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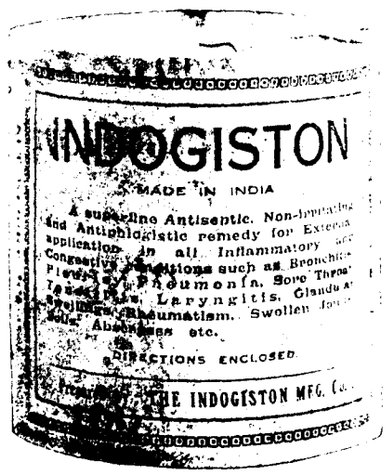

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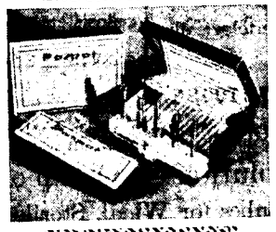

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OCTOBER 1936

Treatment in General Practice

Treatment of some Complications of Diabetes Mellitus

By

O. LEYOTON, M. D., D. Sc., F. R. C. P.

(From the 'British Medical Journal' August, 1, 1936)

PART I

Before giving details of the treatment of the complications of diabetes mellitus it should be stated that once some of the lesions have developed they cannot be cured. Prophylactic treatment is therefore of paramount importance, and consists in keeping the patient's metabolism is the treatment essential to prevent further degeneration of tissue.

It has been found that the average diet of Europeans consists of six parts of carbohydrate, two parts of protein, and one part of fat. If we assume that insulin is the only substance which the patient suffering from pancreatic diabetes fails to make in sufficient quantity, his metabolism should be normal when he consumes a diet approximating to this ratio and is provided with adequate insulin. In a diet designed to supply sufficient energy to maintain weight and permit normal activity while keeping the metabolism normal, the carbohydrate cannot be limited to 150 grams a day as is advised by some authorities. Metabolism will probably be nearer normal when the concentration of sugar in the blood is kept between the limits found in health than when it is kept below the level at which glycosuria occurs. This means that sufficient insulin should be given to

prevent the sugar rising at any time above O. 15 mg. per 100 c. cm. of blood. Possibly in pituitary diabetes mellitus the anterior lobe of the pituitary secretes simultaneously an excess of the diabetogenic factor and an abnormal substance which causes arteriosclerosis. This possibility does not, however, diminish the advisability of attempting to keep the metabolism close to the average normal.

Arteriosclerosis

Before the advent of insulin, arteriosclerosis, along with a raised blood pressure, was recognized as a common sequel to long-standing diabetes mellitus. The fact that females were affected as often as males made it probable that it was the disease, or the treatment of the disease, that led to this condition. Evidence has been accumulating that the diet containing much fat and little carbohydrate at one time customary was, in fact, responsible for the changes in the arteries; but even if this had been known then it would not have affected treatment, because in those days the physician had no choice. If the patient was to servive he had to be suplied with a certain amount of energy in a form which he could utilize. Insulin has changed this, and subsidizing the pancreas allows us to give the patient a suitable balanced diet.

For many years iodine has been prescribed in hypertension and arteriosclerosis. Any improvement following its administration has been attributed to its anti-luetic properties, but recent animal experiments have shown that iodine inhibits the production of arterial changes by high fat diets. Either iodides or some compound of iodine and oil should be prescribed in doses sufficient to ensure the absorption of 5 grains of iodine daily. At least 7 grains of potassium Iodide, or Iodinol (20 per cent. Iodine) one six-minim capsule four times a day should be given.

Coronary Thrombosis and Angina Pectoris.

Coronary thrombosis may follow arteriosclerosis of the coronary vessels, and is treated by rest and analgesics. The analgesics morphine, 1/4 grain, and its derivatives, diamorphine (heroin), 1/6 grain, and dihydromorphine hydrochloride (dilaudid),

1/32 grain, may be given in diabetes mellitus. The obstruction of the artery renders that part of the heart muscle supplied by it Ischaemic. This, in turn, leads to fibrosis, and during this process substances are liberated which interfere with the action of insulin, necessitating a temporary increase in the dosage.

Angina pectoris is due to a transient ischaemia of the heart caused by a spasm of the coronary artery. The recurrence of anginal attacks depends upon factors about which very little is known, so it is difficult to, decide whether hyperglycaemia or hypoglycaemia increases the frequency and intensity of attacks. That the T. wave is depressed during hypoglycaemia is part of the evidence cited in favour of the hypothesis that the heart becomes accustomed in long-standing diabetes to an excess of sugar in the blood supplying it, and that its action may be impaired by a sudden reduction in that concentration. On the other hand, many observers have seen diabetic patients with frequent anginal attacks improve considerably after the adoption of adequate treatment. It seems advisable, however, to prevent any sudden change in the concentration of sugar in the blood of these patients, and therefore when treatment with insulin is adopted the doses should only be increased very slowly.

Cerebral Haemorrhage and Thrombosis

In spite of these accidents being fairly common in long-standing cases of diabetes mellitus it is not safe to assume that sudden loss of consciousness is due to cerebral haemorrhaege or thrombosis, even when it is associated with laboured breathing, muscular spasm, or even hemiplegia and extensor plantar responses. Hypoglycaemia may produce these effects and sugar will save the patient's life, while the usual treatment by starvation will prove fatal. If there be the shadow of a doubt half a pint of warm aqueous solution of glucose (10 per cent) should be given per rectum and the sugar content of the blood estimated. Should the blood sugar be above 0·12 mg. per 100 c. cm. then the patient should be treated as described previously in this series, but with one essential difference The non-diabetic may be allowed to go without food for several days, but the advanced diabetic will develop ketosis and die if deprived of carbohydrate

for any length of time. If there is any acetone in the urine or in the blood the patient should be supplied with orange juice, about two pints a day, or glucose lemonade in quantities sufficient to ensure an intake of 100 grams of carbohydrate daily. Patients who are unable to swallow should have a 20 per cent. solution of dextrose injected intravenously; 125 c. cm. four times a day, along with insulin, is enough to make certain that the carbohydrate is katabolized. The sugar content of the blood should be estimated often enough to guard against coma due to cerebral disturbance passing into hypoglycaemic coma.

Vitreous Haemorrhaege

Haemorrhage into the vitreous humour is usually associated with the presence of a septic focus, in addition to diabetes and hypertension. Such a source of infection should be treated by extirpation or drainage when possible, while the metabolism of the patient is made to approach normal. An attempt to reduce hypertension may be made by giving sodium thiocyanate, 3 grains, well diluted with water, twice daily after meals, so long as it does not cause giddiness or nausea. If this fails the effect of reducing the daily intake of salt to 5 grains may be tried; patients who react satisfactorily to such treatment may be kept upon a low salt diet until their appetites flag.

Endarteritis Obliterans

Endarteritis obliterans and thrombo-angitis obliterans both give rise to the characteristic syndrome of intermittent claudication; the onset is very slow when due to the former and comparatively rapid when due to the latter disease. Endarteritis obliterans is progressive, thrombo-angitis may retrogress; both may cause pain, even while the limb is at rest. The diagnosis may be confirmed with the oscillometer, which will show that the pulse in the affected arteries is of very small volume or else apparently non-existent. An attempt should by made to arrest the progress of the disease by prescribing a diet consisting chiefly of carbohydrates. Auxillary methods of treatment which may be of assistance include exercises (notable Buerger's), douches, diathermy, drugs, and perhaps, in some cases, sympathectomy.

Buerger's Exercises.

The patient lies on his back in bed and the foot is supported on a padded hinged board at the greatest height that does not cause discomfort. The leg is kept in this position until it is blanched, but never for more than three minutes. Next the foot is hung over the edge of the bed until it has become a good red colour. The limb is then placed horizontally in a well-warmed cradle for two to five minutes. This cycle is repeated six to seven times. The treatment is applied three times a day to begin with and is gradually increased up to six times. The length of time for which the leg is elevated should be diminished if pain is caused by the postural Ischaeima. In addition hot and cold douches may be applied to the leg for one minute each and alternated three times.

Diathermy and Drugs.

Short-wave diathermy has been used with encouraging results; in some cases an increase in the volume of the pulse at the ankle has been observed, and this increase has persisted for hours after the treatment has ceased.

In advanced endarteritis dramatic results cannot be expected from drugs, and their effect is less than in thrombo-angitis obliterans because the collateral vessels are affected as well as the main arteries, so that inhibition or lowering of the arterial tone will produce only a small effect. Anti-spasmodics, such as acetylcholine 0.05 to 0.2 gram, adenosine 0.005 to 0.01 grams, and extracts of skeletal muscle, such as carnacton, lacarnol, myoston, and padutin, may be injected subcutaneously or intramuscularly four or more times daily; occasionally these will releive pain, but curiously enough in the absence of pain they may cause it in the legs, and such pain is in no wise evanescent.

It is difficult to satisfy oneself that the effect produced by drugs in an advanced case of endarteritis obliterans is greater than that which might be expected from suggestion following the administration of a costly preparation. The oscillometer fails to show even the minutest increase in the volume of the

pulse, but nevertheless some patients with threatened gangrene of the foot in which coldness and purple patches have led to anxiety have attributed the arrest of the disease to daily injections of adenosine and preparations containing that substance.

Surgery

Thrombo-angitis obliterans has been treated successfully by lumbar ganglionectomy. Before submitting the patient to operation observations must be made to determine the skin temperature of the limb before and during the inhibition of vascular tone, either by spinal anaesthesia or by artificial pyrexia, but this can only be done if the case is not too advanced, since neither spinal anaesthesia nor artifical pyrexia is completely devoid of risk. The difference of the skin temperatures at the wrist and the ankle may be from 10 degree to 20 degree F. If under spinal anaesthesia the difference in temperature falls to 4 degree F. or less, then operation is indicated. But in the majority of cases of endarteritis obliterans in which symptoms have developed the rise in skin temperature is negligible.

Peri-arterial sympathectomy appears to have been followed by a recession of the symptoms in several cases. If the improvement is due to the operation the explanation remains a mystery. Some attribute the effect to the absorption of products of damaged tissues, and assert that incisions at other sites would be equally efficacious.

Gangrene

When the lumen of the arteries is nearly obliterated the blood supply to the tissues may be but just adequate to maintain life but unable to meet the emergencies of trauma of infection. Such an emergency often initiates gangrene in a foot which otherwise might have remained useful for months or even years.

The feet, therefore, must be protected from trauma and infection by the wearing of well-fitting shoes or, preferably, boots and wollen socks or stockings that diminish the chance of the development of blisters and callosities Corns should be removed either by rubbing with a piece of shark's skin or by a sharp instrument in clean skilled hands, care being taken to

aviod drawing blood A chiropodist should be told that his client has diabetes, in order that stringent asepsis be adopted. The toe nails should be kept short. The feet should be washed with soap and water daily and kept at least as clean as the face. After washing they should be dried most carefully and powdered with finely divided boric acid. If the skin is scaly or sodden or the nails are deformed it is probably that a fungus is growing, and a compound benzoic acid ointment should therefore by applied daily.

R/	Salicylic acid	...	...	1 part
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	Coconut oil	...	...	12 parts
	Soft paraffin	...	...	16 „

Special attention should be paid to the skin between the toes, which is very vulnerable to infection, and is often the site of commencing gangrene.

Hypotonic Saline Baths

The treatment of gangrene in the London Hospital consists of immersion of the affected part in hot salt baths for periods of fifteen minutes three times a day. The concentration of salt is about 2 per cent (two ounces of common salt to five pints of hot water), and the temperature as hot as the patient can stand it. It may be 105 degree F at first and be increased by the addition of hot salt water to a temperature not exceeding 120 degree F. A few patients find the hypertonic bath very painful, and for these the concentration of salt must be decreased. After the bath the foot is washed with hot water, dried, sponged with industrial spirit, dried with a warm towel, powdered with boric acid, covered with one layer of gauze to keep of flies, and placed in a cradle which are arranged to allow ventilation; the size and number of lamps are chosen to keep the temperature as high as the patient can bear it without discomfort. When there is any discharge and the caked boric acid and pus do not come away in the hot salt bath boric acid fomentations are applied to the soften the mass.

Hermann's Pavaex

During the last few years " Herrmann's pavaex " apparatus has been used to increase the blood supply in cases of endarteritis

and dry gangrene. The leg is placed in a rigid container, the air in which is rarefied to a negative pressure of 60 to 80 mm. Hg for about twenty-five seconds. A positive pressure of 20 to 40 mm. Hg is then applied for five seconds An increase of the blood supply to the leg resulting from this treatment will be demonstrable by a rise in the temperature of the foot. The treatment should be applied daily for a period of upto one hour, provided the constricting cuff encircling the thigh does not cause too great discomfort. Cases in which emboli may be dislodged or sepsis may spread are unsuitable. If the gangrene is moist and there is no hope of saving a toe local amputation may considered, but this operation succeeds so rarely when there is no pulse at the ankle that it is usually a waste of time.

Syme's Amputation

It is difficult to believe, but nevertheless it is true, that Syme's amputation succeeds in a sufficiently large number of cases to make it not only justifiable but preferable to amputatian below the knee, even when the obliterative process is so advanced that ligation of the vessels is unnecessary. It is usually wise, therefore, to delay operation for just so long as a Syme's amputation is still possible, but no longer The anaesthetic, must be chosen carefully chloroform and ether must not be used, but nitrous oxide is harmless to most diabetics, and may be employed in conjunction with evipan, avertin, or nembutal. It is unwise to try to make a patient give consent to an amputation by telling him that he may lose his leg, if not his life, by refusing, because occasionally the most unpromising feet heal when subjected to the treatment detailed above, proved the blood sugar is kept within the limits of 0.08 to 0·15 mg. per 100 c. cm. of blood. It is safest to say that operation will probably save time, but that no one can prophysy how long the stump will take to heal.

References.

British Medical Journal, 1935, ii 1034
Ibid, 1935, i 989
Ibid, 1935, ii, 464.

Physical Therapy in Constipation

By

RICHARD KOVACS, M.D.

(From the 'Antiseptic' Madras, Oceober, 1936)

The Physiotherapy Review, March, April, 1936.—Constipation may be a symptom of a pathological condition of the gastrointestinal tract or the outcome of incorrect habits or living conditions, but the author has adopted a general classification of atonic and spastic types. The atonic type is by far the more frequent and is characterized by weakness of the large intestine due to bad habits of eating, neglect of the urge for stool, weakening diseases, etc. In addition to general hygiene, diet, judicious medication and mental treatment, massage, exercise and low frequency electrical currents are of value.

Massage applied to the abdomen increases the tone of the abdominal muscles and brings about increased peristalsis by reflex action. It is not an effective measure in real ptosis and relaxation of the pelvic door. Abdominal massage need not be vigorous or prolonged. Slow and gentle movements at the rate of about 12 a minute and with a pressure only to dent the abdominal wall are sufficient. These are applied along the ascending, transverse and descending colon while the patient lies relaxed on a low couch. Ten minutes are sufficient for a treatment and they should be given daily at first, then every other day for several weeks. If no improvement is then noted, the massage treatment should be discontinued. Where stimulation of the general circulation and muscle tone appears desirable in atonic types of constipation, general massage should be given for ten minutes following the abdominal massage. No massage treatment should leave the patient all tired up.

Electric muscle stimulation combined with massage or applied alone, is the most effective measure to tone up the abdominal and pelvic muscles by active contractions. It is the method of choice in atonic cases where massage is not practicable, which prove to be more resistant, or where

direct stimulation of the pelvic floor is desirable. It aids peristalsis by reflex action and increases glandular function and the venous return from the abdomen to the heart. A large moist pad electrode, five inches wide and seven inches long, is placed over the abdomen, and another one of equal size directly opposite, under the patient's back. Either the surging faradic or modulated alternating current (Morse wave) is used. The current strength is gradually increased until definite contractions of the abdominal wall are evident. These should be synchronized with the rate of respiration, producting about 18 or 20 contactions per minute. At successive treatments a current of increased strength may be administered, and with ptosis it will be noted that the abdomen becomes increasingly more firm and the bowel movements are more regular. Treatment should last from 10 to 20 minutes and be given every other day for several weeks.

In particularly resistant forms of abdominal atony, especially in women with relaxed pelvic muscles after child-birth, a suitable rectal or vaginal electrode is employed instead of a back electrode.

The treatment of chronic constipation would not be complete without some form of exercise. General exercise serves to improve the general physical state and to react indirectly on the gastro-intestinal function. Abdominal exercise serves specifically to strengthen the abdominal and respiratory muscles and is chiefly applicable to atonic states. Tennis, golf, horse-riding, running or swimming, done in moderation and within individual taste and endurance, are beneficial. Walking is of little direct benefit. Special exercises are those which bring into play the abdominal muscles and those of respiration. They are best carried out on arising in the morning or, if this is impractical, an hour before lunch or dinner. They should be done on the floor and carried out daily for many months.

Spastic constipation is best treated with a general light bath in an electric cabinet or under a large heat lamp, followed by a mild alternate hot and cold douche. Ultraviolet irradaiations are of benefit, as also is diathermy. Heat applied in various ways is the most effective measure possible to bring about sedation and overcome the spasticity that causes this form of constipation—The Medical World.

Anisocoria in Chronic Appendicitis.

By

K. SCHLAEPPER, Deutsche Ztschr. f. Chir. 244:311, 1935

(From the 'Antiseptic' October 1936)

Sawitzkij and Buchman first called attention to anisocoria in chronic appendicitis. This is due to change which occur in the sympathetic plexus of an inflamed appendix during scar fomation. The sympathetic fibres of the appendix belong to the superior mesenteric plexus. The fibres go through the solar plexus to the roots of the ninth and tenth thoacic segments, then through the spinal cord to the ciliospinal center, then to the carotid plexus and through the long ciliary nerve to the muscle of Mullar and the dilator of the pupil. In one series of 2000 cases Buchman found a relative dilatation of the right pupil in 88 per cent of the cases and in another series of 1,500 cases, in 93 per cent of the cases. For studying the pupils a diffuse bright light is essential. The phenomenon does not occur in right sided inflammation of the pelvic organs, the liver and gallbladder. Tertiary syphilis and right-sided pulmonary tuberculosis must be ruled out. In 83 per cent of 60 cases observed by the author in his series a relative dilatation of the right pupil was observed. The majority of these cases were those of acute exacerbation of chronic appendicitis. From two and one-half to five months after operation the patients with anisocoria showed equal pupils, in agreement with the observations of Sawitzkij and Buchman. The author believes that anisocoria is a useful accessory sign in the diagnosis of chronic appendicitis.—A. J. D. C.

Codliver oil Application in eye Diseases.

The use of cod liver oil dressings for various conditions of the skin secondary to trauma has been reported in recent years and E. Stevenson (The British Journal of Ophthalmology July, 1936, xx, 416) now reports the employment of this substance in injuries of the eye In a severe case of burning he applied one drop of weak atropine solution and dressed the burn with a thick pad of gamgee soaked in ordinary cod-liver oil covered with oiled silk and a bandage. The patient was instructed to keep the pad moist by pouring some oil on the outside if it seemed to get dry. Very good results were obtained particularly as regards absence of scarring of the lids. Other cases have now been treated with severe abrasions, ulcers, keratitis with swollen lids and similar chronic lesions. It is recommended that the oil be not used until any active septic process has subsided. A specially characteristic feature is rapid healing of blepharitis and the promotion of the growth of normal tissue. A special drop bottle is advised and one is made by Messrs. S. T. Pearson and Co. Ltd., Mitcham. The only disadvantage of the treatment appears to be the smell, but since small quantities only are used for the eye this is of little consequence.—The Practitioner.

Cod-liver oil for wounds

Based upon the theory that the growth of healthy repair tissue might be stimulated by certain of the vitamins, cod-liver has been used for some time in Germany and elsewhere in the treatment of wounds. From his experience in industrial work Lang. (Schweizerische medizinische Wochenschrift, December 28, 1935, lxv, 1248) reports favourably on this method and adds certain practical points. It has been found that ordinary cod-liver oil is too fluid, and making it into a thick ointment does not decrease its healing power. The stimulation afforded to epithelial tissue is so powerful that certain surgeons have almost ceased to employ transplanting of skin since wounds treated with cod-liver oil have healed so well. For the commonest type of industrial accident-various degree of injuries to the fingers—

a daily dressing of cod-liver oil ointment appears to yield excellent results. For partially amputated fingers the use of cod-liver oil and plaster of Paris appears to afford satisfactory healing. After coarse dirty particles and separated portions of connective tissue have been removed the finger-stump is thickly smeared with cod-liver oil ointment, and then put up in a plaster bandage, which is left on for ten to fourteen days. A second plaster after this period applied after a further dressing with cod-liver oil will usually be all that is necessary to secure a final healing with a minimum loss of tissue. This method is not applicable for acute septic processes of the hand and fingers on account of the intense reaction often promoted, and single dressing with cod-liver oil-ointment is advisable. The same applied to third-degree burns when much secretion occurs after the use of a liver oil but for second-degree burns the use of plaster of Paris bandages after the application of oil yields good results. The Practitioner.

(Through the 'Antiseptic' October 1936)

Ionization in Nasal Allergy.

(From the 'Antiseptic' October 1936)

The problem of nasal allergy continues to baffle the medical profession. On the one hand the allergist endeavors to make a scientific diagnosis and then by specific therapy immunize the individual against the offending irritants. On the other, the rhinologist, disappointed with the results of specific immunization, resorts to non-specific measures, hoping by such means to render palliation if a cure is not possible. The allergist claims he produces good results. If we are to judge from the numerous cases which the rhinologist is called upon to treat, after injection treatment has failed, we cannot accept the allergist's claim as true. And, in fact in some quarters, the allergist is willing to admit that in the perennial type of nasal allergy non specific methods frequently must be depended upon to give patients relief,

From the time hay fever was first recognized, investigators resorted to local procedures in the form of cauterization to render the nasal mucosa insensitive. Cauterization whether by chemical means or intense heat has come down to the present as an effective means of treatment and is still employed by rhinologists in spite of the fact that it entails a certain amount of tissue destruction. The employment of escharotics in hyperesthetic rhinitis is preferred by some investigators who have found, in their experience, that chemical cauterization produces slightly better results than ionization. Of all the local procedures recommended, however, ionization stands out prominently as a therapeutic advance which merits serious consideration when the problem of nasal allergy presents itself. The numerous favourable report from reliable investigators overshadow the inconspicuous few negative results from sources which possess only recent familiarity with a highly specialized technic requiring years of study to master properly.

The superiority of ionization over the other non-specific procedures can be readily ascertained by any interested worker. The clinical results are in many instances spectacular giving prolonged palliation to a large group of afflicted individuals irresponsive to other remedial agencies. That ionization should not be heralded as a cure has been pointed out by Hollender who has found, however, that symptomatic relief may last for an indefinite period.

Aside from the clinical effects of ionization which are admittedly good in the large majority of cases, certain basic problems have been investigated in connection with the method. Wenner found that zinc ions, although slowly moving, penetrate the skin; that zinc iontophores cause disturbances in the circulations of the blood through the smaller vessels and capillaries of the skin, and that the destructive changes in the skin following the procedure depends upon the strength and the duration of the current, the area of tissue treated and the concentration of the electrolyte.

Tissue changes in iontophoresis have been studied by Hollender Cottle, Hurd, Alden, Smit and others. The findings

are in most instances similar with some question only as to the regeneration of cilia. This is an important consideration in relation to nasal function and should be settled eventually. The fibrosis which ensues must explain in part at least the clinical effects which result from the method, while other tissue changes are dependent altogether on the technic employed. Dean believes that ionization acts by thinning and splinting the mucous membrane. He states that it interferes with the absorption of pollen through the mucous membrane of the nose. The columnar ciliated epithelium is destroyed and in its place is found a hyperplastic and metaplastic epithelial lining. The surface cells have a tendency to become squamous. There is a tendency for this metaplasia to disappear and ciliated cells to be again produced.

The question now resolves itself: Do the clinical results of ionization outweigh possible deleterious effects to the nasal mucosa and to nasal function. This question is not easily answered, Even Dean avers that ionization improves most cases of allergic rhinitis, but he contends also that it produces deleterious results in the mucous membrane of the nose which last at least two years. He emphasizes that ionization should not be used unless the benefits are greater than the deleterious results produced. Such reasoning is rational but uncalled for. Patients have been clinically free from symptoms but their noses have been functionally good. Is it not a fact that often the results of our scientific investigations mislead us in the practical application of a remedy? This has occurred under other circumstances and seems destined to occur again in connection with nasal ionization.

It would be unscientific to arguethat caution is unnecessary The experienced rhinologist requires no instructions along these lines. The patients must be relieved even at the expense of insignificant tissue changes. How many individuals possess perfectly normal nasal mucosas? Our mode of living under all sorts of conditions of climate weather constantly produce alterations in our nasal function. Granting that tissue changes result from ionization, are these out of all proportion to the changes

cited? Is it essential to perform a biopsy of nasal tissue to determine whether a patient has a complaint to offer of his condition? Or shall we be content with objective determinations?

The rhinologist must pass on this himself. He alone can judge whether a certain treatment is indicated. Experience with ionization is essential in expressing opinions on its merits or possible deleterious effects. While the results of scientific studies are refreshing and beneficial, immature reports by the novice on limited amounts of material are not only unfair but usually unwarranted. To perform ionization scientifically one should have at least an elementary knowledge of the physics of the galvanic current. Too many clinicians have attempted ionization without a differentiation in their minds between a galvanic current and a high frequency current. Like surgery, technic in physical therapy can be learned by rule of thumb. The master surgeon knows his anatomy; the rhinologist thoroughly qualified to apply ionization first acquires a knowledge of the different electric currents suitable for therapeutic purposes in the speciality.—Archives of Physical Therapy.

The diagnosis of some febrile conditions

(From the 'Clinical Journal August '36)

If you find a temperature going on longer that it should do for the condition from which you think the patient is suffering discard your diagnosis and go afresh: Make a complete physical examination as most mistakes are due to neglect of Inspection, palpation, percussion and auscultation of some organ. Of course you will examine the urine, look carefully at the teeth and tonsils the mouth and nose generally, you will examine the sputum wherever available. If you find nothing, then do the blood for leucopae nia, Lecocytocis and blood diseases. Next proceed to Widal and blood culture. If all these tests fail, you have to look at the faeces. In cases where the Pyrexia is due to the faeces containing a great excess of Steptococci, the condition cleans up miraculously when the bowels is washed

and simple remedies applied and in all protracted fevers one has to think of the following possibilities, with their differential diagnosis.

1. *Malaria*:—Blood positive for Malarial parasites, Leucopenia present, fever interval of Tertian of quartan type, Rigors and Anaemia, Enlargement of liver and spleen in chronic cases.

2. *Kala-azar*:—A continuous temperature, enlaged spleen and liver, Leucopania, K.A., bodies in spleen Puncture Response to an timony preparation.

3. *Enteric-fevers*:—The various complications of enteric may simulate any fever, Persistent Headaches, may look like Influenza, a sharp abdominal pain, simulate appendicities, and may well mimic meningitis, when the respiratory symptoms of the disease may well resemble pneumonia. Anyhow the distinguishing points are persistent temperature, Leucopaenia and slow pulse. Positive, widal may well eliminate other pyrexias.

Spirochetal Fevers:—Relapsing at an interval of a week or 10 days. Pain in the joints, presence of Leucocytosis, with increased eosinophilia and response to arsenic and Bimuths preparations.

Pneumonia:—It is only at the outset Pneumonia presents much difficulty in diagnosis. There is some physical signs in the chest in the Leucocytosis, not to mention of cough pain in the chest. Rust yexpectoration etc.,

Tuberculosis:—This is too big a subject for a short sketch. Anyhow most cases have a course of febrile temperature before tubercle is thought of. Uncomplicated cases of tubercle, show only Leucopaenia.

Blood-Diseases:—Such as acute Leukaemia in which there is enlargement of glands and spleen. The blood examination of Haemoglobin, Reticular count will confirm.

Suppuration:—Most of the septic conditions are most obvious. In deep seated suppurationthere is obvious Leucocytosis and localized pain.

Minerals especially calcium and iron are also essential and deficiency of these leads to various pathological conditions. Much anaemia in pregnant women was associated with a deficient in take of iron

After the lecture there was an interesting discussion in which many members took part.

The Secretary then moved a resolution sending fraternal greetings on the occasion of the Annual of the South Canara District Medical Association which was passed unanimously. In a moving speech he proposed another resolution which was passed all standing at the sudden and untimely demise of Dr. M. K. Sambasivan, M.B.B.S., Chairman, Municipal Council, Kumbakonam and who was actively connected with the Association for a number of years.

With a vote of thanks to the Lecturer and the Hostess, the meeting terminated.

TRICHINOPOLY,
R. P. D. 24th October 36,

P. A. S. Raghavan,
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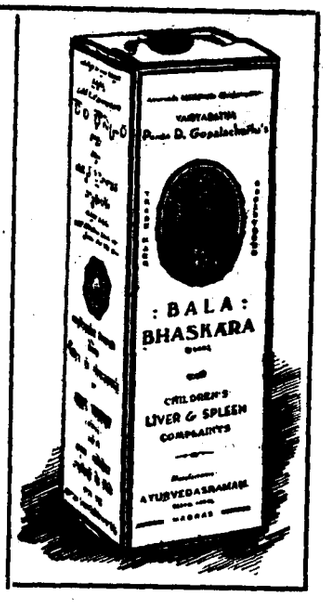

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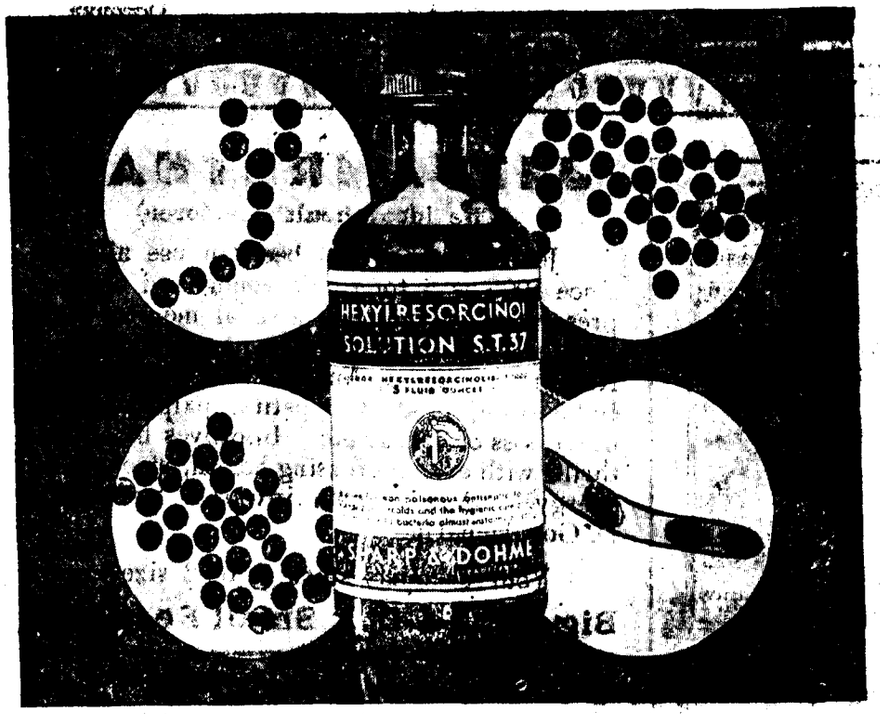

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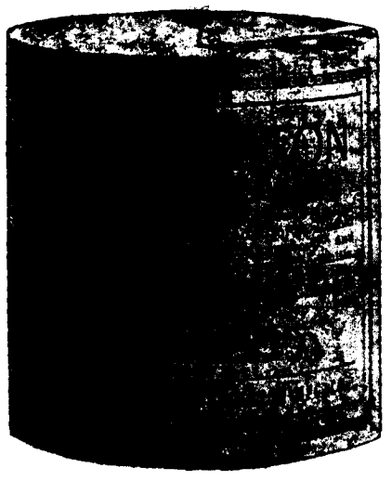

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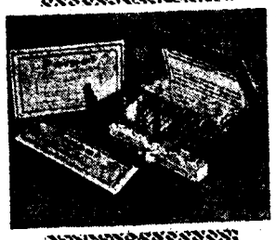

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Asulphurosis

BY

E. JENNER WRIGHT, M.R.C.S.L.R.C.P., D.T.M.

(Adapted from the 'British Medical Journal' October 10th 1936).

I, Sabry in a paper "On the chemical Nature of the 'Pellagra-Toxin' and the Discovery of the Thiosulphate Treatment of Pellagra" reported his discovery that sodium thiosulphate would cure cases of human pellagra, which he considered to be due to the affinity of the drug for a toxic substance which was the cause of the disease.

In a recent paper on the aetiology of pellagra and allied nutritional diseases, A. Clark (1935) states that prussic-acid-containing foods, such a cassava, maize, sugar-cane, millet, guinea corn, peas, and beans, are a common factor present in the diet of all patients suffering from these diseases. He adds that prussic acid combines with sulphur to form thiocyanic acid; the urine and saliva of pellagrins contain a greater amount of thiocyanate than that of non-pellagrins. He postulates that pellagra and its allied diseases are due to slow prussic acid poisoning, and asks "Is sulphur the P. P. factor?"

Hawk and Bergeim (1931) state that potassium thiocyanate is generally present in the saliva to the extent of several milligrams per cubic centimetre. It has been claimed that this substance is present in greatest amount in the saliva of habitual smokers. The significance of thiocynate in the saliva is not known; it probably comes from the ingested cyanides present

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in certain fruits and in tobacco smoke, and from the breaking down of protein material.

Failure of vision is only an occasional result of the excessive consumption of tobacco, a failure less likely to occur, or more readily cured, if smoking is only indulged in on a full stomach. This is an important observation when considering Clark's theory of slow prussic acid poisoning in the pellagra-like diseases, for it strengthens the supposition that there is a fault in the organism rather than a fault in the ingested material. This supposition is further strengthened by the knowledge that recovery may take place without any change of habit with respect to smoking.

Hawk and Bergeim (1931) remark that the metabolism of sulphur in the body is primarily the metabolism of cystine. The daily sulphur requirement of the body is probably in the neighbourhood of one gram, and is ordinarily supplied when the protein requirement is safeguarded. The sulphur content of foods may be considered as approximately 1 per cent, of the total protein content. It becomes apparent, then, that the diet should contain 100 grams—that is, $3\frac{1}{2}$ oz.,—of protein daily in order to satisfy the sulphur requirements of the body; this amount should contain some of the good-class proteins.

Randoin and Fabre (1931) have shown that a diet deficient in the vitamin B complex fed to rats caused a fall of the thiol-derivative (sulfhydryl) content of muscle and liver and a rise of these substances in blood. The interpretation of this experiment suggests that either sulphur is mobilized from muscle and liver in the absence of vitamin B or that the organism is unable to metabolize sulphur properly in the absence of vitamin B.

It was decided to use sulphur as a therapeutic agent in the treatment of the A and B avitaminosis disease. The usefulness of sulphur in the form of contramine by injection being proved, it was decided to use ichthyol, which has a high sulphur content.

Indications for Infant Circumcision

By

FAUSET WELSH, F. R. C. S.

Casualty Officer, Children's Hospital, Birmingham.

(From the British Medical Journal, October '36)

Aesthetically one may affirm that the natural appearance of the prepuce is at least as good as, if not better than, that after the most perfectly performed circumcision. What, then, are the characteristic of a satisfactory prepuce which requires no improvement at the hands of the surgeon? It should be possible to dislocate it behind the glans penis with simple pressure of the thumb and forefinger without causing pain; if a contriction is so caused one must estimate if it is likely to produce any degree of paraphimosis; reduction should be possible with the same ease; the end of the prepuce should be in a healthy condition, not habitually oedematous or inflamed. If these desiderata are fulfilled there is no reason for performing a mutilating operation, nor indeed for any operation at all.

The next type of prepuce cannot be dislocated on account of adhesions to the glans. These can be separated easily with a probe while the thumb and forefinger gently press back the foreskin. The application of liquid paraffin and subsequent dislocation will prevent their re-formation. Next comes the type where hard pressure is required to perform the dislocation, perhaps also with separation of adhesions. Here paraphimosis with swelling of the glans and pain will follow if the dislocation is not reduced. This and the next class, where dislocation is impossible without tearing or forcibly stretching the prepuce with an instrument, should be classed as cases of phimosis and require operation.

The operation necessary in most cases is a very simple one, requires no dressing, and can be performed usually without haemorrhage. A general anaesthetic is given to all children over a fortnight old. The precedure is a simple plastic one for widening the calibre of the prepuce, and consists in making

three longitudinal slits in its folded edge. One blade of a pair of sharp-pointed scissors is inserted between the glans and foreskin, and after the loose skin has been pushed back as far as it will go with simple pressure, the three slits are made, avoiding the dorsal arteries and vien. They are three sixteenths to one-quarter of an inch long, and are placed one dorsally and two laterally. Complete dislocation is then possible, and unless a big vessel has been cut there is very little bleeding. The slits opon out into diamond-shaped spaces, in each of which the proximal and distal corners are then sutured together with fine catgut. The operation is completed by reducing the dislocation, when it will be found that the loose skin behind the incisions comes forward and completely covers the wounds. Thus no dressing is necessary, and the parents are told not to meddle with the part at all. The child may have its daily bath. Post-operative care consists in repeating the dislocation on the second, sixth, and tenth days after operation, by which time healing will have taken place.

All cases are not suitable for this operation. Where the prepuce is very long or constricted for any length in front of the glans, the incisions have to be made so long that the wounds are not automatically covered by skin, and in these cases a formal circumcision is preferable.

Cod-liver-oil Dressings in Osteomyelitis

(From the 'British Medical Journal' October 10th 1936)

W. LOHR (Deut, med. Woch., June 19th, p. 997) has for the past seventeen years conducted systematic investigations into wound infections, with special reference to anaerobic germs. Nearly three years ago he published his first account of the use of cod-liver-oil as a dressing. His experience in the past five years now concerns approximately 15,000 cases. Of burns alone he has treated some 300 cases in hospital and nearly 1,000 under amublatory conditions. Of twenty-one patients treated for gas oedema in his hospital he has not lost one, and only in one case was it necessary to amputate. The only lesion for which

Professor Lohr does not reccommend cod-liver-oil dressings is a whitlow. His experience with osteomyelitis treated with cod-liver-oil dressings includes thirty acute cases, three sub-acute cases, and thirty-four chronic cases. The immediate effects in the acute cases were strikingly satisfactory, and it proved possible to avoid all painful changes of dressings. Cod-liver-oil was also given by the mouth. As a dressing it was the more satisfactory being normally sterile. The author is guarded with regard to the ultimate prognosis in all his cases of osteomylelitis, having learnt that relapses may occur even after an interval of several years; and with regard to chronic osteomyelitis he insists that a permanent recovery can be confidently anticipated, only after the radical removal of every infected focus. He concludes with the verdict that cod-liver-oil therapy in osteomyelitis is absolutely painless, dispenses with changes of dressings, and assures an afebrile course of the diseases.

Cod-liver-oil for External Eye Affections

(From the British Medical Journal, October 10th 1936)

EDGAR STEVENSON (Brit. Journ. Opthalmol., July, 1936, p. 416) has been experimenting with cod-liver-oil as a local application, basing his work on the beneficial results obtained in cases of burns elsewhere on the body by Dr. Steel. Stimulated by the rapid healing of an external burn of the lid caused by the frequent application of a pad soaked in the oil, Stevension next tried the treatment in a case of burning of the conjunctiva. A case in which caustic dropped into the eye responded as readily. Since then the treatment has been tried in corneal abrasions, dendritic ulcer, relapsing keratitis, chronic degeneration from mustard gas, and hypopyon ulcers. In the last it is best not to use the oil till the active septic process has subsided. The applications are made three time a day, and atropine is used as well if the disease would normally require it. Mr. Bernard Chevasse has also been using the oil with very satisfactory results, especially in blepharitis and general soreness of the lids. The treatment is harmless, and can be used in conjunction with other remedies.

Treatment of Cystitis

By

G. E. NELIGAN, M.C., M.B., B.CH, F.R.C.S.

(From the British Medical Journal September 26th, 1936).

The first essential is to make a correct diagnosis; so let us consider the various causes and their treatment.

I. Causes arising in the bladder

(*a*) *Calculi*:—*Calculi of calcium oxalate or those composed of mixed urates* cause cystitis by mechanical irritation of the trigone and internal meatus, and occur in a macroscopically clear and acid urine. *Phosphatic calculi* never appear in a clear urine, but are secondary to a pre-existing cystitis and simply aggravate the symptoms already present. The treatment is to remove the stone and give bladder washes afterwards, at the same time endeavouring to make the urine acid by the administration of drugs.

(*b*) *Injuries*:—A ruptured bladder becomes inflamed, but the cystitis usually clears up rapidly after the bladder has healed and is emptying itself naturally.

(*c*) *Diverticulum*:—A diverticulum does not as a rule cause cystitis, but will keep up a cystitis due to an obstruction, such as an enlarged prostate. Cystitis will never disappear until the diverticlum is removed. The cystitis may be relieved by bladder washes of 1 in 4,000 oxycyanide of mercury and by making the patient get into the "knee elbow" position morning and evening to ensure that the diverticulum empties at these times.

(*d*) *Neoplasms*:—Carcinoma and Papilloma. As a rule there is a history of painless haematuria before the symptom of cystitis supervenes.

II. Obstructive Causes

(*a*) *Enlarged Prostate and Urethral Causes*:—Suprapubic drainage and bladder washes help to improve the state of the bladder and enable the obstructing cause to be removed.

(*b*) *Vesical Calculus and Post-operative Causes*:—A frequent cause of cystitis in women is the presence of a cystocele.

(*c*) *Cystocele*:—

III. Renal Causes

In pyelitis there is always a secondary cystitis; After the renal infection is cured the cystitis may persist. Tuberculous cystitis starts in the kidney and spreads down the ureteric lymphatics to the bladder or spreads up from the epididymis. If the primary seat of the trouble is removed then the bladder has a chance to heal.

IV. Causes from Adjacent Organs.

Carcinoma of the rectum or cervix. Diverticulitis of the colon.

V. Central Nervous Lesions.

(*a*) *Tabes Dorsalis*:—In tabes, cystitis occurs when the bladder becomes atonic and fails to empty. The treatment is by permanent suprapubic drainage and bladder washes through the suprapubic tube.

(*b*) *Fractured Spine*:—A catheter should be tied in directly after the accident and a new one inserted every third day. Bladder washes twice a day should be carried out, and after three to six weeks the bladder may recover, as shown by its resisting on giving the bladder wash.

(*c*) *Paraplegia*:—Tie in a catheter so as to let the bladder drain all the time. Bladder washes should be given morning and evening. The catheter should be changed every third day.

Drugs and Catheters

Postassium citrate in 1-drachm doses is the best in acute cases. Acid soidum phosphate, 30 grains, with hexamine 10 grains, three times a day in the chronic cases.

If the catheter is to be retained in position a simple method is to pass a small safety-pin through the cather near the meatus, attach a piece of tape to either end of the pin, and then fix the tapes to each side of the penis by a piece of strapping wound round the penis below the glans.

Bladder Washes

The best bladder washes are 1 in 4000 oxycynide of mercury, 1 in 10,000 silver nitrate, or 1 in 2,000 potassium permanganate.

Some bladders are very irritable and will not tolerate these antiseptics; in such cases a half saturated solution of boric acid may be uesd.

Bladder washes should be made up to a temperature of 110°F; this cools down considerably on passing though the tube of the irrigator. Hang a douche can, holding two points of the solution, three fee above the level of the recumbent patient, then place the nozzle in the end of the catheter and let three or four ounces run into the bladder, withdraw the nozzle and let the bladder empty. Repeat the process until the two pints have been used.

Bladder washes should, when possible, be given every day. Chronic cases of cystitis may be cleared up by putting half an ounce of 10 per cent. collargol once a week into the empty bladder.

In conclusion, it may once more be emphasized that the important point is the diagnosis of the cause of the cystitis, as until this is removed there is little prospect of cure.

Renal Tuberculosis

(Adapted from the 'Lancet' December 5th 1936).

It is not a primary independent disease. It is a local manifestation in a tuberculous subject and the result of systemic infection.

When extra urinary lesions are present it is usually found in the lungs and in the male in some part of the genital system, and in bones and joints.

Early signs and symptoms.

(1) Frequency of micturition may be the first and only symptom. Pain is also present.

(2) Haematuria especially symptom-less haematuria in young subjects.

(3) Urine examination. *Pus* is nearly always present except in very early cases and bacteriologically may be sterile and is very suggestive.

The constant presence of albumen in the absence of pus, blood or cast is another sign of importance. Cases of Chr. pyelitis and cystitis not responding to treatment must be invistigated for a tuberculous taint.

(4) Common in young subject and gives rise to prolonged malaise, anaemia, loss of weight, and occasional rise of temperature.

(5) Cystoscopy may be useful in many cases.

(6) Intravenous pyelography is often of great value.

Early Diagnosis: Regular systematic examination of urine of patients suffering from Tuberculosis is the only way to diagnose a case early.

Treatment. Early cases can be cured by Medical treatment which looks up to general health of the patient.

More advanced cases. Renal Tuberculosis, it is worth being kept in mind, has periodical remission of symptoms, which is true even of advanced cases. In advanced cases Nephrectomy is the only method of choice.

Centra-indications for Nephrectomy (1) an active lesion in the lung or elsewhere. (2) Both kidneys involved as seen by pyelograms.

The Trichinopoly District Medical Association.

(REGISTERED)
(Affiliated to the Indian Medical Association)

Proceedings of the 7th Annual Conference held on Tuesday the 22nd December 1936 and Wednesday the 23rd December 1936 in the National College, Trichinopoly.

The 7th Annual Gathering and Conference was held on Tuesday the 22nd December 1936 and Wednesday the 23rd December '36 in the National College, Trichinopoly when 65 members were present. The Annual meeting commenced at 11 A.M. with Dr. C. E. R. Norman, F.R.F.P., & S., D.p.H. Etc., Chief Medical Officer, S. I. Ry. and President of the Association in the Chair.

The Secretary presented the Annual Report for the year 1936 which showed an uneventful working during the year. The membership continued to be satisfactory with about 120 on the roll. The finances had improved by the addition of about Rs. 200, to the Association funds. Dr. T. N. Subramanyan, proposed and Dr. K.R.N. Chary seconded that the Annual Report be adopted and the Annual Report was adopted by the meeting. Election of office-bearers for the year 1937 was then proceeded with, At the outset the President thanked the Association for having given the honour of being the President for the last three years and since he was likely to go on long leave from May 1937 it was desirable that somebody else be elected as the President but Capt. Sangham Lal proposed and Dr. Raghavan seconded that Dr. Norman be re-elected as President for the coming year and Dr. Norman was elected unanimously. Dr. Raghavan declined to continue as the Secretary for the New year. Names were called for the Secretary's place. The President remarked that since there was to be a contest for the Secretary's and other places in the Committe, he wanted to have the sense of the house with regard to the waiving of rule 6 under article II of the Bye-Laws which stated that any member ceases to be so if his subscription fell in arrears for one

month from the due date. As the majority of the house was for waiving this rule, elections were proceeded with. Dr. K. R. N. Chary proposed and Dr. O. R. Balu seconded that Dr. R. Sambasivan be the Secretary. Dr. V. Subramanyam proposed and Dr. A. Shanmuganathan seconded that Dr. R. Kalamegham be the Secretary. Votes were taken by ballot and proxies were submitted and counting of votes revealed that Dr. R. Kalamegham secured 60 votes and Dr. Sambasivan 44; Dr. Kalamegham was declared elected. Then Dr. Shanmuganathan proposed and Dr. Raghavalu Naidu seconded that Dr. V. Subramanyam be the Treasurer. As no other names were proposed Dr. V. Subramanyam was elected as the Treasurer. The following 4 were elected to the Managing Committee:—Capt. Sangham Lal, Dr. Little, Dr. M. R. Bhat and Dr. I. D. David. On the suggestion of the President the following were elected to a Sub- Committee to revise the rules and bye-laws of the Association:—Capt. Sangham Lal, Dr. Raghavan, Dr. Little and Dr. T. N. Subramanyan. Dr. Norman thanked the Association for re-electing him as the President and welcomed the members and the guests who had come in such large numbers from distant places to participate in the Conference. The meeting then adjourned after Break-fast at 12 noon at which Dr. Norman was the Host.

The conference assembled at 2 p. m. with Dr. Norman in the chair. Dr. C. R. Krishnaswamy M. B. M. S., of Madras delivered an interesting lecture on Some 'Stray thoughts in the treatment of Gonorrhoea and its complications'. After the lecture there was an interesting discussion in which many members took part. Then Dr. S. K. Sundaram, B.A.M.D. of Madras delivered a lecture on 'Anaemias' and Dr. S. T. Achar M.D, of Tanjore delivered an interesting lecture on 'Empyema' and demonstrated a few skiagrams and a simple aspirating apparatus. After this there was an interesting discussion and Capt. Sangham Lal gave his experiences of a few cases treated by him. After 'Tea' the members adjourned to the Renga Vilas Theatre where the Haverb Trading Co., Ltd. exhibited a Talkie Film on 'Stored Solar Energy' depicting the working of the

Factory in Germany. There was also a comic film on the 'Treatment of Malaria' with Atebrin. There was a dinner at 8 p. m. when Raja D. Mawnay & Co. Ltd., conjointly with Dr. Boses Laboratory Ltd., were the hosts.

The Second day's proceedings commenced at 12 noon with a Break-fast at which Mr. C. A. Doroiswamy Mudaliar of the French Medicine Agency was the Host. The conference commenced at 2 p. m. with a lecture by Dr. S. Rajan, M.B.B.S., of Bangalore on 'Blood Test in Venereal Diseases'. Then Dr. N. C. Appayya, M.R.C.P. (I) D.G.O. of Pallatur delivered a lecture on 'Puerperal fever, its causes and Treatment' which was followed by interesting discussion in which many members took part.

In bringing the conference to a close Dr. C. E. R. Norman wished to place on record the valuable services rendered by the outgoing Secretary Dr. P. A. S. Raghavan and Treasurer Dr. R. Sambasivan who had built up the Association to its present status and hoped that the incoming office-bearers would keep up the activities of the Association. Dr. P. A. S. Raghavan on behalf of the Association thanked the members for the co-operation rendered during the five years of the Association to better heights. He also thanked the various Lecturers for coming from distant places and the various Hosts. On behalf of the Guests Dr. D.V. Venkappa of Madras congratulated the Association on the useful work turned out during the past and paid a tribute to Dr, Norman who was an ideal President. The conference then dispersed after 'Tea' at which Messrs. Havero Trading Co. Ltd., were the Hosst.

TRICHINOPOLY,
Dated 27th December 36,

C. E. R. Norman,
President.

P. A. S. Raghavan,
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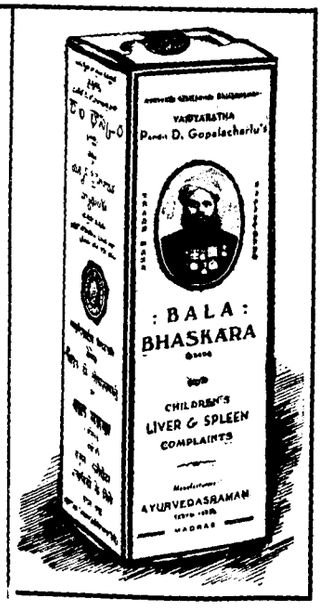

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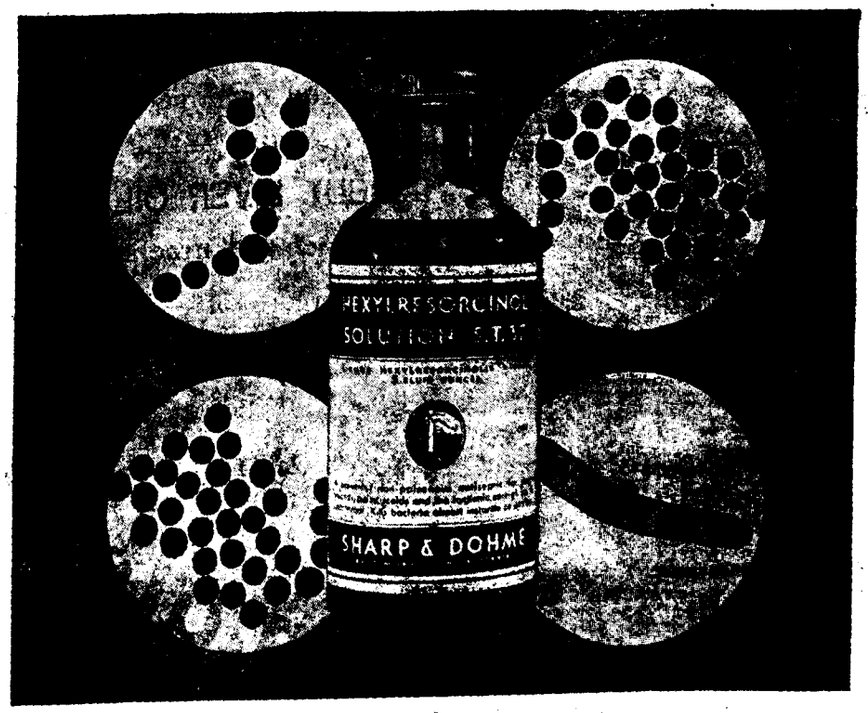

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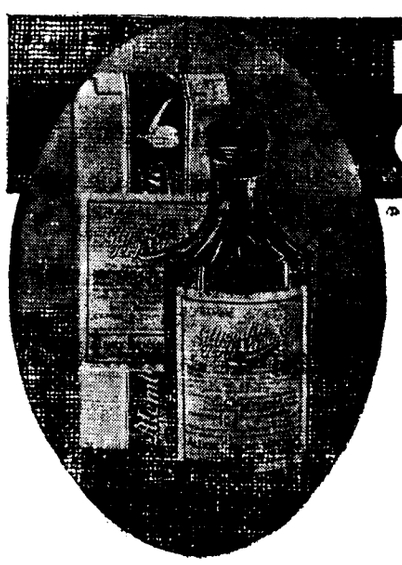

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