika (a compound of alum and arsenic, heated together in an earthen pot in the ratio of 80:1) restrains the attack. At least two doses of the powder, as shown above, should be administered after 3 hours' intervals during the intermission.

(c) Sudarshan Tablets (4 rattis each), containing Sudarshan Churan and Mall-Sphutika, can be easily taken with a little water at any time, preferably in the morning, to check the onset of the fever. Dose—1 to 3 tablets.

(d) Jawaramrita, a liquid extract of several anti-malarial herbs, viz., Triamana, Kaur, Chirata, etc., taken in one teaspoonful doses (mixed with a little water) twice or thrice daily, proves a very good check for the fever.

(e) Karanj seeds (2 or 3), Triamana (a herb of Kashmir State) 6 mashas and 7 black peppers, ground together in a mortar with a little water like cold infusion or juice (thandai)—made up to 4 ozs., and taken in the morning, proves very efficacious in check-

ing the fever, provided the patient has had a very good purgative on the previous day. In tertian fever (Bari-ka-bukhar), it has proved a very successful antiperiodic.

(f) Tantu Vati (4-grain pills, prepared by mixing white cobweb with gur) surely checks the paroxysms of the tertian fever. How it acts is yet unknown.

(g) A decoction (Kahra) of Chirata, Kaur, Gilo, Ajwain and Triamana, be prepared every morning in large quantity and distributed in phials to outpatients in charitable dispensaries. Dose 1 oz. with nausadar (5 grains), added to it. Three doses a day will do.

(h) Karanjadi Vati, composed of Karanjseed powder, Atis, Pepper, Alum, Arsenic, Afsantin, Triaman, etc., surely checks the attacks of malaria. Dose,—one or two pills with warm water, repeated after 4 hours, twice a day.

General Note:—All these curatives should be administered, when the fever is down, and for good results we must try for two or three days. The bowels must be fully evacuated. Too much of milk or other diet articles should be avoided. The lighter the belly, the better the results. Juicy fruits (viz. Mittha, Anar, Alu-bukhara, Pear and Grapes) can be prescribed.

III Diaphoretics:—(a) Mrityunjaya Rasa (in tablets of 2 grs. each). It is a well-known compound, mentioned in Rasendra Sar Sangraha, and most used in fevers, remittent as well as intermittent; specially during the paroxysms (attacks) to induce perspiration and thus reduce the temperature. It is a good febrifuge. Ingredients:—purified aconite and shingraf (red sulphide of mercury), pepper longum, pepper nigrum, borax, and sulphur. Dose,—one tablet with honey or warm water; or betel juice and honey, if the fever is accompanied with bronchitis. The dose can be repeated after 2 or 3 hours' interval. We can give it in cold as well as hot stage and should stop, when diaphoresis sets in. In case of dry throat and thirst shikanjbin is a good refrigerant anupan (vehicle).

(b) Anand Bhairava and Hinguleshwar Rasas (in tablet form) are also used as diaphoretic agents in high fever. Their ingredients are practically the same, as those of Mrityunjaya Rasa.

(c) Sharang Paniya (Infusion)—It is a very popular formula of Charak, consisting of six herbs, Nagar Motha, Shahtara, Khas, Sandal, Sugandh Bala and dry ginger. Boil $\frac{1}{2}$ tola of the mixture in one ser of water, reduce it to $\frac{1}{4}$, filter and administer in one chhatak doses with a little sugar or glucose after short intervals. This has a very cooling effect. It can be given with Mrityunja Rasa also.

(d) Coriander (Dhania) can also be used in a similar manner to allay thirst and excessive heat, specially in bilious fever.

(e) Shweta Bhasma (a white calcium compound) 1 to 2 rattis can be administered alone or with Mrityunjaya Rasa (1 ratti). This combination is very popularly used in free dispensaries.

(B) Chronic Malaria.

What has been prescribed for acute malaria holds good for Chronic Malaria too except diaphoretics, which are hardly needed in chronic cases. A good

purgative, followed by a preventive, will suffice to eradicate the trouble within a few days. Certain iron compounds, as Kumariasava and Lohasava, are also needed. Relapses of malaria can also be dealt with in the same way.

(C) Preventives.

To safeguard against malaria, the following measures be adopted:—(a) 4 to 8 rattis of Sudarshan Churan or 1 or 2 Sudarshan Tablets be taken daily with a little water on empty stomach. For this purpose, Sudarshan tablets should be distributed free among labourers and rural population.

(b) A few tulsi (Ocimum sanctum) leaves be chewed twice a day after meals.

(c) The use of onion with vinegar is also considered as preventive of malaria.

(d) The presence of Tulsi or Niazbo or both and also of onions and garlic in the house repels the mosquitoes.

(e) Fumigation of the house, offices, beds, furniture, etc., with Havan Samaagri keeps the mosquitoes off.

(f) The use of Desi Tea, which contains Tulsi, Brahmi, Dalchini, Banafsha, etc. also prevents malaria.

(g) General cleanliness of the house and its surroundings, and the removal of dirty water pools and swampy places, be also attended to.

(D) After effects & Complications.

Anaemia, enlargement of liver and spleen, and jaundice usually follow malaria, if it persists for a long time. In these we can prescribe Loknath Rasa, Navayas Loh, Basant malti, Pippli Churan, Kumariasava and Lohasava along with certain laxatives, e.g., Trivritaleha. Cardiac troubles, dropsical swellings, ascites and certain other complications can be treated according to the nature of the case. It is beyond our scope to deal with them here.

Note:—Doses, mentioned above are meant for adult persons and can be varied according to age, constitution, etc.

Concluding Remarks

Ague is raging in these days throughout the country and before any havoc is done to public health, it will be advisable for the administration to take early steps to render timely aid to the public in the form of patronizing and distributing indigenous preparations, viz. Sudarshan Churan, Sudarshan Tablets, Jawaramrit (a mixture), Karanjadi Vati, Mrityunjaya Rasa, Trivritavaleha Ichhabhedhi Rasa, etc., which will prove effective substitutes for quinine plasmoguin, atabrin, etc., which are now practically unprocureable even at high cost.

Local Uses of Penicillin in Infective Conditions of the Eye

By DR. K. KRISHNAMURTHY,

Ophthalmic Surgeon, Chodavaram

Penicillin, the wonderful bacteriostatic drug discovered by Florey of international repute, has been extensively tried in various ophthalmic clinics of the

world. Penicillin unlike sulphonamides is ineffective when given orally. The drug is best administered either parenterally or locally. The drug must be given in massive doses either through intravenous or muscular routes to reach a measurable concentration in the body tissues and fluids. The drug appears within a few minutes and disappears within an hour in extra-ocular muscles, sclera, conjunctiva, blood, tears, chorio-retinal layer, aqueous, vitreous and cornea. The local application of penicillin readily diffuses into the tissues and fluids of the anterior segments of the eye. The concentration of penicillin when applied locally on the cornea, conjunctiva, aqueous, sclera, iris, ciliary body is many times greater than by administering the drug by parenteral route.

Local Application of Penicillin:—I wish to deal with the local therapy only and hence there is no need for me to describe the actual dosage and the amount of penicillin to be injected through parenteral route. In severe infections the drug may be injected intramuscularly every three hours till clinical improvement occurs, the dosage being 10,000 units. The question arises as to how to apply penicillin either in the form of powder, drops or ointment. The powder if applied locally irritates the ocular tissues and causes watering and photophobia. The solution is of course non-irritating but has to be dropped too frequently to get the required concentration. An ointment is by far superior to powder or drops, keeps in contact with the site of the infection, miscible with secretions and do not form an impermeable covering. John C. Belows, Florey and Florey in their experimentation of penicillin in local ocular therapy have come to the conclusion that simple base with penicillin is the most suitable. Experiments were also carried out by me in the L.N. Hospital by using penicillin in a simple base consisting of vaselin, sharkliver oil, distilled water and Bees-vax. The above combination is the most simple, effective and suitable ointment for the tropical climate.

Action of Penicillin.

Penicillin like sulphanamides is a bacteriostic but it is effective against bacteria even in the presence of pus or serum unlike sulphanamides. Penicillin is effective even in sulphonamide resistant gonorrhoeal cases. Unlike sulphonamides it does not inhibit the growth of corneal epithelial cells nor promote vascularisation and scarring of cornea.

Penicillin is effective against all gram positive organisms and against a few gram negative cocci and they are staphylococci, strepto, pneumo, gono, meningococci, filtrable virus, trachoma virus, Koch-week's bacillus, etc.

Clinical Reports.

Conjunctivitis:—Subconjunctival injections, chemosis, watering and purulent discharge disappears within 24 hours if penicillin ointment is applied six times a day and a clinical cure occurs within 48 hours.

Trachoma (Granular lids):—Penicillin and Sulphanilamide acts better than pure penicillin eye ointment. The above eye ointment is applied 6 times a day for 2 to 3 weeks to get a clinical cure. In the 1st week redness, watering of the eye, blepharospasm, and photophobia disappears. In the 2nd week the gra-

nules begins to flatten and in the 3rd week process of scarring appear.

Corneal ulcer:—The ulcer heals with frequent atropinisation and penicillin ointment application within 3 days. If there is hypopyon penicillin is also injected every 3 hours, till clinical improvement is noticed.

Infective conditions of the eye:—Simple penicillin eye ointment will give a clinical cure in most of the cases of eye infection of unknown origin if applied 6 times a day.

CLINICAL NOTES

Use of Cibazol in eye practice

BY

DR. C. P. SRIVASTAVA, L.S.M.F., L.O. (Mad.) M.O.B.

Hon. M. O. Ophthalmic Dept. Balrampur Hospital, Lucknow, Consulting Ophthalmologist to the U.P. Police Forces, consulting Ophthalmologist to the Ayurvedic College Hospital.

Herewith I am submitting a brief report on the use of Cibazol tablets and ointment which I have used in my ophthalmic practice. In every case either the patient purchased the required medicine from the local market or he received treatment at my hospital. I have not been able to use it on a mass scale on account of its cost, the cases mostly being poor and the funds available at the hospital for giving free treatment being limited. Yet in those few cases where these were used the results were quite satisfactory. I am giving below a few cases out of a lot who received the treatment for different conditions.

Case 1.—A Hindu female child, aged three years, had a chronic form of ulcerative blepharitis which was not healing with the usual medicine but when Cibazol ointment was used it responded well and was completely cured in two weeks time.

Cases 2 & 3.—A Muslim female aged thirty years and a male aged thirteen years both being cases of ulcerative blepharitis, who had been treated with white precipitate ointment and Ung. Hg. Oxidiflava recovered quickly when Cibazol ointment was added to the local treatment.

Cases 4 & 5.—A Hindu male child aged seven and a muslim male aged twenty who were subject to "Recurrent Styes" and "Inflamed Chalazion" respectively quickly came under control on internal administration of Cibazol tablets; 6 tablets were given on the first day and subsequently four tablets daily for four days; local treatment consisted of argyrol drops and fomentation only.

Case 6.—Cibazol tablets were also used in several cases of acute dacryocystitis which apparently needed an operation but the patients not consenting to the use of knife were put on this therapy. Mr. M.M. aged 45 years, a railway employee came with an acute condition on the third day. He was put on these tablets for a week (six tablets daily) and he joined his duty completely recovered after the tenth day of disease.

Case 6.—A good number of cases of corneal ulcer associated with acute conjunctivitis and hypopyon ulcer which were showing no signs of recovery were ultimately put on Cibazol therapy and responded quickly.

Mr. M. H. aged 45 years, had a "corneal ulcer associated with trachoma" and superadded acute conjunctivitis. He had no improvement with the usual silver application, atropine and antiseptics like mercurochrome. Ultimately, on the eleventh day he was given Cibazol internally. Cibazol ointment was applied locally after cleaning the conjunctival sac. The patient recovered quickly. The improvement was noticed on the third day.

Case 8.—Mr. I. D., a Hindu aged thirty years had hypopyon ulcer cornea. He was treated with Cibazol internally and antiseptic drugs along with Cibazol ointment applied locally. No optochin or quinine or milk injections were used. The ulcer healed uneventfully and hypopyon was absorbed.

Case 9.—Cibazol ointment has been used of late in almost every case after removal of a foreign body from the cornea and other minor operations—and all cases healed uneventfully without any occurrence of sepsis. Of course, all aseptic precautions were taken in dressing these cases.

Case 10.—One case needs special mention. A Mahomedan, aged about thirtyfive, had a very intractable form of chronic conjunctivitis which was lingering for the last two months and was not amenable to the usual treatment. Lacrimal passages were found to be patent. Of course, bacteriological examination could not be done. The case showed definite improvement even on the second day after he was put on Cibazol ointment and is improving.

Case 11.—I have found Cibazol powder very helpful in operated cases. Cibazol powder was dusted in the wound caused by the operation before finally stitching the wound—as in Entropion operation and in operation for the removal of the lacrimal sac. The post-operative healing in these cases was free from secondary complications like infection, etc.

Thus to sum up the whole thing I have found Cibazol of great help in one form or the other in—

1. Ulcerative blepharitis,
2. Styes,
3. Acute dacryocystitis before incision,
4. Acute infective conjunctivitis especially of severe type,
5. Corneal ulcers with conjunctival hypopyon, and in
6. Post-operative treatment of cases requiring the use of an antiseptic dressing.

Subjective Conjunctivitis

BY DR. R. S. AGARWAL,

Eye Specialist, Delhi.

Some people often suffer from subjective conjunctivitis. By subjective conjunctivitis is meant that the conjunctiva is inflamed without the evidence of

disease. Many people with subjective conjunctivitis will complain of a foreign body in the eye and yet careful search with the use of a good light and a strong magnifying glass will reveal no foreign body present. Some people with subjective conjunctivitis complain that they have granulated lids and that they suffer from time to time from the presence of little pimples on the inside of the eyelids and the pain that they suffer is out of proportion to the cause that they give to it.

Among the many symptoms of subjective conjunctivitis may be a flow of tears from very slight irritants. However, the tear ducts, with the aid of which the tears are drained from the eye, are usually open in these cases and they are sufficiently open to receive a solution of boric acid which may be injected through the tear duct into the nose. This shows that the tear duct is open normally, and therefore can drain the tears from the eyes.

Treatment:—The patients suffering from subjective conjunctivitis are usually treated by the application of the caustics, drops of silver nitrate, protargol and argyrol, etc., and the results are disappointing in many cases; the condition becomes worse in some cases. Liquid Adrenalin is almost a specific remedy for subjective conjunctivitis. It is to be dropped in each eye three times a day. The effect of this medicine is very great if the patient is advised to take sun treatment for a few minutes before dropping the medicine in the eyes. In some cases dry massage of the whole body is very helpful.

Sun treatment is to be taken with the eyes closed. The patient faces the sun morning and evening or when the sun is not hot. While sitting in the sun he moves his body gently from side to side like a pendulum. After washing the eyes the patient may wash the eyes with mild cold water and then a drop of liquid adrenalin is dropped in each eye.

In eye wash water may be splashed with the hands on the eyes gently several times or an eye cup may be used for eye wash. Fill the eyecup with water nearly to its brim and put it against the eye gently. The lower margin of the cup touches the lower eye lid but the upper margin of the cup does not touch the upper lid. Keep the eyes downwards and blink in water. Raising the eye cup, head and eyes causes strain. Wash each eye for about two minutes. Do not press the eye cup against the upper and lower eye lids as that may produce suction which is not desirable. Detailed instructions about sun treatment can be studied from my book *Mind and Vision*.

Blackish Pigmentation of skin

BY DR. K. D. PATHAK.

Medical Officer, Civil Dispensary, Karera District, Shivpuri, Gwalior State.

I had blackish pigmentations over my left side of neck about the size of an almond. Similarly over both sides of the chest along the course of dorsal nerves I had blackish pigmentations of the size of a seed gram. Duration was one year. There was neither itch nor anaesthesia in the pigmented areas. Blood and urine examinations revealed no abnormality.

Arsenic preparations with calcium and Vita-D. orally and mercurial preparations locally were tried but with no effect.

Ultimately I took Thyroid with calcium grain $\frac{1}{2}$ B. D. for 5 days and Redoxon Forte injections I. V. everyday for 5 days and to my surprise I found that all the three pigmented areas cleared off.

It is evident from the above that Thyroid deficiency causes black pigmentation of the skin also.

Failure of Antirabic Treatment in Dog bites of the Face

BY DR. KHAN CHAND WOHRU,

Chichawatni, Dt. Montgomery (Pb).

A girl named kunto, 4 years old was brought to me on 30-6-45 in the evening. She was badly bitten by a dog on her left cheek and face. The left angle of the mouth was torn and the whole cheek was badly lacerated. I was not sure, whether the dog was rabid or not. The wound was thoroughly cleaned, sterilized and sutured. Antirabic treatment was started the next day at the Civil Hospital, Montgomery.

I again saw the patient in the morning of 15-7-1945. By this time she had 11 injections; no injection was given on 14-7 due to fever. The wound had healed. Temperature 103° F. She was showing symptoms of hydrophobia since 14th evening. Could not take water or other fluids. There was spasm of the pharynx at the sight of the fluids. She could however chew ice. On the evening of 15th temperature rose to 105° F and her condition got worse and she died on 15-7-45 at night.

In the year 1939 I saw a similar case, a young man of 19 years who was bitten by a rabid dog on the face. He too died inspite of the antirabic treatment.

The incubation period in face cases is so short that the injections have not time to produce immunity and hence the victim of dog bite dies of hydrophobia.

Dry Gangrene as a result of acute Infection

BY DR. RATNESWAR CHAKRAVARTY,

R. M. O. Mitford Hospital, Dacca.

A mahomedan male child, named Sami Haque, 2 years, son of healthy parents, was operated by Dr. H. C. Maitra Teacher of surgery on 8-3-45.

The child was healthy all along after birth. He had an attack of measles in the first part of February 45 and after 2 or 3 days of eruptions of measles, the mother of the child noticed the blakening of the middle part of the left leg. Gradually it spread upto the tip of the toes in about 3 days. (see photo below) In the beginning the colour was bluish black, subsequently it became black and shrunken. Later on, it became moist. The limb was amputated at the lower third

of the left thigh and the child had no other complications and the wound healed up by first intension.



No history of syphilis could be gathered from the parents and no irritants were applied.

I am grateful to Dr. H. C. Maitra, teacher of surgery and the superintendant, Mitford Hospital, in permitting one to have this case record published in I. M. J.

ABSTRACTS

Uses of penicillin in pediatrics.

At the time of preparing this report, penicillin had been used in the pediatric service at the Mayo Clinic (Rochester, Minnesota) in the treatment of 54 patients suffering with various types of bacterial infections in which the use of this agent was indicated. For the treatment of most bacterial infections of infants a total daily dose of 20,000 to 40,000 units of either the sodium or the calcium salt of penicillin appeared to be adequate. For larger children a total daily dose of 60,000 to 30,000 units was satisfactory, as a rule, although in occasional cases it was desirable to use as much as 100,000 to 150,000 units. There were 9 cases of bacteremia, 2 of subacute bacterial endocarditis, 9 of cellulitis without bacteremia, 8 of osteomyelitis, 3 of meningitis, 8 of primary suppurative disease, 3 of infections of the skin, 5 cases of otitis media, 1 of actinomycosis, and 7 of miscellaneous diseases. (One patient had both bacteremia and meningitis). Good results were obtained in all but 10 patients, 1 with bacteremia, 1 with meningitis, 1 with otitis media, and one with a miscellaneous disease, was a failure. The 2 patients with endocarditis gave a doubtful response, as did the 3 with chronic osteomyelitis and one in the miscellaneous group. It was concluded that the results of penicillin obtained among children are as good, if not somewhat better, than those obtained in a comparable group of infections in adults.

On the basis of present knowledge penicillin appears to be of little or no value or in the treatment of gram-negative bacillary infections including undulant fever, typhoid, influenza or infections owing to the colon-typhoid dysentery group or organisms or to Friedlander's bacillus. Infections of the urinary tract due to the gram-negative organisms mentioned do not respond to penicillin therapy. Penicillin is of little or no value in the treatment of infections of the urinary tract owing to streptococcus faecalis. It is of no value in the treatment of tuberculosis, acute rheumatic fever, rheumatoid arthritis, ulcerative colitis, malaria, or blastomycosis. Penicillin is likewise of no value in the treatment of leukemia as well as certain skin diseases including lupus erythematosus. It has a distinct ad-

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age over sulfonamide therapy in the treatment of infections of infants and children not only because of its greater antibacterial powers but also because of the extremely low incidence of manifestations resulting from its use (HORRELL W. E. and JENNODY, R. I. J., *Journal of Podiatrics* 25: 5.5, December 1944).

Increased Capillary Fragility in Hypertensive

For a period of 18 months, all persons with hypertension who were studied in authors' laboratory at the Hospital of the University of Pennsylvania had, in addition to routine studies, a measurement of capillary fragility by the Petechial Index of Gonthin with certain minor modifications. Capillary fragility was found to be increased in about 18 per cent of 265 cases of hypertension. This incidence is not related to sex, age or degree of hypertension. Persons with increased capillary fragility were especially predisposed to apoplexy, retinal hemorrhage, and death. Thiocyanate tended to make worse a previously abnormal fragility, or perhaps in certain cases even changed fragility from normal to increased. When this occurs thiocyanate may be a factor in the causation of apoplexy and other hemorrhagic phenomena. Hesperidin and hesperidin methyl chalcone restored fragility to normal in about 84 per cent of cases of increased capillary fragility. It is hoped, but not yet proved, that this may also lessen the frequency of the complications of increased capillary fragility. It is probable that thiocyanate should not be given to persons with increased capillary fragility, unless or until that fragility has become normal as the result of therapy. After this has been done, thiocyanate apparently can be given with impunity. (GRIFFITH, J. Q., JR. and LINDAUER, M. A., *American Heart Journal* 28: 758, December 1944).

Salicylate Intoxication.

The author studied the blood salicylate level, alkali reserve, clotting mechanism, and urinary changes in six hospitalized children who were given, after a control period, sodium salicylate at four hour intervals in varying amounts. It was found that in order to achieve blood salicyl levels of the order of 350 micrograms per cubic centimeter, sodium salicylate has to be administered in amounts which border on toxic doses for children. Evidence is presented which suggests that after an initial 24 hours period of large doses the amount given may be reduced without subsequent diminution in blood salicyl level. It is highly desirable, therefore, that the Coburn treatment for rheumatic fever be controlled by repeated estimations of the blood salicyl level in order to attain maximum therapeutic effectiveness with minimal doses. Moderate as well as large doses of sodium salicylate regularly induce hypoprothrombinemia, which may regress spontaneously to some extent as treatment continues. Large doses of vitamin K appear to prevent the development of prothrombin deficiency and to hasten its restoration to normal levels when the deficiency is already present. Doses of sodium salicylate as small as 0.09 gm. per kilogram per 24 hours produce a moderate decrease in the alkali reserve not associated with ketosis or with evidence of respiratory alkalosis. This is interpreted as a fixed acid acidosis. The severe hyperpnea of salicylate intoxication may be unassociated with ketosis and out of all proportion to the bicarbonate deficit. The hyperpnea appears to be the result of central stimulation by the salicyl radical. When given over a period of several days, sodium salicylate may produce renal irritation and sporadic ketosis. Sodium salicylate as well as other compounds of salicylic acid should be administered to children with due regard for the hypoprothrombinemia and the acid-base changes which they may produce without overt signs. The concomitant administration of vitamin K is indicated. (Fashena, G. J. and Walker J. N., *American Journal Disease of Children* 68: 369, December 1944.)

Prestigmine Therapy of Neuromuscular Dysfunction.

The purpose of this investigation was to study in a preliminary way the efficacy of prestigmine therapy in a variety of types of chronic neuromuscular dysfunction. Observation of 53 patients under this treatment has revealed that improvement in range of motion, relief from pain, and increase in strength and endurance may occur rapidly in cases of disability following trauma, of hemiplegia and related neurological conditions, and of chronic rheumatoid arthritis and subacromial bursitis. Most of these patients suffer from severe neuromuscular dysfunction for a long period of time, did not have spontaneous remissions, and had failed to improve with other types of therapy. Disability resulting primarily from muscle spasm or hypertonus, muscular pain, and certain types of paresis frequently appears to respond

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to prestigmine therapy. Many patients with chronic disorders have other conditions, such as bony or fibrous ankylosis, active inflammation, and loss of innervation, as primary causes of their disability, and these cannot be expected to benefit from prestigmine therapy. Prestigmine therapy, it was concluded may be followed by increased range of motion, increased voluntary power, and relief from pain in selected chronic cases of disability following trauma, hemiplegia and related conditions and rheumatoid arthritis and subacromial bursitis. (Kabat, H. *Public Health Reports* 59: 1635, December 22, 1944)

Mysthenia Gravis Treated with Neostigmine

The use of neostigmine in the treatment of myasthenia gravis is based on the following assumptions: (1) acetylcholine is a necessary ingredient in the complex chemical status that permits the passage of an impulse from nerve to muscle; (2) cholinesterase is the enzyme concerned with the destruction of acetylcholine by hydrolysis; (3) in myasthenia gravis there is an abnormal re-action at the myoneural junction between acetylcholine and cholinesterase; (4) neostigmine is a potent inhibitor of cholinesterase activity combining loosely with it; (5) when neostigmine is dialyzed off from cholinesterase in vitro, restoration of full enzymatic activity results; (6) probably a similar chemical reaction takes place in vivo, unless a sufficient supply of neostigmine is continuously at hand to inhibit cholinesterase activity. In this report neostigmine methylsulphate was administered intramuscularly and intravenously and neostigmine bromide was given orally to a single patient. Intravenous use of neostigmine methylsulphate was first tried, but the drug was not well tolerated. When given over a period of hours the same amount could be used as was given intramuscularly. Using the drip method, 1.5 mg. could be given in one hour. Subsequently, in other patients this dose has been doubled, without ill effects. The possibility of using neostigmine intravenously opens up a new field for emergency treatment and since experience with this patient the drug has been frequently used for this purpose. No difficulties have been encountered.

On the basis of experiments with related drug, physostigmine, neostigmine has been given by continuous intravenous infusion in myasthenic patients in the Department of Surgery at the Massachusetts General Hospital. By this means the neostigmine needs of the individual patient were assayed preoperatively and appropriate levels of cholinesterase inhibition were maintained during and after thymectomy. The signs in man of a fatal dose of neostigmine are uncertain. No patient is known to have died of the drug. When patients are taking more neostigmine than is needed to inhibit the cholinesterase, muscular fibrillations will appear as evidence of cholinergic overstimulation of the muscular skeletal system. In addition, salivation, a lowering of the heart rate and a stimulation of peristaltic activity, with or without cramps, will be noted. These are the signs that occur when the drug is given to a normal person, and they are seen in cases of myasthenia gravis if more neostigmine is given than is needed. When large doses are used, these signs should be watched for. In the author's experience the most important early signs is the fibrillation of the facia, muscles. The symptoms of overdosage usually respond to atropine sulfate. It was concluded that patients with severe myasthenia gravis may be maintained on neostigmine methylsulphate, intramuscularly, spaced at hourly intervals, in doses up to 31 mg. per 24 hours. The drug may also be given intravenously, in doses as high as 3 mg. per hour, by the continuous drip method. It can be safely added to the intravenous glucose solution. Tolerance for neostigmine was not shown in the doses used. (Viets, H. R. *American Journal Medical Science* 208: 701, December 1944).

Protamine Zinc Insulin, Globin Zinc Insulin and Insulin Fixtures.

These Washington University School of Medicine investigators found that in 16 direct comparative case studies, modified protamine zinc insulin gave better control in 13 patients than globin zinc insulin, while only three diabetic patients were equally well controlled. In no case did globin zinc insulin establish better regulation than modified protamine zinc insulin. Globin zinc insulin failed to prevent after-breakfast hyperglycemia in 12 of the 16 cases and caused afternoon hypoglycemia in 9 of the 16. Fasting blood sugars were higher in 13 of 16 cases when globin zinc insulin was used. Even when special diets were employed, allowing a smaller breakfast and a larger lunch, the same defects in control were observed with globin zinc insulin. A mid-afternoon feeding was not given in any of these studies.

because it was considered illogical and impractical. In 10 direct comparative studies with an extemporaneous mixture made with two parts of crystalline insulin and one part of protamine zinc insulin, modified protamine zinc insulin gave better control in all cases. Irregular results were obtained with the mixture, with failure to duplicate 24-hour curves. In general the rise in blood sugar after breakfast was poorly controlled with the mixture and there was a tendency to hypoglycemia at mid-afternoon or mid-night. In a total of 110 case studies conducted over a four-year period, good regulation was established in 98 patients (90 percent) with a single injection of MPZ insulin daily. Severe as well as mild cases were well controlled, 64 percent of the well regulated cases requiring over 40 units daily, some as high as 120 units (average 73 units.)

It was concluded that use of multiple forms of insulin should be discouraged. Good therapy of diabetes requires simplicity. Globin zinc insulin does not satisfy the requirements for an insulin of intermediate activity and its introduction on the market has unfortunately added to the confusion in this field. The use of variable extemporaneous mixtures, perhaps a necessary step in furthering our knowledge, has also added to the confusion. Since 90 percent of a series of 110 diabetic patients were well regulated with modified protamine zinc insulin, there seems to be no necessity for prescription of individual insulin mixtures. The 2:1 crystalline PZI mixture failed to give a good, predictable, intermediate type of response. Two forms of insulin should be sufficient: (a) modified protamine zinc insulin such as that used in these studies which might well be substituted on the market for standard protamine zinc insulin, since it will control a very much larger percentage of patients with uncomplicated diabetes; and (b) regular (or crystalline) insulin for use in diabetic emergencies and whenever supplementary insulin is required. (MacBryde, C.M. and Reiss, R.S.: *Journal of Clinical Endocrinology* 4:469, (October, 1944).)

Acute High Altitude Anoxia

Fatalities in air crews due to deprivation of oxygen during bombing operations at high altitude afforded this opportunity to study the gross and microscopic anatomy of acute anoxia in man as it occurs at low atmospheric pressure. Twenty-seven necropsies were performed during 1943 in one hospital on members of high altitude bomber crews in which death had been attributed to anoxia by the air force medical officers who investigated the cases. In no case was there a history of rapid ascent to high altitude. Widespread, severe capillary congestion was found. This was conspicuous and most constant in the pulmonary, renal, intestinal and cerebral capillaries. The skeletal muscle did not have this congestion. In a high proportion of cases the systemic, venous and the portal circulations showed gross and microscopic congestion and the right ventricle was dilated. There was wide individual variation in the incidence, location and amount of edema and hemorrhage. An exception to this was the consistent occurrence of hemorrhage in the thymus and in the middle ears. Swelling of endothelial cells of capillaries of the renal medulla was observed. The presence of fat-free and glycogen-free vacuoles previously described in the myocardium and less frequently in cells of other organs was confirmed. These vacuoles occurred with equal frequency in cases of anoxia (acute carbon monoxide poisoning), but was rarely found in the tissues in nonanoxic control cases. (Kritzler, Captain R.A.: *War Medicine* 6:369, December, 1944.)

Immunity in Infectious Hepatitis

It has been suspected that homologous serum jaundice and infectious hepatitis may have the same etiologic agent. This study from the Division of Infectious Diseases of the National Institute of Health, U.S. Public Health Service, is based on immunity and serum protection tests carried out on three groups of human beings. In the first group there were 10 persons who had experimental jaundice 12 to 18 months before, following inoculation with yellow fever vaccine containing human serum or with icterogenic human serum alone. Members of this group received 0.5 ml. each of a highly icterogenic lot of yellow fever vaccine. To the 10 persons in the second group, equal quantities of serum obtained from each of two persons who had recovered one to three months previously from homologous serum jaundice, were given. In the third group, 10 apparently normal persons were similarly inoculated with 0.5 ml. of another icterogenic lot of yellow fever vaccine. The results of the study indicated that recovery from homologous serum jaundice results in immunity to

reinoculation with serum from acute cases of infectious hepatitis or with icterogenic yellow fever vaccine that persists for at least 12 to 18 months. Pooled sera from two patients drawn one to three months following recovery from homologous serum jaundice, when mixed with icterogenic serum, failed to protect 1 of 10 individuals inoculated with this mixture. Finally, serum obtained from a case of spontaneous jaundice in Italy produced typical homologous jaundice in 4 of 11 normal persons. In 10 controls who had inoculation jaundice, no jaundice was induced by the same serum. This work suggests a close relationship between homologous serum jaundice and infectious hepatitis, as has been previously postulated. (Epphant, J.W.: *Public Health Reports* 59:1614, December 15, 1944.)

Early Vitamin Deficiency and Blood Vitamin Levels

It is frequently difficult to determine whether a patient has a true vitamin deficiency and can be restored to health by the intelligent use of diet supplemented with vitamins or whether he is a constitutionally inferior person in whom prolonged and expensive vitamin therapy would prove futile. The application of new methods of determining vitamin levels in the blood or urine may be of great importance, these investigators from Duke University School of Medicine say, if patients having unquestionable evidence of a vitamin deficiency should prove to have levels significantly lower than those of normal controls. This study, therefore, was undertaken to determine the relationship between the clinical picture of early vitamin deficiency and laboratory determinations of vitamin levels. The following studies were conducted: history, including a careful evaluation of the diet, physical examination with a neurological consultation, complete blood count, total proteins and A/G ratio, urinalysis, gastric analysis, proctoscopy, and gastroscopy; examinations, ideal studies, stool fat, prothrombin time, slit lamp; examinations of the eyes, glucose tolerance test, E. K. G. and determinations of vitamins A and C, carotene, nicotinic acid, riboflavin, thiamin, pyridoxine, and pantothenic acid. Colored photographs of the mouth and tongue were taken routinely. In some patient nerve biopsies were done. The patients, all hospitalized, were divided into two groups, those with definite signs of vitamin deficiencies and controls in the ward consisting of patients who gave no definite evidence of a deficiency state. In addition, there were normal controls consisting of students, technicians, dietitians and others, all of whom had been existing on an apparently adequate diet.

It was concluded from those studies that there appears to be definite picture of mild or early deficiency as indicated by glossitis, papillary atrophy of the tongue, peripheral neuritis, and the results obtained from laboratory examinations of vitamin levels. In the group of patients classified clinically as having a B complex deficiency the levels of nicotinic acid, thiamin and riboflavin were significantly lower than those of normal controls. In this group, the plasma levels of A and carotene were also lower than in the normal group. Among patients showing physical signs of a deficiency of the B complex, the laboratory data indicate the prevalence of multiple deficiencies. As a result of these studies, the authors believe that the laboratory determinations of vitamin levels may become important aids in the recognition of mild vitamin deficiencies. (Ruffin, J. M. et al: *Gastroenterology* 3: 340, November, 1944.)

Prostigmine in acute anterior poliomyelitis

In 1943 these investigators observed nearly 200 cases of acute poliomyelitis in the New Haven (Connecticut) Hospital. Twelve patients, all of whom showed marked spasm of the back muscles and hamstrings, and 10 of whom had some degree of paralysis in the legs, were chosen to receive prostigmine as an additional form of therapy. (The Konny method was used in the treatment of all patients.) There was a definite relief of muscle spasm in those patients as indicated by an increased range of passive motion, in the lower extremities following the initial subcutaneous injection of prostigmine methylsulfate. This decrease in spasm occurred in all 12 patients and was recorded one hour after the injection. During this hour no packs were used. The difficulty in determining the effect of the oral administration of prostigmine on muscle spasm after the four-week period is obvious. These patients might have had a decrease in muscle spasm without any therapy during this period or the hot packs may have relieved the spasm. In any event, after a period of four weeks of prostigmine given orally, there was, in general, little further

decrease in spasm. Six of the 12 cases showed little spasm. These investigators were not able to note the effect of prostigmine in contractures because their patients were all in the early stage of the disease. At the time of writing this report eight months had elapsed since the study was made and the patients had continued to receive the Konny method without prostigmine. They showed a gradual relief in muscle spasm and in most cases improvement in muscle power. These workers state that whether this relief was facilitated by prostigmine is difficult to determine. (Eveleth, N. S. and Kyan, A. J., *Vale Journal of Biology and Medicine* 17: 351, December 1944.)

The effect of Sodium Citrate on uraemic Poisoning in Dogs.

This study deals with the protection to the kidneys obtained by administering sodium citrate to dogs receiving what would otherwise be a lethal dose of uranyl nitrate. Twenty dogs were employed, the animals being studied in pairs—a control dog which received only uranyl nitrate and a treated dog which received bethuranyl nitrate and sodium citrate. The animals which received sodium citrate either by the intravenous or oral route, survived an otherwise lethal dose of uranyl nitrate. When the sodium citrate was given orally in large amounts, the changes produced in the kidney by uranyl nitrate were slight and recovery was rapid. Renal lesions in such dogs were never as severe or as diffuse as in control animals. Sodium citrate, it was concluded, facilitates the excretion of uranium in the urine, thereby reducing its toxic action. Probably the alkalinizing effect of the citrate does not permit development of the PH required for precipitation and necrosis of renal protein. (Gustafson, G.E. et al.: *Archives of Internal Medicine* 74: 416, December, 1944. W. S. O. W. I.)

LETTERS TO THE EDITOR

Institutional Work in Leprosy

My attention has been drawn to Dr. K. R. Chatterjee's article entitled "A Post-War Anti-Leprosy Campaign", which was published in your August number. Although I am not a medical man, I hope you will allow me to comment on it.

Dr. Chatterjee's generous reference to the work of the Mission to Lepers will be appreciated by all who are engaged in it, but I doubt whether our medical officers will agree that we do not go into "the deeper question" lying behind the requests for admission which are made at our gates. In the course of visiting over fifty Leper Homes in India I have noted that our medical men are, as a matter of fact, deeply interested in the conditions of village life which give rise to the spread of leprosy. They are also interested in the economic background of the villager, and do much to encourage him by teaching new methods of farming, cottage industries, and the like. Many of our institutions are really model villages, where experimental methods are demonstrated which the patient can take back to his village on discharge from the leprosy hospital. Moreover, the average medical officer or Superintendent in charge of a Mission to Lepers Home comes into contact with a large number of people in his area, through both in-patient and out-patient work, and is much better informed than what Dr. Chatterjee seems to suggest.

Does Dr. Chatterjee think that the Mission to Lepers, in addition to its knowledge of and sympathy with village life, should go to the villages with a policy for village work? If that is his meaning, there are two answers which may be given.

The first is that for seventy years the Mission to Lepers has specialized in institutional work, often

with an out-patient clinic attached to the institution. There are over fifty Leper Homes in India owned or aided by the Mission to Lepers, caring for nearly ten thousand people, and the Mission to Lepers is the largest single body engaged in this type of work in India. This specialization has met with a considerable measure of success, and much valuable administrative experience has been gained, as well as clinical experience. It seems therefore that for years to come the Mission to Lepers will be well advised to continue to concentrate on the work in which it has so much experience, rather than launch out in a different type of work which may well be regarded as the concern of others.

The second answer involves a glance at finance. In 1944 the work of the Mission to Lepers in India cost Rs 12,91,924 to maintain, and to meet part of this cost of maintenance Governments and local bodies contributed Rs 5,37,691. This means that the Mission to Lepers raised and spent just over seven and a half lakhs in that one year. I think we may reasonably claim that we have made our contribution by attending to our own specialized work, and could hardly be expected to take up village work on a large scale, for this would be beyond our resources.

Dr. Chatterjee's main argument is of great interest, and I hope it will receive attention. There is certainly a general lack of long-term planning for leprosy work in order to bring together in one co-ordinated effort the total resources available. I cordially agree with Dr. Chatterjee in the necessity for such a plan, and support your own editorial comment expressing the view that anti-leprosy work must have its proper place in the post-war schemes for public health services now before the Provincial Governments and the general public.

Fyzabad }
4-9-45 }

W. H. RUSSELL,
Secretary for India,
The Mission to Lepers.

Dr. K. R. Chatterjee in reply to Mr. Russell's letter writes under date 10-9-45.

I am glad that Mr. Russell is interested in my article on the general planning of leprosy work. I value his co-operation as the Secretary of the Mission to Lepers. In my tour all over India when I had the opportunity to meet many workers, others and I were however impressed differently.

"We may reasonably claim that we have made our contribution by attending to our own specialised work, and could hardly be expected take up village work on a large scale, for this would be beyond our resources." This statement of Mr. Russell is welcome in that it stresses the importance of village work as equal to that of the institutional work in leprosy.

NOTICE

Dr. H. De Sa Silver Jubilee Prize

The Bombay Obstetric and Gynaecological Society has selected the following subject for the thesis for the above prize for 1945-46:

'Uterine Haemorrhages in Gynaecology'

The prize is open to all medical practitioners of not more than seven years' standing and registered with Bombay Medical Council.

Last date for receiving the thesis is 15th March 1946.



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MADRAS.

ASSOCIATION NOTES

Champanan (Bihar). In an extraordinary meeting of the Champanan District Medical Licentiates' Association held at Motihari on 22-8-45 under the presidency of Dr K. B. Bannerji unanimously resolved that this association views with great concern the Government letter No. 750 L.S.S.R. dated 10-7-45 from the Secretary to the Government to L.G.C.H., Bihar which replaces or overrides the I.G.C.H. letter No. 14022/H-78-44 dated 30-9-44 and put the old medical licentiate employees of the Sadar Hospitals in a very precarious position in as much as these employees who at great sacrifice accepted these posts on a very low pay which was much less than the pay of the other medical officers of identical qualification employed under the Government have now to apply afresh for these posts and to appear before the Public Service Commission with their age and other technical difficulties standing in their way.

The Association urges the Government to reconsider their decision, take a sympathetic view of their cases and put them on permanent basis and appoint them substantively to their posts and fix their scale of pay on the basis of scale of pay which are being drawn at present by the contemporary medical officers with identical qualifications in the Government Service.

Dr. S. Prasad, Provincial Secretary, comments on the above resolution as follows:

It is really deplorable that in spite of their experience and efficiency they are likely to be forced in their old age to seek fresh avenues of livelihood. The Government of Bihar in their feverish anxiety to provide for the war Returnees have expressed their intention of keeping licentiate medical officers under the Local Bodies on temporary basis pending their selection by the public service commission when the posts will be advertised for by the Inspector-General of Civil Hospitals, Behar. It is also sad to note that the scale of pay fixed is much lower than the scale of pay of the contemporary medical officers of identical qualification already under the Government. This has created a great unrest and is very much agitating the minds of all concerned. Before the Government passed orders provincialising the Sadar Hospitals, letter No. 14022 H-78-44 dated the 30th September, 1944, as addressed to the Civil Surgeons concerned, divided the present staff in two classes (i) those directly under the Managing Committee or the joint committee of the hospitals for all intents and purposes and holding non-transferable posts and (ii) those actually employed by the District Board or the Municipality their transfer and postings being directly dealt with by such local bodies concerned, though they were attached to the hospitals managed by the committee. This letter lays down that those falling under class (i) shall as a matter of course automatically enter the Government service on the terms and conditions to be laid down unless there be any specific reason against it and those falling under class (ii) cannot as a matter of procedure be taken in Government service without the cognizance of the local bodies. It is clear therefore that those of class (i) will be taken in Government service as a matter of course and those of class (ii) will be taken in Government service with cognizance of the local bodies concerned as a matter of procedure. But the recent letter No. 750 L.S.G.R. of the 10th July, 1945 from the Secretary to the Government to the I.G.C.H., Bihar, while dealing with the scale of pay of medical officers of provincialised Sadar Hospitals lays down that while sanctioning the staff of various provincialised hospitals Government created the posts of medical officers of such hospitals on a permanent basis with effect from the date for which each of these hospitals was provincialised and the existing incumbents of the post, who were employees of the local bodies concerned prior to provincialisation of the hospitals were allowed to be brought on the Government establishment with effect from the particular date of the provincialisation of each hospital on the pay provisionally fixed for them. It has been the intention of Government that these officers should fill the posts of medical officers sanctioned by Government only as a temporary measure pending selection of permanent officers.

Medical officers who are temporarily being continued in the provincialised Sadar Hospitals will be continued on their existing pay for the present, proposals for the creation of additional posts in the respective cadres should be submitted to Government as early possible. Existing medical officers, who may in some cases as employed in local bodies with others, be eligible to apply for filling the posts on the new scales when advertised through the Joint Public Service Commission, or by the Inspector-General of Civil Hospitals for the selection Committee for appointment as Sub-Assistant Surgeons.

I give below the text of the official circulars on this subject for the information of your readers.

Copy of Circular letter No. 14022/H-78-54 for the Inspector-General of Civil Hospitals, Bihar, to all Civil Surgeons (excepting Patna and Darbhanga) dated Patna the 30th September, 44: I have the honour to say that with the decision of Government to provincialise the Sadar Hospitals in the head quarters of districts it has been necessary to consider and to clear up the position of the present employees of the hospitals after they have been taken over by Government. According to the information available the present staff of the Sadar Hospitals may be classed as (i) those who for all intents and purposes are directly under the Managing Committee of the Hospital and hold non-transferable posts and (ii) those who are actually employees of the District Board or the Municipality and whose transfers and postings are directly dealt with by the local bodies concerned though they have been working in the Sadar Hospitals managed by the committee.

The staff coming under class (i) should as a matter of course automatically enter Government service on provincialisation of the hospital on the terms and conditions to be laid down by Government unless there be specific reasons against it. Those coming under class (ii) being employees of the District Board or Municipality cannot as a matter of procedure be taken in Government service without the organization of the local body concerned.

The cases in which the local body concerned are not agreeable to the transfer of their employees under Government should at once be reported to this office for necessary action and instruction to fill up the vacancy and in no cases where they have no objection to it you are requested to submit to me each individual case of such officers or subordinates with your recommendation or otherwise about the work, qualification and ability of the personnel for final approval.

A complete list of the officers on the staff of the hospital coming under the two classes explained above excepting contingent menial should be submitted separately to this office in due course with the following informations:—(1) Name, (2) Designation, (3) Qualifications, (4) Date of Birth, (5) Age on the date of provincialisation of hospital, (6) Date of entering the present service, (7) Whether willing to hold the transferable post, (8) Remarks.

Copy of letter No. 750-L.S.G.R. from the Secretary to Government to the Inspector-General of Civil Hospitals, Bihar dated 10-7-45.

Subject:—Scale of pay for medical officers of provincialised Sadar Hospitals.

I am directed to say that Government have been pleased to decide that all posts of medical officers of the provincialised Sadar Hospitals should be in the time scales of pay of the subordinate medical service and the provincial Medical Service according to their qualifications viz:—

(i) Medical Graduates	Rs. 150-20/2-340
(ii) Licentiates	Rs. 65-4-85-4/2-117

2. I am to say that while sanctioning the staff of the various provincialised Sadar Hospitals in the province Government created the posts of medical officers of such hospitals on a permanent basis with effect from the date from which each of these hospitals was provincialised and the existing incumbents of the posts who were employees of the local bodies concerned prior to provincialisation of the hospitals were allowed to be brought on Government establishment with effect from the particular date of provincialisation of each hospital on the pay provisionally fixed for them. It has been the intention of Government that these officers should fill the posts of medical officers sanctioned by Government only as a temporary measure pending selection of permanent officers.

Medical officers who are temporarily being continued in the provincialised Sadar Hospitals will be continued on their existing pay for the present, proposals for the creation of additional posts in the respective cadres should be submitted to Government as early possible. Existing medical officers, who may in some cases as employed in local bodies with others, be eligible to apply for filling the posts on the new scales when advertised through the Joint Public Service Commission, or by the Inspector-General of Civil Hospitals for the selection Committee for appointment as Sub-Assistant Surgeons.

4. The Accountant-General, Bihar has been informed.

U. P. Standing Committee Meeting held at Lucknow on 18-7-45. The following Members were present.

1. R. S. Dr. R. N. Lal, 2. Dr. Kunj Behari Lal Varma, 3. Dr. I. N. Saxena, 4. Dr. Mohan Lal, 5. Dr. Ch. Hardeo Singh Varma, 6. Dr. Mrs. T. Mani, 7. Capt. Bhagwati Sahai, 8. R. S. Dr. A. B. L. Mathur, 9. Dr. Madan Gopal Bhatnagar,

10. R. S. Dr. Panna Lal Sood, 11. Dr. Manu Lal Sharma, 12. R. S. Dr. A. S. Dikshit, 13. Sukhashi Lal.

Note:—Dr. B. N. Gupta was also present.

(1) R. S. Dr. R. N. Lal was voted to the chair. A telegram from Dr. Jawahar Lal from Kashmir expressing his inability to attend the meeting was read and letters from Drs. P. S. Varma, T. C. Basu Chowdhry and R. S. Dr. A. D. Bhandari expressing their inability to attend the meeting were also read.

(2) The proceedings of the last meeting were read and confirmed.

(3) The report of the working of the Provincial Branch for 1944-45 was read and recorded. It dealt with the questions of promotion of P. S. M. S. Officers to P.M.S. Cadre, I.A.M.C. and representation made for improvements of its terms, Drugs Control Order as affecting private practitioners in the purchase of Drugs and practice of their profession, unwarranted and unconstitutional action of the Editor, Indian Medical Journal in suppressing the review of the I.A.M.C. by the U. P. Provincial Secretary from publication in the I.A.M.C. number and in subsequent issues of the Journal. U. P. new Dist. Health Scheme as adversely affecting experienced L.P.H. Officers in spite of representations made to H. E. the Governor, inactivity of many primary branches generally caused by war conditions and plea for their revival and last presidential election for Calcutta Conference. The Committee thanked the Provincial Secretary for the useful work.

(4) The audited accounts for 1943-44 and from 1st October 1944 to 31st March 1945 were read and passed.

(5) Resolved that the invitation of Dr. Mohan Lal for holding the next Provincial Conference at Aligarh be accepted with thanks. The Conference be held in the month of November 1945 and the dates be fixed by the Aligarh Branch within a fortnight and communicated to the Provincial Secretary and published in the Indian Medical Journal.

(6) Read proposals from Dr. Mrs. T. Mani regarding the questions of pay, promotion, age of retirement, etc., for Lady Doctors as affected by Provincialisation of their Dufferin Fund service.

Resolved that a Sub-Committee consisting of Dr. Mrs. T. Mani (Convenor), Dr. Miss Mobell of Shimali and Dr. Hardeo Singh Varma be formed to consider the proposals and they should submit their report to the Provincial Secretary within a month to be placed before the next conference for consideration.

(7) The Standing Committee of the U. P. Provincial Branch of the All-India Medical Licentiate's Association appeals that the licentiates should join the association in large numbers, and add strength to it. The committee further advises its member to join the Indian Medical Association if they wish.

(8) Resolved that a Sub-committee consisting of Dr. Kunj Behari Lal Varma, Capt. Bhagwati Sahai and Dr. Ch. Hardeo Singh Varma be formed to study the conditions of service of I.A.M.C. and submit their report within a month for consideration of the Provincial Conference.

(9) The Standing Committee of the U. P. Provincial Branch of the Indian Medical Licentiate's Association considered the Drugs Control order as it affects the private Practitioners majority of whom are Licentiates.

The Committee very much regrets to note that the Government have not modified or caused changes in the Drug Control order in a manner befitting the dignity of the Medical profession and many medical men are being put to unnecessary embarrassment.

The Committee, therefore, resolves that qualified Medical Practitioners registered under the U. P. Medical Act be exempted from the operation of the Drugs Control Order of 1943 in any form in their legitimate duty of purchasing drugs and dispensing them to their patients from their dispensaries.

The Committee further resolves that a representative of the U.P. Branch of the All-India Medical Licentiate's Association be appointed a member of the Provincial Drugs Advisory Committee.

(10) Resolved that with a view to revive the activities of Dist. Branches and to enlist more members to A.I.M.L.A., the following members be requested to work in districts shown against their names,

Capt. B. Sahai and Dr. I. N. Saxena, Cawnpore, Fatehgarh and Etawah.

Dr. Mrs. Mani to enlist women licentiates in U. P.
Dr. Ch. Hardeo Singh Varma—Sahasganpur, Meerut, Muzaffarnagar and Bulandshahr.

Dr. Avadh Behari Lal Mathur—Bareilly.
Dr. Madan Gopal Bhatnagar—Morebad.

*It could not be published because the legal opinion was that the article offended the Defence of India Act.

R. S. Dr. A. S. Dikshit, Lucknow, Gonda, Barabanki, Sitapur, Bahraich and Shahjahanpur.

An appeal be also drafted by the President and Provincial Secretary and issued to the Licentiates of U.P.

(11) The Standing Committee of the U. P. Branch of A.I.M.L.A. has learnt with great concern the recent order of the U. P. Government debarring from promotion those P.S.M.S. Officers to P.M.S. Cadre who have attained the age of 45.

This order of the Government will adversely affect those officers who were being governed so far by the condition laid down in the Medical Manual for promotion of P.S.M.S. to P.M.S. Cadre and have attained the age of 45 because under the rules a P.S.M.S. Officer was required to put in 14 years service before he was entitled for promotion to P.M.S. Cadre.

(12) Resolutions sent by Dr. P. S. Varma were read and it was resolved that they should be placed before the next conference at Aligarh for consideration.

The Committee, therefore, resolves that the Government be requested to modify the order in such a manner that it may not adversely affect officers who are above 45 years and also those who put in 5 years service on the date this order of the Government was issued.

(13) Resolved that the Provincial Secretary be requested to circulate to all the district branches that the resolutions for the consideration of the Aligarh conference must reach the Provincial Secretary by the 30th September 1945 and a copy of the same be sent to the Secretary of the Reception Committee.

(14) Resolved that the present office bearers of the U. P. provincial branch be requested to continue for 1944-45. Further resolved that Capt. Bhagwati Sahai be elected Joint Provincial Secretary and that he will be responsible for the office work and the work regarding the next conference. The drafting of resolutions, etc., will be done by the Provincial Secretary.

(15) Resolved that since it has come to the notice of the Standing Committee that 18 U. P. Branches participated in the Presidential election for the last Calcutta Conference, while in the Standing Committee hardly 10 branches are represented, the General Secretary be therefore requested to kindly inform the U. P. Standing Committee the names of the branches and their Secretaries who took part in the election form U. P.

(16) Resolved that the U. P. branch thanks the Government for conferring the title of Rai Sahib on Dr. A. S. Dikshit, Medical Officer Vaccine Section, Public Health Institute, Lucknow, which he so well deserved; and congratulated Dr. Dikshit on being the recipient of the honour.

(17) The following budget of income and expenditure was passed for the year 1944-45.

Income.		Expenditure.	
Rs. A. P.		Rs. A. P.	
From balance		Printing papers	... 30 0 0
in five years		Travelling expenses	... 250 0 0
Cash Certificate	... 300 0 0	Miscellaneous	... 20 0 0
		Total	... 300 0 0

(18) A special vote of thanks was passed to Dr. Sukhashilal for so kindly arranging the meeting at his residence and for the hospitality extended by him to the members of the Standing Committee. With a vote of thanks to the chair the meeting dispersed.

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Many confirmatory papers followed, and in a few years it became evident that the users of 'Dettol' were virtually co-extensive with the whole field of antiseptics. Clinical and laboratory investigations alike attested to the dependability of 'Dettol' in all the contingencies of practice—surgical, medical and obstetric—that called for an antiseptic combining effective bactericidal activity with gentleness to sensitive and wounded tissues, even at full strength.

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* *Brit. med. J.*, 1933, 2, 723

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Each finger was then used as a "test," for which purpose it was first immersed in the fluid under examination for the required length of time, transferred to a bowl of distilled water for a period of one half-minute to remove traces of any disinfectant, etc., after which a dry sterile wool swab was rubbed vigorously over the finger tip for a period of one half-minute (timed.)

This wool swab was then used to inoculate a suitable culture plate for the growth of the organisms under test. Thus each finger tip was artificially infected, and, as indicated by the control finger, this infection was heavy. The action of the antiseptic unassisted by rubbing or other movement was investigated from the point of view of bactericidal action.

RESULT.

The control swab yield.....	364 colonies.
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" " 2 minutes 27 "	
" " 3 minutes 2 "	
" " 4 minutes 0 "	

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PENICILLIN THERAPY IN INFECTIVE CONDITIONS OF THE EYE

NAME AND COMPOSITION	PACKING AND PRICE	INDICATION	GENERAL PRINCIPLES IN APPLYING PENICILLIN
(1) Penicillin (Strong) Penicillin 20,000 units Fatty Vehicle to 100.	1 oz., 100 Grains Rs. 5-0-0	Infective conditions of the eye.	Penicillin the wonder Drug discovered by Fleming and Florey is now freely available in the market: Experiments are conducted in this Laboratory with and without Sulphanamides and they are found to be effective in various Eye disease due to infective origin. In acute conjunctivitis, the ointment can be applied six times a day with clinical cure within 24 hours. In granular lids Penicillin cum Sulphanilamide can be applied six times a day with a clinical cure within two weeks. Gonorrhoeal Ophthalmia, Penicillin Cum Atropine is indicated and in chronic inflammations of cornea, sclera and lids, Penicillin cum yellow oxide of mercury is indicated. As a general principle, the eye should always be washed with normal saline before applying Penicillin ointment. Penicillin can also be injected in addition to local therapy in severe types of corneal ulcers, iridocyclitis etc., ten thousand units to be injected every three hours. In Trachoma, Sulphanilamide can also be given by mouth. In G. Ophthalmia Penicillin can be injected and M. E. B. 693 can be given by mouth. The laboratory is ready to give further information regarding Penicillin Therapy when asked for.
(2) Penicillin Cum Sulphathiazole. Penicillin 5,000 units. Sulphathiazole 5 Fatty Vehicle to 100.	1 oz. Rs. 7-8-0 100 Grains Rs. 2-8-0	Gonococcal and pneumococcal affections of the eye.	
(3) Penicillin Cum Sulphadiazine. Penicillin 5,000 units. Sulphadiazine 5 Fatty Vehicle to 100.	1 oz. Rs. 7-8-0 100 Grains Rs. 2-8-0	Staphylo, Pneumo and Gonococcal affections of the eye.	
(4) Penicillin Cum Sulphanilamide Penicillin 5,000 units. Sulphanilamide 5 Fatty Vehicle to 100	1 oz. Rs. 7-8-0 100 Grains 2-8-0	Trachoma and chronic infective conditions of the eye.	
(5) Penicillin Cum Atropine Penicillin 5,000 units. Atropine 1/2 Fatty Vehicle to 100	1 oz. Rs. 7-8-0 100 Grains 2-8-0	Ulcer cornea due to infective conditions of the eye.	
(6) Penicillin Cum Yellow Oxide of Mercury. Penicillin 5,000 units. Yellow oxide of mercury 2 Fatty Vehicle to 100.	1 oz. Rs. 7-8-0 100 Grains Rs. 2-8-0	Keratitis of all forms and chronic ineffective conditions of the eye.	

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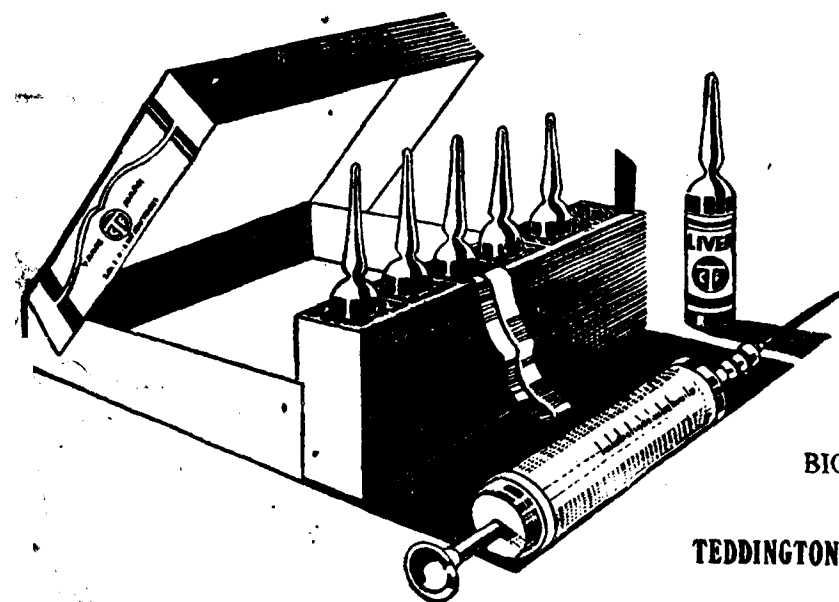
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