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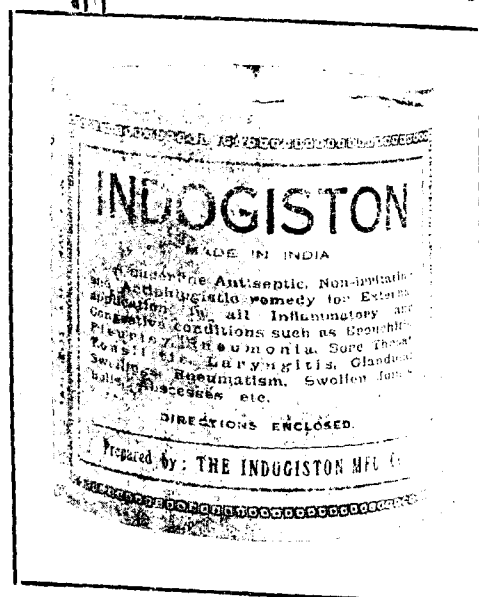


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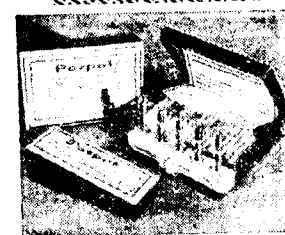
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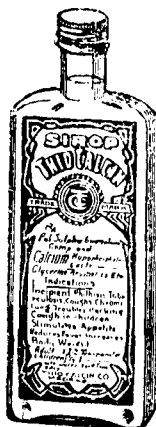
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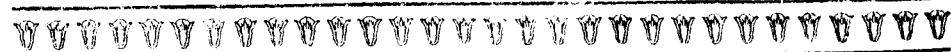
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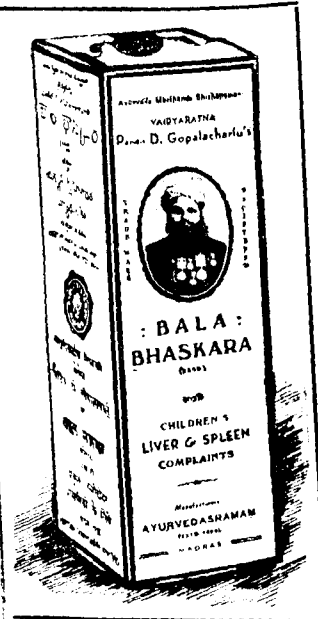
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JULY 1936

On the Treatment of Lobar Pneumonia

(From the 'Practitioner' January 1936.)

Lobar pneumonia is in certain respects peculiar. A person in normal health and full work may in a few hours be seriously ill, often in considerable pain and distress, and literally at death's door. In a standard modern textbook containing very complete and sensible directions as to how a case of pneumonia should be treated, we read "The supply of fresh air is specially important and unless adverse weather conditions render it practically impossible the window should be kept constantly open, "the bed clothes should be as light as possible consistent with warmth."

(a) It ensures a more plentiful supply of oxygen and a less vitiated atmosphere; (b) The patient feels more comfortable; (c) The fever is kept under control.

The Relief of Pain.

Morphine is given freely in the early stages and local measures for the relief of pain have been largely discarded. Is it, however, necessary or desirable that morphine should be given if the pain can be effectively relieved by local measures? Some of the old-fashioned local measures, whatever their disadvantages, did ease the pain. The application of a sufficient number of heat units over the site of pleuritic pain is comforting, and does afford relief. There is no need to go back to the cumbersome and messy linseed poultice, when similar units of heat

can be supplied by a really hot-water bag or other means such as by Diathermy.

There is, however, one point about local applications which it is well to bear in mind. Whatever they may be, they should not produce such a condition of the skin as to interfere with the making of a complete and efficient physical examination at any time, if called for. While over-examination of the patient is as much to be deprecated as over-nursing, yet it may happen that at any moment a thorough examination of the chest is of the utmost importance. This is sometimes impossible when some of the modern sticky applications have been used.

Sleep.

If sleep is prevented by cough and pain, as it often is in the early stages, and if local measures fail to give relief, it is generally agreed that morphine in a sufficient dose may be given with safety. If, however, local measures do remove the pain so that the inability to sleep is not due to this, there is no particular reason why this should be the hypnotic of choice, if indeed, a drug is necessary at all.

As a rule, it is not at this early stage, but later, when the loss of sleep has persisted that its effect becomes serious. In the later stages it is usually not due to pain, and morphine or its derivatives should now be avoided if possible and not given without serious consideration as to whether it may not do more harm than good. It "should never be given in cases in which there is marked cyanosis, delirium, or excessive dyspnoea". In such it may undoubtedly precipitate the end.

Treatment by Drugs.

Many drugs have from time to time been recommended for this disease. The hypodermic injection of strychnine was for many years looked upon as a *sine qua non*. Some practitioners always begin treatment at once with digitalis and continue it throughout: others do not use it at all. Alcohol is given in large doses by some, forbidden by others and by others again it is used in the later stages only. There is a story that one of the physicians in a hospital in the north used to treat every

case of pneumonia with a bottle of whisky a day, while his colleague, on the floor below, a staunch abstainer, did not allow alcohol in his wards at all; so also with every drug.

There is hopeful promise of dealing effectively with at least one type of organism, for which serum is now available. If given early it is capable of cutting short the attack and even later it may in certain cases appear to save life. It is reasonable to anticipate that with further knowledge similarly effective means may be found of dealing with each and every type.

What the clinician can say is, that the odds are in the patient's favour if he is young, not addicted to alcohol, and does not suffer from previous chest disease; if he has a sharp febrile reaction and only one lung is affected. The laboratory may support this by finding a good increase of leucocytosis in his blood and a virulence in his sputum. Meanwhile in every case the final word rests with the resisting power of the man himself, which it is the object of the physician to assist.

[Diathermy helps to relieve pain, loosen the sputum and keep the patient comfortable. The temperature falls by lysis and mortality is reduced. Ed.]

Diathermy in Pneumonia.

(From 'Archives of Physical Therapy, March '36)

"At this season of the year and in all temperate countries, the physician is once again hopefully but grimly laboring to avert the many expectant tragedies due to pneumococcic infections. In spite of the recognition of pneumonia as a disease, the intensive study of its causative nature, and the remedial agents introduced for its control and eradication, the medical profession faces the situation of stemming the progress of what Osler picturesquely called the "Captain of the Men of Death" with little more optimism than that of the preceding generation. In 1930, nearly one hundred thousand deaths were reported in the United States as due to some form of pneumonia. Since statistical records indicate that the mortality rate is about 25

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per cent it would appear that approximately four hundred thousand cases of pneumonia occur every year in the United States alone, without even considering the large morbidity percentage left in its wake. Today in spite of greater knowledge of every phase of this important problem our therapeutic efforts have been largely routinized towards hygienic measures, relief of symptoms by medicinal and physical agents, and specific serum.

"It is a peculiar phenomenon with the medical as well as with other professions that once a worker has by his labor achieved recognition as an authority, any of his dicta are regarded almost as a slogan applicable to any related situations without special considerations. In the problem of pneumonia nothing has tended to develop a therapeutic nihilism more than the late Osler's teaching that pneumonia is a self limited disease. Unfortunately, the bulk of the medical profession has not appreciated the occult irony contained in the master's dictum, for in his as in our time, the limitation of pneumonia has only too often taken the form of a leath.

"One needs only consult even our best and most recent text books on internal medicine to become convinced of the result of an unconditional acceptance of dogma, for one will fail in obtaining any therapeutic advice beyond the hygienic management and symptomatic medication. With the exception of the recently developed serum, which unfortunately is useful in only the so-called Type I of pneumonia, medicinal therapy records no progress. While this situation is perhaps a hangover of past teaching, our authorities cannot be freed from the charge of failure to take cognizance of the effectiveness of one physical agent which clinical experience has shown to come to possess almost specific effects.

Diathermy has already changed the statistical mortality and morbidity rate justifying a more optimistic concept of the course and sequelae of pneumonia. In the February issue of the ARCHIVES, Stewart has pointed out the marked success attained by various clinicians, independently of each other, when diathermy was used as a part of or as the sole agent in the

therapeutic regime of pneumonia. Walsh confirmed the special virtue of diathermy in a group of 95 patients as compared with a control group of 59 treated without diathermy.

Comparison of the mortality rate of both groups showed 12.4 for the former and 20.3 percent for the latter. Stephenson of the United States Navy Medical Corps enhanced his clinical results to a reduction of the mortality to 8.4 per cent—a remarkable showing in comparison with former statistics.

"Statistics in themselves are mere general indices which can have scientific value only through critical analysis. The element of coincidence and personal equation are factors which cannot be ignored. When, however, one considers that diathermy has been utilized in the treatment of pneumonia by a number of careful and unprejudiced observers for more than a decade, then the element of chance cannot enter into argument. To this must be added an appreciation of the scientific rationale of the action of diathermy. With the etiology and pathology of pneumonia firmly established it is easily conceivable that the deep heating action of diathermy influences the inflammatory process in the lungs to afford nature a more effective defence. Without here entering into a detailed discussion one needs only think of the greater defence of an infected organism produced by arterial hyperaemia to appreciate the clinical importance of diathermization of the congested lungs. While it is not yet fully established that this physical agent or its improved counterpart, short waves, stimulate the reticulo-endothelial system, increased tissue metabolism in the form of enhanced oxidation as well as phagocytic defence undoubtedly play a vital role in the amelioration of existing pathologic processes. Under such a concept it is clear that administered at an early stage of pneumonia the clinical results would be proportionate to the technic brought into play. Just as indiscriminate and premature digitalization in pneumonia has done more harm than good, so either long or short wave diathermy must be administered in a manner suitable to individual indications. This implies that routinistic methods are out of place in a condition where the balance between life and death is exceedingly delicate. It is therefore imperative

that every practitioner of medicine should be impressed with the necessity for familiarization with and utilization of long or short wave diathermy in every case of pneumonia at the earliest possible manner."

The Common Cold, its Prevention and Cure.

(From 'The Practitioner' London, January 1936.)

The common cold begins as a running from the nose, accompanied by sneezing, a feeling of soreness in the throat, or a loss of voice accompanied by pain on swallowing. One of these symptoms becomes evident first, the others may soon follow, and there may be a spread to the anterior and posterior group of sinuses, to the conjunctivae, to the middle ear, and most common of all, down the trachea to the bronchi. A neglected cold is a well-known cause of lobar pneumonia, which is due to direct spread along the air passages; the evidence for this is definite. The clear mucoid secretion from the nose may stop in two or three days, or give rise to a muco-purulent secretion, or there may be fresh exacerbations in the following two or three weeks. The clinical type of infection may be characteristic for the particular patient; but may also be similar in a group of simultaneously infected people. Typically there can be no difficulty in diagnosing influenza from the common cold; the severe pains in the body and limbs and raised temperature before the catarrhal symptoms come on are characteristic of the former disease.

Prevention and Treatment.

Many people have their own devices for preventing a cold, or cutting it short in the early stages. This has recently been a subject of discussion in the press. Such devices may include the habitual taking of snuff, periodical deep breathing through the nose, the sniffing up of normal saline (this plain mixture is rather unpleasant, the addition of a little sugar makes all the difference), taking a hot whisky and lemon on going to bed, taking periodical half-pint drinks of warm water in which a teaspoonful of sodium bicarbonate has been dissolved, taking

oil of cinnamon, and taking a particular type of muscular exercise, such as bending down towards the floor.

Some of these may no doubt do good by keeping the nose clean, or stimulating the mucous membrane and so increasing the number of protective bodies, or even by faith when a locket containing iodine is carried round the neck. Again it has been suggested that the cold is contracted because the vitamin content of the body is deficient and may be prevented by taking vitamin A, and perhaps D, in the form of the vitamin concentrates, on the assumption, open to some doubt, that the ordinary mixed diet contains little of these substances.

Passing on to more definite lines of preventive treatment, there are some hygienic measures of considerable importance, such as the exercise of the vasomotor system by means of the daily cold bath. This has a bearing on the familiar expression "catching cold". People may catch cold because they go out on an usually chilly day without a coat just because their vasomotor systems are unaccustomed to rapid changes in the temperature and, because their bodily metabolism has never had to be increased with cold; they are not "hardened". The hardening process according to Rubner means the habit of increasing the metabolism in response to cold; this power is lost in civilized man who, by altering his clothing according to weather, keeps the temperature of his skin constant at about 35 degree centigrade.

Local Measures.

The treatment consists in applying massive doses of an inert substance such as liq. parafin and white vasaline 3:1 flavoured or mentholated.

The method should be used if there is any fear that infection may have been incurred, or as soon as the slightest feeling of rawness at the back of the throat is felt. In slight cases the application should be made morning and evening; but at the beginning of a severe cold it should be applied four-hourly. If the treatment is delayed until the nose is blocked it may still be effective, especially if the

mixture with menthol is used. In favourable cases the airway may be freed in 24 hours or so, and the patient may be tempted to stop the treatment; this is a mistake, for the cold will return with its old severity in one or two days; continuous treatment is necessary, although the number of applications can be quickly reduced after the second 24 hours.

The vapour from hot water impregnated with tinct. benzoin. co., i. e., vapor benzoini (B. P.) is of value in acute laryngitis. In the more chronic stages of nasal catarrh normal saline, sweetened with a little sugar, allowed to trickle down the nose from a small sponge in the recumbent position may help to clear away the muco-pus: lotio alkalina B. P. is a substitute.

[Dram doses of Tr. Quinine Ammon and Tr. Camph Co. with Syp. Codein, 3 or 4 times a day is very useful.]

Gold Therapy in Pulmonary Tuberculosis.

(From the 'Indian Medical Gazette' July '36.)

(By S. K. Das, Tuberculosis Research Assistant, Chest Dept., Calcutta.)

The greatest achievement towards the modern treatment of pulmonary tuberculosis has been the surgical treatment; but the question of treatment and prevention does not stop there. It is a fact that tuberculosis is mainly a disease of the poor, who are improperly fed and live under insanitary conditions. The essential points in favour of the treatment remain a gospel to this day, viz; good food, fresh air, sunshine, proper rest, hygienic surroundings and climatic sanatoria.

Posters and advertisements for tuberculosis cures have bewildered people and are rather harmful in the sense that the patients, without consulting the nearest tuberculosis helping centre, rest content with the false idea that they are getting the proper specifics in those patent drugs. They almost always realize their folly too late. No one should encourage the use of this type of drug, most of which contain a sedative of the morphine group for cough; they thereby alleviate the troublesome

cough, creating confidence in the patient only to hasten his end quietly.

Sanatorium treatment is helpful in all cases and in all stages a support to any scientific treatment (surgical treatment) but this is usually out of reach to the majority of people as they are generally very poor.

In the treatment of pulmonary tuberculosis we cannot overlook the social status of the patient; indeed it should receive our first attention.

Sanatorium treatment is by far the best treatment to deal with the disease. The object is to place before the tuberculous patient all the best ideas of an institutional treatment, which would not only guide him but also his neighbours towards the treatment and prevention of tuberculosis. Though this is by far the best treatment by itself or along with others, its chief drawback is that it is very expensive, and not within the easy reach of the poor classes. In our country there are only a few climatic sanatoria with a limited number of beds. The climate of most places in India being unsuitable for the purpose and a large amount of capital expenditure being necessary, India will have to look to the future with vague hopes when cheap climatic sanatoria will be within her easy reach. In considering ideal sanatoria, the climate, humidity, velocity of the wind, altitude and barometric pressure, and ranges of temperature must receive proper attention.

Gold, if judiciously administered, is certainly of great value in the treatment of pulmonary tuberculosis. The nature of its action has been differently interpreted by different authorities; some describe it as having an action allied to non-specific protein therapy. It acts most probably by stimulating the cells of the reticulo-endothelial system.

Gold should never be considered as a specific for tuberculosis. The idea that gold sterilizes the sputum is probably wrong. The nature of the effect produced is that it tends to localize the lesions which become more productive in nature, i. e., it tends to produce more fibrosis and calcification. Early

infiltrations tend to disappear, but as the chronic productive lesions are not well supplied with blood vessels the action of gold in these cases is negligible whereas in subjects with severe general reactions, such as a high temperature, it is not suitable. When other parts are affected besides the lung, such as the larynx or the abdominal glands, gold is not, however, contra-indicated. In administering gold the following additional points must be borne in mind.

It should be given once a week, if not contraindicated.

The doses should be graduated; and before going on to the next higher dose it must be seen that the last was well tolerated. A small initial test dose may be helpful.

The patient must observe full rest before, during and after each gold injection.

A careful watch must be kept on the pulse, respiration and temperature of the patient, and the body reactions noted. The urine should be examined for albumin before and after each injection.

The Dangers.

Dyspnoea and cyanosis immediately after the injection:—In such a case the patient should be put to bed under the fan, a stimulant mixture should be given by mouth, the face should be sponged with cold water, and a subcutaneous injection of 0.5 c. c. of adrenalin chloride, 1 in 1,000, should be given at once.

Haemoptysis:—In such a case gold therapy should be suspended for the time being and calcium should be administered and, if the haemorrhage persists, the preparation may be changed and in obstinate cases given up altogether.

General febrile reactions:—In such a case the dose should be diminished and the interval between injections should be prolonged, and calcium therapy will help.

Appearance of albumin in the urine:—In this case suspend gold therapy, give alkalies and diuretics; then give the gold in diminished doses, prolong the interval, and, if necessary turn to another preparation.

Rash all over the body:—This is sometimes very irritating. Give adrenalin $\frac{1}{2}$ c. cm. hypodermically every morning till the rash disappears, and calcium by mouth, suspend the injection for one week and repeat the previous dose.

Gold preparations:—Sanocrysin and crisalbine are in my experience the best, but they are expensive, they have to be given intravenously, and the reactions are frequent. This requires skill on the part of the doctor.

Solganol B. Oleosum is an efficient and popular preparation, but it is also expensive and moreover one has to work up to the full dose gradually, which means several injections.

Oleo-sanocrysin deserves mention along with other preparations. It is a good preparation and comparatively less costly than the others; though a long course is required, it is used by many with good results.

Recently, I have used a preparation myocrisin in oil (May and Baker) which I found very useful. It possesses the advantages over the other gold preparations in being equally efficient, requiring a very short course (weekly injections of 0.02 gm., 0.05 gm., 0.1 gm., 0.1 gm., 0.1 gm. and 0.1 gm.) covering only six weeks, being comparatively cheap, being very well tolerated (I have used it mostly in cases which seemed to tolerate other gold preparations very badly), and causing little if any reaction. The criterion of improvement with gold therapy should be the following:—gain in weight, return to normal of the pulse and respiration, temperature remaining normal, abatement of the symptoms, decrease in the sedimentation rate of the blood, and other prognostic indices, such as the Schilling leucocyte count coming down to normal, an increase in vital capacity, x-ray findings showing a more productive type of lesion and tendency to calcification, and the disappearance of moist sounds on auscultation.

Myocrisin in particular, as well as the other gold preparations mentioned above, satisfy these conditions more or less.

Eclampsia

Edward Lacy King

Texas State Journal of Medicine, XXXI, December 1935, p. 503.

Eclampsia is a toxæmia affecting the pregnant, parturient or puerpeal woman, of unknown etiology, characterized by convulsions and coma, with definite pathological findings, which frequently terminates in death. It can very often be prevented by proper prenatal care, intensive treatment of toxæmia, with induction of labour in those failing to show satisfactory improvement. Once eclampsia has developed, a conservative plan of treatment should be adopted and carefully followed. In an occasional case, cæsarean section, under local or spinal analgesia, may be performed.

Methods of Treatment: A Summary

Stroganoff Treatment

1. On admission, morphia gr. $\frac{1}{6}$ to $\frac{1}{3}$.
2. One hour after admission, chloral hydrate, grains 30, by rectum in 100 cc. milk and 100 cc. normal saline.
3. Three hours after admission, repeat morphine.
4. Seven hours after admission, repeat chloral.
5. Thirteen hours after admission repeat chloral, grains 20.
6. Twenty-one hours after admission, repeat chloral grains 20.
7. Venesection, 400 cc. of blood, if 3 or more convulsions. If delivery is imminent, venesection should not be done.
8. Absolute quiet, avoidance of all irritation.
9. All manipulations and examinations under chloroform.
10. After control has been secured induction of labour by rupture of membranes.
11. Delivery normally, or by forceps or by version.

12. Keep warm; oxygen after convulsions. Keep mouth and nose clear of fluid. Administration of fluids. Digitals, if pulse 110 or over.

Dublin (Rotunda) Treatment.

1. Morphia gr. $\frac{1}{4}$. May be repeated.
2. Gastric lavage, leaving purgative in stomach.
3. Colonic irrigation, using from 4 to 5 gallons of sodium bicarbonate solution. Repeat about every 8 hours.
4. Hypodermoclysis of sodium bicarbonate solution.
5. Heat to loins.
6. Keep on side; keep air passage free of fluid.
7. Induction of labour and conservative delivery.

Schwarz-Dorsett Method.

1. Twenty-five per cent magnesium sulphate intramuscularly—5 to 10 cc. first, then higher doses up to 20 or 25 cc.
2. Morphia gr. $\frac{1}{4}$.
3. Gastric lavage and colonic irrigation as in Dublin method.
4. Usually conservative vaginal delivery.
5. Occasional abdominal caesarean section if patient does not improve.

Sodium Amytal Treatment

1. Morphia gr. $\frac{1}{4}$, on admission.
2. Sodium amytal gr. $7\frac{1}{2}$ by vein, immediately after this.
3. Repeat sodium amytal gr. 3 every 4 hours, by rectum or by mouth.
4. Repeat morphia if restless and if more convulsions.
5. Infusion of 500 cc. 20 per cent glucose after patient is quite. Repeat in from 8 to 12 hours.
6. Watch for pulmonary oedema; if present, atropine sulphate, gr. $\frac{1}{75}$, and repeat as needed.

7. Induction of labour 24 to 36 hours after admission, if not in labour.
8. Normal delivery, or by forceps or version.
9. Gas, local, sacral, or spinal analgesia. No other.

Lazard Treatment

1. Twenty cc. 100 per cent solution magnesium sulphate intravenously every hour until convulsions are controlled.
2. Usual adjuvant measures.
3. No gastric lavage, purgative or enema.

Miller and Martinez Method

1. Intravenous injection of liver extract (heparmone).
2. Usual adjuvant treatment.

The Trichinopoly District Medical Association

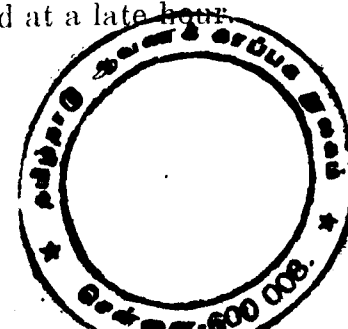
(REGISTERED)

A monthly meeting of the above Association was held at 5 p.m., on Saturday the 25th July '36 in the E. R. High School, Teppakulam P. O., Trichinopoly when about 30 members were present. Dr. V. Subramanyan Hon. Dental Surgeon of the Government H'd Quarter's Hospital, Trichy, was 'At Home' to the members and Dr. C. E. R. Norman presided. Dr. R. Kalamegham demonstrated two cases of 'Diphtheria' that recently came under his view and treated with serum. As there was evidently a mild epidemic of 'Diphtheria' in the town, at the suggestion of Capt. Sangham Lal, the Secretary was requested to intimate the Municipal Health Officer to do the needful to prevent the spread of the epidemic.

Dr. T. S. Balasubramanya Iyer gave his experience of 'Anaphylaxis' after injections of insulin, campolan etc. Dr. Raghavan gave his experience of 'Anaphylaxis' after injections of sulpharsenol and Dr. Norman recounted his experience after serum injection and recommended, 'Desensitization' with a small dose of the serum or Adrenalin.

Dr. Raghavan then delivered a lecture on 'Diathermy' and explained that 'Diathermy' was indicated whenever heat was indicated. He said that 'Diathermy' acts as a specific in Gonorrhoea, Pneumonia Arthritis and Pelvic cellulitis. He gave his experiences of a few cases of 'Pneumonia' and 'Gonorrhoea'. He gave details of a particularly bad type of 'Pelvic Cellulitis' which had just then recovered after 'Diathermy' treatment. After the lecture there was an interesting discussion in which a few members took part. In his concluding remarks Dr. Norman gave his experiences in treating cases of Arthritis and 'Asthma' by Diathermy. With a vote of thanks to the Host, the Chairman and the Manager of the premises the meeting terminated at a late hour.

TRICHINOPOLY, }
26-7-1936. }



P. A. S. RAGHAVAN,
Secretary.

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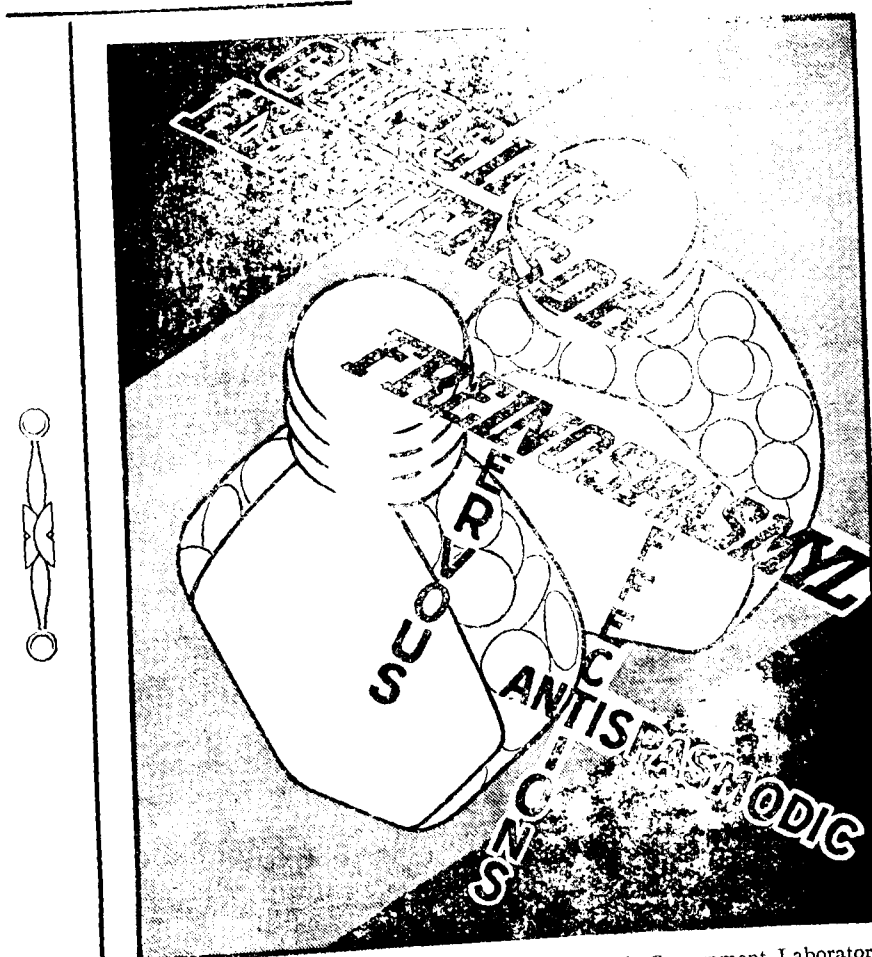
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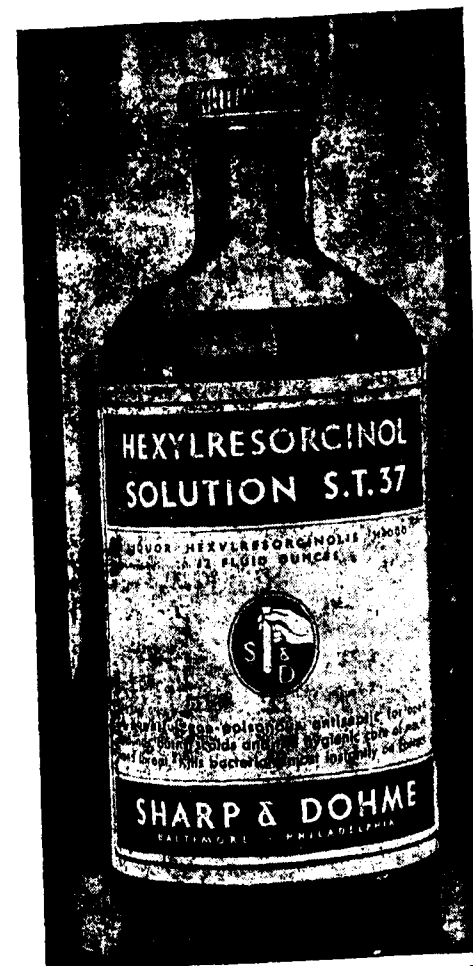
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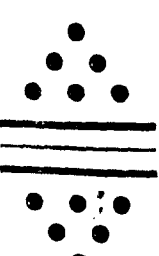
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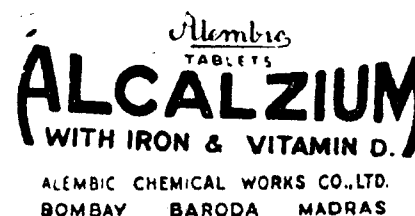
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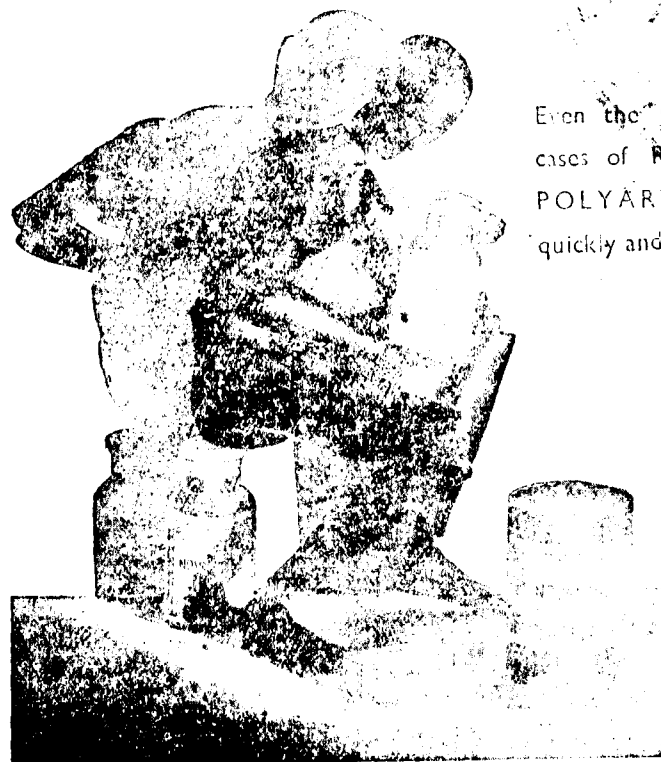
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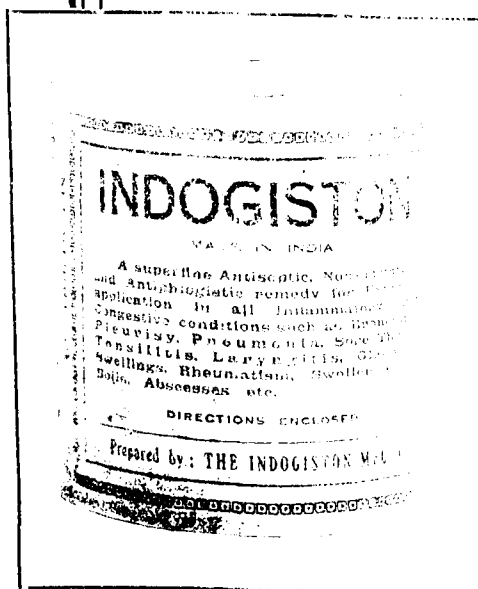
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Med. Klinik,
1930 No. 34.

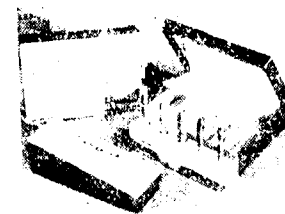
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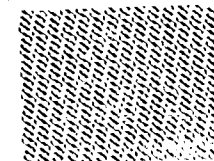
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The Trichinopoly District Medical Association

(REGISTERED)

AUGUST 1936

Hypodermic Injection of Liver Extracts

(From the 'British Medical Journal' July 25th '36)

D. BOLOGNESE (ii Policlinico, Sez. Med., May 1st, 1936, p.236) employed several proprietary liver extracts in various conditions hypodermically with the following results. In the first and second stages of nephrosis and nephritis there were marked diuretic effects, increase in the elimination of chlorides, diminution of oedema and body weight, fall of the blood pressure and the amount of azotaemia, and improvement in the excretion of water. In chronic nephritis and renal sclerosis there was no appreciable action on the diuresis, azotaemia, and blood pressure. In chronic hepatitis accompanied by retention of water, if not in a too advanced stage there might be marked increase of diuresis, and sometimes of the excretion of chlorides. There was no obvious effect on the course of the oedema and ascites, especially in advanced cases. The patients frequently showed an improvement in their general state, subjective condition, digestion, somnolence, and haemorrhages. There was sometimes an improvement in the jaundice, but the treatment had no effect on the venous and arterial blood pressure or the course of glycaemia. In a case of hypertension with renal lesions but associated with ovarian insufficiency and obesity, there was a moderate fall of the arterial blood pressure. In cardiac disease the effects were slight and inconstant. The greatest diuretic effects were obtained sometimes with relatively small doses, and sometimes only with large doses. Toxic effects were rare, even when large doses were used for several days.

Treatment of Gonorrhoeal Complications with Sulphur

G. GULDBERG (Nord. Med. Tidsskrift, April 4th, 1936, p. 553) has treated 132 cases of gonorrhoea with intramuscular injections of a suspension of sulphur in oil, the composition being precipitated sulphur, 1; camphor, 10; eucalyptol 20; and oil of sesame, ad 100 parts. The injections were given at intervals of four to six days, and the dosage was increased gradually from 0.5 c. cm. to a maximum of 4 c. cm. In preliminary tests some patients were given intramuscular injections of a 1 percent, suspension of precipitated sulphur in oil of sesame, while others were given intramuscular injections of the mixture already referred to minus the sulphur. This latter preparation provoked no local or general reaction, whereas the 1 per cent. suspension of sulphur in oil of sesame appeared to have the same action as the fiveingredient mixture. After four hours, or even longer, pain often developed at the site of injection. A rise of temperature occurred usually from six to eight hours after an injection, and the fever generally passed off in twelve to twenty-four hours, although in some cases it lasted several days. The response to the smaller doses was, as a rule limited to fever, whereas the larger doses were apt also to make the patient lose weight and feel exhausted. In fifty-seven of the sixty-eight cases of epididymitis the course of the disease was considerably shortened, but only ten cases of acute prostatitis were benefited. In sixteen of the twenty-nine cases in which the joints were involved the results were satisfactory. The author concludes that such sulphur treatment is most effective when it provokes considerable hyperpyrexia; both local and the general symptom respond more promptly to this treatment than to vaccines or to local antiphlogistic measures.

S. MURAKAMI and S. OKINAKA (Japanese Journ. Med. Sci., February, 1936, Section viii, p. 890) treated 122 cases of vascular hypertonia by daily doses of 0.6 mg. atropine given orally; in two-thirds the blood pressure fell by more than 10 Mm. Hg. Hypertonic subjects with a systolic pressure of 240 mm. or more showed a reduction of 70 to 80 mm., in combination with notable improvement in the subjective symptoms. In hypertonia due to heart disease atropine treatment was found completely ineffective.

Syringing the Ear

(BY CHARLES KEOGH, F. R. C. S.)

(Assistant Surgeon, Ear, Nose and Throat Department, London)

Indications for Syringing

Wax (Cerumen).—Wax is best removed from the human ear by syringing the meatus with a solution of sodium bicarbonate, 60 grains to the pint, warmed to 100 degree F. If the wax is hard and impacted, it is unwise to use force, because the small hairs in the meatus will have become firmly embedded in the mass, and forcible removal may lead to infection of the hair follicles and will certainly cause pain during syringing. The wax may be softened by filling the meatus with almond oil for ten minutes every night for a week beforehand. Alternatively, the mass of wax may be broken up by filling the meatus with

Atropine Treatment of High Blood Pressure

hydrogen peroxide, for ten minutes beforehand. If the meatus is tender, pain can be relieved by filling the meatus for fifteen minutes with cocaine (alkaloid) 1 part, in 9 parts of water.

Foreign bodies.—Foreign bodies such as beads, pieces of match stick, peas, orange pipe and occasionally flies and beetles are found in the meatus. They occur more commonly in children and may cause intense pain. An attempt should be made to remove such foreign bodies by syringing with normal saline. The stream should be directed along the wall of the meatus which is not in apposition with the foreign body.

If a live insect is present, this may be killed before syringing or dropping spirit into the meatus. If the foreign body is impacted in a child's ear, the meatus can be straightened out by pulling the pinna upwards and outwards. Peas and beans tend to swell and are sometimes impossible to remove by syringing. They are best removed with instruments under anaesthesia.

Acute inflammation. In spite of the fact that some textbooks advocate syringing the ear during the early stages of acute otitis media, in my opinion syringing an acute ear can

serve no useful purpose, but, on the contrary, may lead to extremely dangerous complications. Pus should be gently nopped out from the meatus with small twists of cotton wool. The stalk of the twist is held in the forceps.

In acute otitis, media when the drum has been recently perforated, the infection is often confined by adhesion within certain limits in the middle ear. Syringing under pressure can easily force the infection into the epitympanic space or mastoid antrum.

Chronic inflammation.—Occasionally it may be necessary to remove desquamated epithelium and thick purulent discharge by syringing. This should always be done with extreme care, because solid particles may easily be washed through a large perforation in the tympanic membrane and may lodge in the Eustachian tube or aditus. It is a far better principle to mop out all pus very gently with twists of cotton wool. Desquamated epithelium following skin infection of the meatus, occurring without otitis media, can be softened with almond oil and removed by syringing. Occasionally the complete cast of the tympanic membrane is shed. Collections of wax do not occur when pus is present in the meatus. Pus rapidly destroys and removes all traces of wax.

Technique of Syringing

1. It is impossible for any patient to syringe his own ear with any degree of efficiency.

2. Children can be divided into three classes.—Those who can be persuaded to allow the doctor or the nurse to syringe the ear; tiny children who must be held firmly during syringing; and cases in which a light general anaesthetic will be the only solution. The young child can be held sitting across the lap of the mother or nurse. The mother or nurse holds the head gently but firmly against her breast with one hand, and with the other controls the child's hands. It is important to get the child interested in the proceedings and thereby gain its co-operation. The external meatus in the child is narrow and curved. The pinna must be pulled upwards and outwards to straighten the meatus.

3. In the adult the meatus is best exposed by pulling the ear backwards and outwards. The patient sits sideways, with his ear on a level with the doctor's eye. A head-lamp, or mirror with reflected light, enables the doctor to see what he is doing and leaves both hands free. An aural speculum is inserted into the meatus and the wax or foreign body inspected. It will be assumed that the wax, if impacted, has been already softened. For general purposes the best type of syringe is a rubber Higginson with a metal nozzle. The nozzle must be firmly attached to the syringe by tying it in with silk or wire; this will prevent the nozzle being forced out of the rubber tubing. The nozzle is held in the left hand and the bulb grasped with the right hand. The other end of the syringe dips into the solution of sodium bicarbonate. It is true that only one hand is needed for a metal syringe and the other can be used for pulling gently on the pinna to open the meatus, but metal syringes tend to stick and jerk at the wrong moment. They have to be refilled constantly, and it is difficult to be certain that all air is expelled even if the nozzle is held upright, and a little fluid expelled, beforehand. With a Higginson syringe all air can be washed out before hand, an even pressure is maintained, and the patient or a third party can hold the pinna. Care must be taken to see that the other end of the syringe does not come out of the solution. The end of the nozzle is placed just within the meatus and the flow is directed along the posterior wall but a glance will show that the stream is most efficiently directed along that part of the meatal wall which is not in apposition with the wax or foreign body.

Undoubtedly the best type of syringe is that. This works by gravity and the vessel containing the solution can be placed at the desired height to give the correct head of pressure. The flow of solution is continuous, and the apparatus can be used with one hand leaving the other free to hold the ear. Slight additional pressure can be brought to bear by pressing on the bulb occasionally, but it is impossible to use too much force with this syringe. Gentleness, patience and an occasional examination of the meatus with an aural speculum are essential. After syringing, the meatus should be wiped dry with twists of

cotton wool, and a drop or two of almond oil inserted if the removal of the wax or foreign body has caused any discomfort to the patient.

Calcium in the Treatment of Epididymitis

(From *Practitioner* London, Aug., 1936)

For a number of years various salts of calcium have been employed in addition to the usual measures in the treatment of acute epididymitis and other complications of gonorrhoeas. A. E. W. McLachlan recorded his experiences with this from of therapy. Various salts were employed: calcium chloride 5 to 10 c. cm of a 10 percent solution; calcium gluconate, 5 to 10 c. cm. of 10 percent solution, calcium laevulinate, 10 to 20 c. cm. of 10 per cent solution; calcium thiosulphate, 6 to 10 c. cm of 10 per cent solution. The chloride and thiosulphate can only be administered intravenously: the gluconate and laevulinate case no untoward vacation on intra muscular or deep subcutaneous injection. All calcium salts should be injected with extreme slowness, to obviate or minimize as far as possible the transient feeling of intense heat in the skin which comes on during or immediately after intravenous injection. When possible, calcium intra administered daily for three or four days, then on alternate days or twice weekly over a period of seven to fourteen days. It seems clear that both in epididymitis and in salpingitis the use of calcium curtailed the period of disability, relieved pain, and lessened the permanent tissue damage. Calcium salts must be given as early as possible after the onset of the complication and the routine measures such as rest, support of and hot and cold applications to the affected parts, alkaline diuretics and other well-tried procedures must not be neglected. Calcium appears to be of little value in shortening the normal course of gonococcal infection or in preventing complications.

Sedatives in the Treatment of Tetanus

Summarising his experiences in the treatment of tetanus, E. T. Freeman (*The Irish Journal of Medical Science*, April, '36 166) stresses the value of luminal and avertin in the control of the disease. Serum was given freely, but only by the intravenous and intramuscular routes as the intrathecal route was not considered advisable. Luminal was employed in all cases with excellent results, and it is claimed that its effect is like that of chloral but with an action much more prolonged and moreover it can be injected so that there is no difficulty in administration. Avertin was employed almost constantly for thirteen days in one patient, the dose being administered per rectum night and morning. Feeding was carried out by means of glucose solutions by the mouth, by the rectum or intravenously and it is necessary that all patients, however the trismus, should have a pint of glucose solution daily by one of these routes.

Intestinal Parasites

By F. M. B. ALEEN, M. D. M. R. C. P.

(Lecturer in Infant Hygiene and Diseases of Children,
Queen's University, Belfast;)
(*"Practitioner April '35"*)

The presence of parasites in the intestines of children is considered by some as a matter of little moment and is mentioned casually by the parent by others however the occurrence is regarded in a serious light, and various symptoms from which the child suffers are attributed to the presence of the worm or its suspected presence. With some mothers worms in their off spring become a parasitophobia.

General Symptoms. Symptoms which are commonly attributed to worms are restlessness at night, sleeplessness, grinding of the teeth, irritability of temper, picking the nose, dirt eating, poor or abnormal appetite, mucous motions, pallor, twitchings and even convulsions. It is true that such symptoms do occur in children in whom there are not any parasites, and it is probable that in the infected child most of these abnormalities are

due to the associated intestinal catarrh or the bad habits of the child, or to some local condition of the anus caused by scratching, especially in oxyuris infestation. On the other hand it should be remembered that certain worms, which are fortunately rare in this country, may cause severe disturbances, such as the anaemia associated with hook-worm infection. Some continental observers are inclined to attribute to worm infestation certain skin lesions, and it seems conceivable that worms may exude a toxin, more especially if the worm dies in the intestine and is not rapidly excreted. G. F. Still records a case of convulsions which ceased when the child passed a dead ascaris. Anaphylactic phenomena may also occur. General symptoms may arise during the course of infestation on account of the associated bowel disturbance, and it seems reasonable to expect that the abnormal motions, occasional colicky pain and disordered appetite due to the associated intestinal catarrh, will in turn undermine the general health. Symptoms of restlessness, fidgetiness and sleeplessness certainly arise from the local irritation around the anus and perineum, caused by the migration of the worms and their ova. A healthy bowel is not a suitable habitation for parasites, and therefore, successful and final eradication of them will very often depend on a full restoration of good general health and well being with normal bowel function.

The worms commonly found in the intestine of children of this country are: (1) thread worms (*Oxyuris vermicularis*), (2) roundworms (*Ascaris lumbricoides*), (3) tapeworms (*Toenia Solium* and less commonly *cucumenina* and *Toenia Nava*) (4) flagellate worms (*Lambli intestinalis*), now suspected of being a possible cause of certain obscure types of diarrhoeas, and (5) whip worms (*Trichocephalus dispar*).

Thread Worms.

The *Oxyuris vermicularis*, in its infestations, occurs in large numbers in the intestine. Each worm resembles a small piece of thread. The female is longer than the male, and measures about half an inch. The ova hatch as they pass down the intestine after ingestion by the mouth, and reach maturity in the lower small bowel, where they produce large numbers of ova.

Though the small intestine is their home of election many are continually being carried into the large bowel and passed in the faeces. Some, however, migrate from the rectum, and may be found around the anus, especially in the dirty child whose perineum is soiled with excreta. Re-infection occurs readily in such a child, whose hands become soiled with excreta containing ova, which lodges under the nails and elsewhere. Original infection may be due to eating food which has been contaminated by flies carrying ova from infected material, but also by toys, towels, handkerchief and pencils which have been soiled by an infected child.

Symptoms. The most prominent symptom is itching of the anus, especially at night when the child is quiet and warm in bed. Itching leads through scratching to injury of the superficial tissues surrounding the anus, and to restlessness and sleeplessness. In girls the worms may migrate or be transferred to the vulva, and so set up a vulva vaginitis. The worms may cause enuresis and frequency of micturition. Their presence draws the attention of the child to the perineal region and the genital organs and masturbation may be initiated. Colicky pains may also be associated with the presence of thread worms. Still has recorded that they are present in the appendix in a large proportion of autopsies, and the relation of appendicitis to their presence is unsettled. General symptoms arising from the presence of thread worms are few, except those attributable to the disturbed sleep caused by the nocturnal scratching. If there are large numbers of the worms, then there will be a corresponding increase in intestinal mucus, which will interfere with the absorption of food and result in loss in weight and in anaemia.

Diagnosis. Pruritus ani in a child should suggest the probability of thread worms and the mother will usually have information as to their presence. In cases under suspicion, or when a child is otherwise normal an enema should be given and the stool examined for worms or for their ova. Care must be taken not to mistake small portions of vegetable fibre for worms.

Prognosis. As it is difficult to eradicate thread worm infestation, treatment must be supervised for a period of six weeks. The co-operation of an intelligent mother or nurse greatly assists, and the prognosis is correspondingly good when such can be procured, especially in a child whose general health is good and who is not affected with any abnormal digestive condition. The absence of worms from the stool after a few days' treatment must not be regarded as a cure: the worms inhabit the upper bowel and breed there, and treatment must be persisted in until the worms in those upper reaches have been passed into the lower bowel and excreted.

Treatment. When instituting treatment it is useful to explain briefly to the mother the mode of infection and especially the ease of re-infection, so that she may realize that any omission to observe all the details of treatment may mean failure. The first element of treatment is the destruction of worms by the use of santonin combined with calomel. Tablets containing half a grain of each are given on alternate nights until three or four have been taken. This is the suitable dosage for a child of five years. In conjunction with this the lower bowel should be irrigated with a pint of warm water containing a large teaspoonful of common salt. The saline should be run into the bowel through a soft catheter, the child lying on the right side with the hips slightly raised and the buttocks held together to promote retention of the fluid in the colon for 15–20 minutes, thus ensuring that it reaches the caecum. Evacuation is then permitted, and afterwards, the child's perineum and anus having been thoroughly cleansed and dried, the anus should be anointed with an antiseptic mercurial ointment, such as 2½ per cent. white precipitate, or blue ointment. If there is much excoriation of the skin anaesthetic powder (5 per cent) may be added, or an ointment such as A. B. A. or ung. cycloform. co. (Bayer) used, so that there is an additional anaesthetic action available. The child should sleep in a night-gown, which is sewn up at the bottom, or in pyjamas to ensure that direct scratching of the anus is impossible. The child's nails should be kept very short lest ova find a concealed conveyance to the mouth, and the

hands should be scrubbed before all meals. Butolan (Bayer) is a useful vermicide for oxyuris and a child of six may take one tablet three times a day. This assists in destroying such worms as have already escaped and those which are in the upper intestine at the institution of treatment. Worms lodged in the appendix may be eradicated by butolan medication. Colonic lavage should be persisted in for six successive nights, and after an omission of one night should be resumed for six further nights. After an interval of one week, there should be a colon washout on three successive nights and if worms appear in any one of these, a further week's lavage should be undertaken.

Alternatives in treatment consist in the administration of chloroform, oil of chenopodium by mouth, or infusions of garlic quassia or bichloride of mercury by bowel, but the routine suggested above should be successful if attention is paid to the details outlined. It is advisable, however, to review the diet and to remove any articles which leave an excess of roughage, such as certain vegetables and coarse cereals which aggravate the intestinal catarrh. Some children are permitted to eat sweets in excess and at the wrong times, so that there is often a considerable amount of dietary regulation to be suggested. A general tonic of iron and arsenic may be useful to combat anemia, or a bitter rhubarb mixture may be indicated:—

	R/Ferri et ammon. cit	...	...	gr. iv
	Liq. arsenic	...	...	m ii
	Glycerin	...	...	m x
	Aq. chlorof. ad.	...	...	3 i
or	R/Tinct. rhei	...	...	m x
	Tinc. Nuc. vom.	...	...	m iv
	Mag. carb. pond.	...	...	gr. i
	Syrup.	...	...	m x
	Inf. gent. co. ad.	...	...	3 i

Round Worms

In appearance the round worm (*Ascaris lumbricoides*) is like the common earth worm. The female is larger than the

male, and varies from 5 to 10 inches in length, being yellowish-white or reddish-yellow in colour. It is not solitary and the passage of one worm usually means that there is at least one other present in the bowel, and perhaps more. The life history is not properly understood, but it is possible that the embryos develop outside the body and enter in the drinking water.

Symptoms. The ascaris is reputed to be notorious for its migratory habits, and it is recorded that one has travelled up the oesophagus and down the trachea into the lung where it has set up a lung abscess. It has been found impacted in the common bile-duct and it has perforated the intestinal wall and caused a peritoneal abscess. A unique experience may, however, be confined to the child who puts his finger in his mouth and draws out an ascaris!

It is with ascaris and taenia that the so-called symptoms of worms are likely to occur, but it seems to be just as likely that these symptoms are due to faulty diet and bad habits at meal times. Scepticism should not be expressed too forcefully, however, as it is possible that the presence of worms is merely one arc of a vicious circle of chronic catarrh, chronic indigestion, improper diet and bad dietary habits. Their presence may be suspected and an eosinophilia will confirm the suspicion: but usually the passage of one or more worms is the first, and perhaps the only, indication of their presence. Indefinite symptoms of ill-health in a child not satisfactorily explained otherwise calls for the administration of a vermifuge.

Treatment:—Santonin is the anthelmintic of choice and should be given combined with calomel, either as a powder or as a tablet:—

R/ Santonini	...	gr. i
Hydrag. Subchlor	...	gr. ii
Sacch. lact.	...	gr. iii
Fiat pulv.		

R/ Santonini	
Hydrag. subchlor. aa	... gr. i
Fiat tab.	

and followed by a saline in the morning, either a teaspoonful of

magnesium sulphate or a Seidlitz powder, magnesium hydroxide, or an effervescent fruit salt. It is advisable to secure a preliminary purge with a saline and to institute a fluid diet for twenty-four hours preceding the treatment with santonin. The active principle of santonin is soluble in oil, so that castor oil is not advisable as a purgative at any time during the treatment. Yellow vision and reddish urine may occur as a result of santonin administration, but is harmless. Its possibilities should however, be explained to the mother before giving the drug. It is said that some children are sensitive to Santonin and may vomit it, but such an event is rare. This treatment usually expels all the worms unless they happen to be particularly numerous. The stools should be examined for ova after fourteen days, and if absent after six weeks the child may be considered as clear of the infestation. In the event of santonin being inapplicable for any reason, oil of chenopodium may be used, one drop being prescribed for each year of age, and being given in capsule form.

Tapeworms

Tapeworm infestation is not common, but its occurrence is not to be regarded with equanimity, as the successful evacuation of the parasite is a matter of considerable difficulty. The commonest tapeworm in this country is *Toenia mediocanellata* (*saginata*) derived from meat, although *Toenia solium* from pork also occurs. The incidence of *Toenia cucumerina* from the lice of dogs and cats and of *Toenia nana* (dwarf tapeworm) is low.

The presence of the worm is easily recognized by the passage of masses of segments of the worm and the distinction of the type of worm is made by noting the characteristic features of the arrangement of hooks and suckers on the head. Uncooked or partially cooked meat is the usual source of infection, the lower animal acting as the intermediate host. Raw beef juice is a theoretical source of infection, but a much greater incidence in infants who are fed on raw beef juice would be expected if this were so, and it is known that the condition is rare in infants. The greater incidence in children seems rather to coincide with the partiality of children for sausages and partially cooked meats.

Symptoms. Parents recognize the unusual content of the stool (the passage of which will probably have alarmed the child) as a tapeworm, and it is then that any uncommon symptoms which the child may have exhibited during the previous months will be attributed to it. The superstition that the worm "comes out to feed at the full of the moon" is held in some parts of the country.

Treatment. Extract of male fern has long been recognized as a lethal agent for taenia, but its administration has not been attended with universal success for several reasons. Extracts, to be effective, must be freshly prepared, and this is not always possible. Further, the extract is irritating to the stomach and is liable to be vomited. Administration by capsule is only possible with older children, and impossible with many adults included. Dispensing chemists have exercised their ingenuity in devising prescriptions to render the drug acceptable; the following has been used with success:—

R/Ext. filices	...	...	m xxx.
Ovi vitell	...	...	q. s.
Syr, Aurant. ad.	...	...	3ss.

As the treatment may be ineffective for the reason that the stomach is intolerant of preparations of male fern, substitutes have, consequently, been sought. Pelleterin tannate has been used in doses of grains ii in powder, and seeds of pomegranate made into an infusion have been administered with partial success, but all of these, including male fern require a three days' preliminary treatment with purgation and low diet, so that the bowel is clear of as much extraneous matter as would possibly interfere with the action of the poison on the worm. A substitute which deserves an extended trial is tetrachlorethylene, as it is easily tolerated by the stomach, is readily taken by the child, has no other effects and does not necessitate three days' previous purgation. It is an oily substance, given in doses of 4 c. cm. for an adult, a child of eight years accepting 2 c. cm. readily. Administration is in a saturated solution of magnesium sulphate (1 to 2 oz.), by mouth, the oil being emulsified by repeatedly drawing it up into a serum syringe and ejecting it

forcefully into the medicine glass. Signs of intoxication have been recorded in adults, but so far I have not observed this in children. Six hours after administration a full dose of Epsom salts is given and the whole worm is usually passed in a few hours. Preliminary purgation is not essential, but a saline may be given twenty-four hours previously, and a low fat diet should be taken during this time, Tetrachlorethylene is soluble in oils and fats, and for this reason castor oil should not be used as an aperient subsequently.

In the event of administration of a vermifuge the evacuation should be received into a receptacle lined with black muslin to facilitate search for the minute head of the worm. As the head is only about the size of a pin's head and is darkish in colour, diligent search in more than one motion may be necessary. This is worth while, as it is only by the finding of the head at the time that indicates successful treatment. If the head is not found no further treatment should be considered until after a period of three months or the recurrence of segment of the worm in the stool is observed.

Alternatives are filmaron, which is a compound of filicin in castor oil and is given in doses of 2 to 4 drachms and thymol, which may be prescribed in cachets to children who can swallow it, in doses of $7\frac{1}{2}$ grains (for a child of six years).

Lambliia or Giardia Intestinalis

Attention has been drawn to lambliasis on account of its association with some forms of intractable diarrhoea. It is a flagellate organism which is conveyed by water contaminated by mice and rabbits, and has been associated with trench diarrhoea as experienced during the Great War. It is presumed that the population has a number of carriers of this organism, who are responsible ultimately for the spread of the infestation. Others regard the occurrence of lamblia in the stool as a secondary invader.

Symptoms:—In children the infection takes the form of an enteritis to which particular attention has been drawn in this

country by Miller. The stools are frequent and loose and contain undigested food and mucus. Peristalsis is increased so that there is insufficient time for proper absorption in the bowel and the stool is pale from excess of fat (although this does not reach the figures found in caeliac disease). At first there may be considerable increase in the number of the stools but this gradually decreases until the child is passing two, or perhaps three, in the twenty-four-hours. There are not any other symptoms.

Treatment:—This is difficult as no known drug appears to be successful. Rest, colonic lavage, bland diet, are all indicated. Organic arsenicals have been tried, and stovarsol administered by mouth has been vaunted. Others have recommended the administration of emetine as in amoebic dysentery. Colon lavage with weak solutions of quinine have recently been reported successful. The importance of the condition is that its discovery may prove the solution of a condition which may be mistaken for tuberculosis or coeliac disease.

Whip Worms.

Still records that, next to round worm, the whip worm (*Trichocephalus dispar*) is the commonest intestinal parasite in children, being present in 8 per cent of post-mortem examinations. The number of worms present is never very numerous, less than a dozen being found in a single case, and these usually associated with thread worm infestation. In appearance the worm is white, the caudal end being thick and the remainder resembling a finely drawn out filament. The worm attaches itself firmly to the mucous membrane by the fine head which is buried in the tissues. The ova are characteristic in shape being ovoids with a button-like projection at either end. They are sometimes encountered in routine examination of the stool.

There are not any symptoms directly attributable to the worm, although it is recorded that blood has been found in the parasite's alimentary tract. But the number of worms present is never sufficient to cause anaemia of any degree of severity.

It is conceivable that they may be implicated in diseases associated with injury to the intestinal mucous membrane and with appendicitis. The treatment is mainly that of thread worm infestation.

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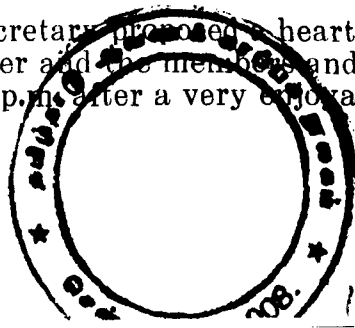
A monthly meeting of the above Association was held at 5 p.m., on Saturday the 22nd August 1936 in the Ceylon Labour Commission Office, Race Course, Trichinopoly when about 45 members were present. Mr. N. H. M. Bowden, Ceylon Labour Commissioner was 'At Home' to the members. After a sumptuous 'Tea' the Doctors were taken round the Colony by Mr. Bowden and shown the various places of interest such as the resting ward, the fly-proof-kitchen-room, the Sanitary cooking-room, the dining hall where about 150 emigrants are fed at a time. The Doctors were well impressed with what they saw and appreciated the care taken by the commissioner to look after the interests of the Emigrants.

Then the gathering assembled in the meeting hall. In the unavoidable absence of Dr. Norman, the Secretary proposed Capt. Sangham Lal, I.M.S., District Medical Officer to the Chair. Capt. Sangham Lal requested Mr. Bowden to speak a few words about the working of the Ceylon Labour Commission. Mr. Bowden spoke for half an hour as to how the emigrants were recruited and how they are sent to the Ceylon Tea estates and gave a very interesting account of the Ceylon Emigration. On the occasion Mr. Bowden issued a printed account of the working of the Institution with beautiful blocks and sketches and distributed them to all the members. The Chairman then called upon Dr. V. Iravatham of 'Thirukkattupally to speak on 'Experiences of a Practitioner in Burma'. Dr. Iravatham spoke for half an hour. In his humorous speech he gave a very interesting account of the history of Burma, about its people and their customs, and the places of interest in Burma. He mentioned in his speech that there was good scope for young and adventurous doctors and a good field for practice in Burma. The Chairman in his concluding remarks thanked Mr. Bowden for his kind invitation and for taking such kind interest in the welfare of the Ceylon-emigrants. He congratulated Dr. Iravatham for his excellent, interesting and humorous speech about Burma. He also gave some of his experiences during his short stay in Burma during the time of rebellion.

Then the Secretary proposed a hearty vote of thanks to the Host, the Lecturer and the members and the meeting came to a close, at about 8 p.m. after a very enjoyable evening.

TRICHINOPOLY,
23-8-1936.

P. A. S. RAGHAVAN,
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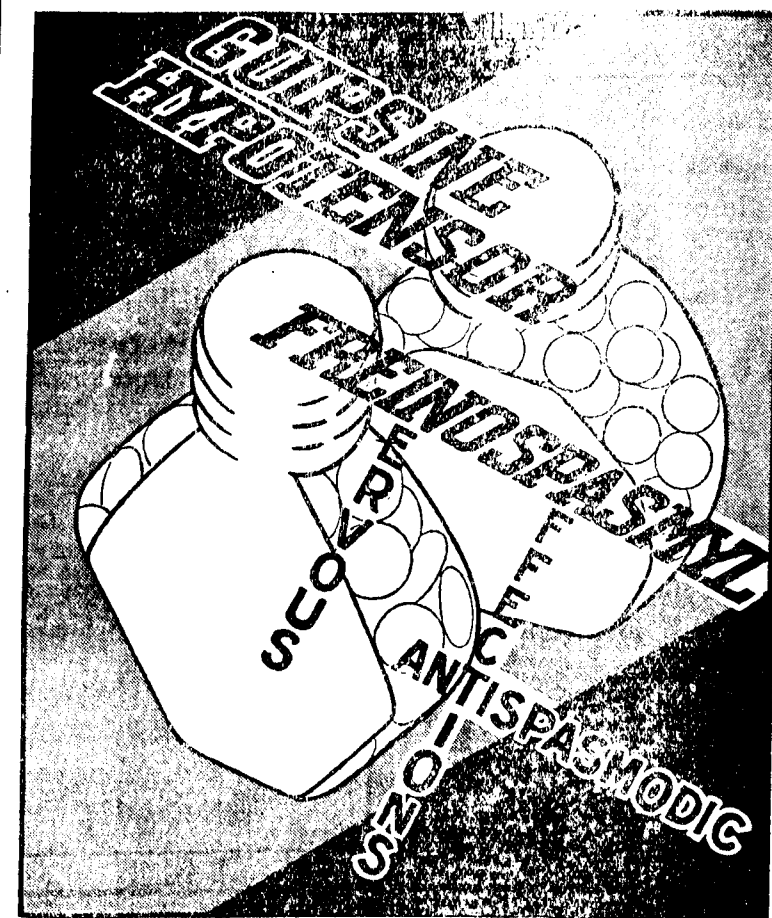
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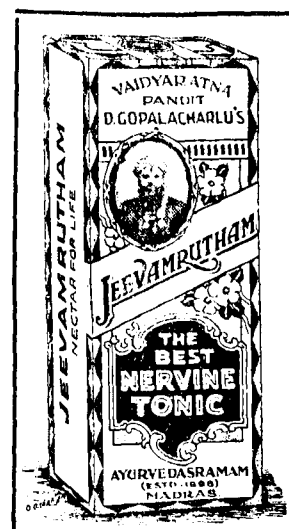
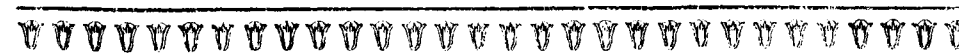
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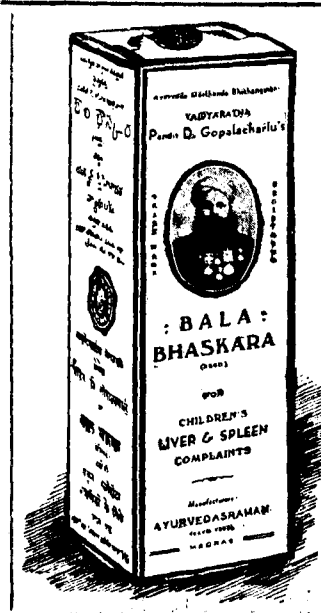
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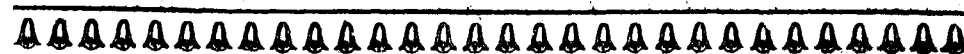
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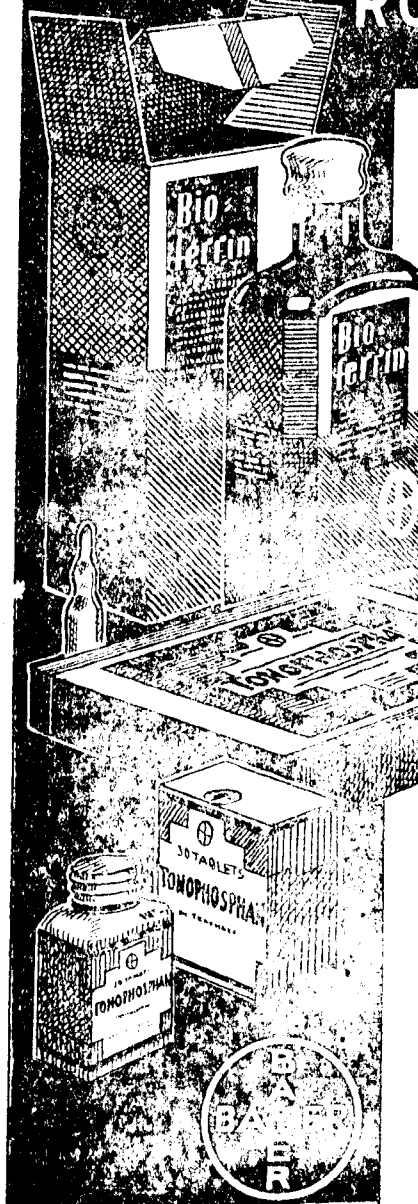
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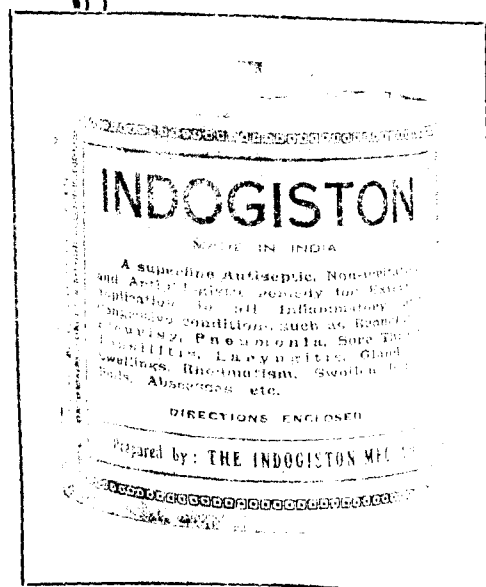
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SEPTEMBER 1936

Hypnotic Drugs.

By

L. I. M. CASTLEDEN, M.D.

(House Physician, British Postgraduate Medical School,
Hammersmith Hospital.)

Lack of sleep, or imperfect sleep, is so common a symptom that most practitioners have frequently to treat it, whatever their department of medicine may be. This, together with the fact that the list of hypnotics is constantly growing both in length and in complexity, makes it desirable to have some kind of working classification of these drugs from which a suitable one may be chosen and into which new preparations may be fitted as they appear. This article aims at an attempt to produce a simple classification of this kind. At the outset, it is well to remember that hypnotic drugs are not the only means available for producing sleep, neither should they be the first remedy to be considered. The normal physiology of sleep is not yet understood, but one of the simplest hypotheses is that put forward by Samson Wright, who states that it may be merely the damping down of the conductivity in the afferent and association paths of the nervous system. Such a conception, whilst probably not the whole truth, is of use to the clinician in that it serves as a reminder of the paths by which sleeplessness may come. There are the extero-ceptive impulses from the external environment of the patient through the surface of the body and the special senses; the proprioceptive impulses from the posture of or pressure upon muscles, bones and joints, and from the

large group of visceral stimuli amongst which the cardio-vascular, gastric and rectal are the most important. In insomnia due to these latter stimuli an alkali or carminative, if there is flatulence, or an enema, if the rectum is loaded, will produce sleep as readily as a hypnotic. Lastly there is the overactivity of the higher centres themselves, the psychic causes of insomnia, one of the commonest of which is the fear that sleep will not be obtainable and of the dire consequences that are likely to ensue. Correction of abnormalities in what may be briefly termed the external and internal environments of the patient may of itself prove to be a hypnotic measure. In spite of this correction, or because it cannot be wholly effected without them, recourse to hypnotic drugs will often be necessary.

The Ideal Hypnotic

This would have the following properties:—

- (1) It would be "light," that is to say, readily absorbed so that a reliable effect is produced at a regular interval after administration.
- (2) It would be rapidly broken down, but not too rapidly, or excreted so that, on the one hand, it would remain in the tissues long enough to ensure a sufficient length of sleep but, on the other hand, not so long as to cause drowsiness the next day or to produce cumulative effects if repeated daily.
- (3) It must not produce side actions either unpleasant, such as preliminary excitement and gastric irritation, or dangerous, such as cardiac or respiratory depression.
- (4) There must be a sufficient margin of safety between the therapeutic and toxic doses.
- (5) The drug must not produce tolerance or habit when administered over long periods.

No drug possesses all these qualities or ever will, but each new hypnotic as it appears is said to be nearer the ideal, and there is a real danger that the old, well-tried and reliable remedies are apt to be forgotten in the admiration of the new hypnotics. Most of the new hypnotics are barbiturates; for this and other reasons they are best kept in a group by themselves. If the

opiates are also placed in a separate group, the remainder will be chiefly composed of the older drugs. These can be considered under the heading of mild and powerful.

The Mild Hypnotics

(1) The analgesics, *phenacetin*, *phenazone*, *amidopyrin*, apart from allowing sleep by removal of a neuralgic or myalgic pain, have a definite mild hypnotic action. Particularly is this so with *aspirin*, which for most adults and nearly all children is hypnotic.

(2) The *alcohols* would come into this group, though their use for this purpose, except in the case of elderly debilitated patients who are already habituated to them, should be deprecated. *Amylene hydrate*, an alcohol with more hypnotic action than the rest, has fallen into disuse on account of the preliminary excitement it may induce.

(3) The *bromides*, though really sedatives, are useful in the insomnia of over-work, worry and agitated states. They are rapidly absorbed and more slowly excreted and so may give rise to some depression on the following day. They act by virtue of the bromide ion and so there is nothing to choose between the various bromides at our disposal. The slowness of excretion is due to the fact that the kidney cannot distinguish between chloride and bromide and so both are eliminated in the proportions in which they are dissolved in the tissue fluids, a property which is employed when it is desired to hasten the excretion of bromide. *Sedobrol* and similar proprietary preparations are broths containing sodium bromide in place of sodium chloride.

(4) The urea derivatives (other than the barbiturates) are *carbromalum* (*adalin*) and *bromural*, which, as their names suggest, are bromide urea compounds, and *sedormid*, which has no bromide in it. These substances are mild and light hypnotics, rapid and pleasant in action and without after-effects. *Bromural* has recently been revived by one of the drug houses and is being pushed as a safe hypnotic which is not a barbiturate; these claims are of course true.

(5) The carbamates, examples of which are *urethane* and *hedonal* are so mild that for some adults they do not seem to be sufficiently potent. They are rapid, safe, have no after-effects, and can with advantage be used for children.

The Powerful Hypnotics.

(1) *Paraldehyde* is well known and much used. It operates quickly, has no unpleasant after-effects, and the sleep it gives lasts several hours, being quiet, refreshing and dreamless. It has no depressant action on the heart or respiration and is of special value in delirium tremens for these reasons and also because it is closely allied, chemically, to alcohol. The only danger in its use seem to be in cases of acute nephritis or when there is advanced cirrhosis of the liver. Objections to its use are the nasty taste and the odour it gives to the breath. These cannot be overcome but the former can be mitigated considerably by giving the drug as an emulsion in which form it is a much elegant preparation than when merely added to water: 120 minims of paraldehyde can be mulsified in one ounce of water by the addition of 30 minims of tincture of quillaia. The best flavouring agent is liquorice.

(2) The sulphone group, *sulphonal*, *trional*, has justly become unpopular for the action is uncertain, both on account of the slow absorption and also because such drugs act better in some individuals than in others. Excretion of this group, is slow, producing drowsiness the next day and a liability to cumulative effects if repeated doses are given. All members of this series are liable to produce liver and kidney damage and haemato-porphyrinuria.

(3) The halogen derivatives are some of the most useful sleep-producing drugs available. It used to be taught that they depress the heart in varying degree and should therefore be used with caution if this organ is feeble, but recent work has shown that they exert no toxic action on the cardio-vascular system in therapeutic doses. All are gastric irritants unless given well diluted. None of them is of any use if insomnia is due to pain. *Chloral hydrate* is typical of this group. It is

fairly rapidly absorbed, certain and reliable in action and very useful in simple insomnia or in that due to overwork or worry, especially if combined with bromide. Children take it well. A useful preparation that is not used so much as it might be is syrup of chloral which contains 10·9 grains in 60 minims. *Chlorbutol*, better known as chloreton, has come to be associated with the treatment of sea-sickness and with its properties as a local anaesthetic, but it is a good hypnotic, having the same properties as chloral with less toxicity and less gastric action. *Chloralamide*, another member of this series, is an excellent hypnotic.

It is, however, very insoluble, this property probably accounting for its lack of popularity for, unless given in suitable form, absorption and therefore action may be much delayed. There are three ways in which chloralamide may be given:—
(a) As a powder, the patient being instructed to dissolve it in a little whisky and then to add water. If this method is used then the prescription must be for Pulv. chloralformamidi. Should crystals be dispensed, as they may be if the powder be not specified, the patient, after stirring for some time, will either leave the dose at the bottom of the glass or, if conscientious enough to wash it all down, will spend a wakeful night and sleep most of the following day. (b) Each 60 minims of spiritus vini rect. added to one ounce of water will take up 10 grains of chloralamide in the cold. There are obvious pharmacological objections to such a mixture if a fairly large dose is intended. (c) Tincture of orange, 60 minims with an equal quantity of simple syrup to each ounce of water will take up 30 grains chloralamide with 30 grains of bromide as well, is as much as is ever required of this useful mixture. The only way to get the drugs into solution is to dissolve the chloralamide in the tincture with gentle heat and then to add the other ingredients dissolved in the requisite amount of water. Chemists seem to be afraid to heat chloralamide because heat dissociates it, but the temperature at which this happens is 130 degree F. which is above the boiling point of alcohol.

Opium

Opium and its derivatives are so well known and so widely used as to need only a brief mention. They are all pre-eminently anodyne in action and are therefore the drugs of choice in the insomnia which is dependent upon painful conditions. They are also indicated in the sleeplessness which is associated with heart disease. Apart from these indications they are not good hypnotics. *Nepenthe* is an elegant and useful preparation one third less strong than the official tincture and without the latter's resinous messiness when diluted. It has the advantage that its name does not suggest an opiate to the uninitiated patient so that it may be added to mixtures containing soluble hypnotics when it is desired to impart some with relieving quality to them and later withdrawn. *Omnopon* and *opoidice* are preparations of the total alkaloids of opium which are said to give fewer of the side actions such as nausea and constipation. *Omnopon* is certainly less nauseating to most patients who are affected that way by morphine. *Spasmalgin*, contains a derivative of atropine, papaverine and *omnopon*. *Trivaline* is morphine and cocaine valerianate. *Dilaudid*, a new preparation, is said to have all the pain-relieving properties of morphine without having any other action. This unfortunately is only partly true but appears to be more correct than the similar claims for *omnopon*.

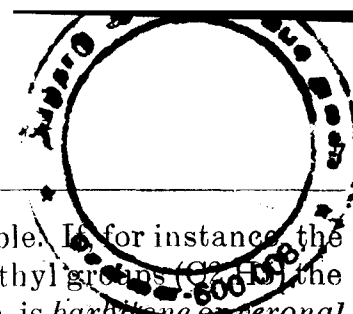
The Barbiturates

These drugs are best kept in a class by themselves because they exhibit properties and actions characteristic of a group which contains in itself a practically complete range of hypnotics. They are all substitution products of malonylurea which is itself the product of the union of malonic acid with urea.

The malonic acid end of malonylurea has two hydrogen-atoms either or both of which can be replaced by organic radicles, which may be of the paraffin series, methane, ethane, or propane having one, two, three and so on carbon atoms in an ascending scale, or of the phenolic C₆H₅ group, or again of the acetylene series, e.g. allyl with three carbon atoms. It is obvious from these few examples of possible linkages that a great many

permutations and combinations are possible. If for instance the two hydrogen atoms are replaced by two ethyl groups (C₂H₅) the compound so formed, di-ethyl malonylurea, is *barbitone* or *veronal* itself. All such substitution products of malonylurea have a hypnotic action and it would seem that the fewer extra carbon atoms that are attached the lighter, i. e., quicker and shorter acting, the hypnotic will be, and, conversely, the more carbon atoms the heavier. A rough rule for guidance is that an ethyl or methyl group in a barbiturate makes it a light one whilst a phenyl group makes it heavy, and these groups are the most common ones to find, in association with others, so that by looking at the proper chemical name of the drug, which is always printed somewhere on the package or in the literature, usually in microscopic letters, some idea can be obtained of its probable action. Examples of this are soneryl, a useful light hypnotic which is butyl-ethyl-malonyl-urea, whilst pheno-barbitone is *luminal*, so heavy, i. e., long and slow in action, as to be almost useless as a hypnotic but invaluable for other purposes because of these very properties.

Some barbiturates are soluble but most are not. If the sodium salt of any of their compounds is made it becomes soluble and therefore has its rate of action accelerated because solubility increases both absorption and excretion. An excellent example of this is *evipan* which has two methyl groups and which is rapid in taking effect and transitory in the drowsiness it produces. It is applicable to those patients who wake at 3 or 4 a.m. and cannot get to sleep again. Four grains by the mouth will produce three or four hours more sleep and the effects of the drug will be gone by the time the patient wakes again. *Evipan Sodium* on the other hand, is so rapidly diffusible on account of the increased solubility that when injected into a vein its effects are over in about twenty minutes. There are about 168 barbiturates that can be used in medicine and it is possible in so short an article to mention only a few of them. Some have been dealt with as examples of the common structure, others in frequent use are *hebaral-sodium*, the soluble sodium compound of hexyl-ethyl-malonylurea, which is light, efficient and reliable, giving no heaviness the next day. It is an



excellent preparation for bedtime use. Others are *dial*, which though light is not so mild a drug as it is popularly supposed to be, barbitone itself and its sodium salt *medinal*, *phanodorm*, *pernoton*, and so on through the series to the really heavy members, such as *luminal*, *luminalsodium* and *prominal*. Certain barbiturates have found a special use in inducing sleep before anaesthesia, *nembutal* being the best known example. It is said that hebaral-sodium is useful in this respect and does not cause the excitement not seldom seen after *nembutal*, and that amytal-sodium is particularly indicated for premedication in children. This last drug has a special indication in that it may be given by intramuscular injection of an aqueous solution of three grains to calm the almost maniacal excitement sometimes seen in cases of exophthalmic goitre.

Idiosyncrasy to barbiturates is said to occur in 3 per cent. of people, and toxic effects may arise from the administration of quite small doses. These may take many curious forms a few of the commonest being:—

(1) In the skin, (a) Urticarial wheals. (b) Bullae. (c) Morbilliform or scarlatiniform maculo-papular erythema. (2) Alimentary. (a) Anorexia. (b) Nausea. (c) Epigastric pain. (d) Diarrhoea. (3) Nervous. (a) Defects of attention and memory, hence their use as basal narotics, and hence, also, their danger if patients are administering the doses themselves. (b) Lassitude, fatigue and backache. (c) Confusion, delusions and hallucinations. (d) Diplopia, nystagmus, ataxia and even coma. (4) Most barbiturates are cardiac depressants of more or less serious nature, and all cause some fall of blood pressure.

An interesting recent development is that, by joining the barbiturate radicle to a metallic base, instead of to sodium, its toxicity and depressant action is diminished. *Calcium phanodorm* has been made, and more of such compounds will be produced in the near future. This detoxicating effect is not limited to this group of drugs. *Calcium aspirin*, for instance, is said to be less toxic, though no less analgesic, than plain aspirin.

In spite of severe criticism of their administration the malonylureas have established themselves as useful and reliable hypnotics, as reasonably safe as most potent medicines if wisely used, and out of the controversy that has reged around them certain rules for their administration have emerged:—

(1) Obese or debilitated patients or those with liver or kidney disease tolerate them badly. (2) Patients with arteriosclerosis, myocardial disease or very low blood-pressure react badly to the shorter acting drugs. (3) Never repeat, for hypnotic purposes, a dose of a barbiturate. (4) Never mix barbiturates. (5) Never give them before, with, or after an opiate. To which excellent rule there is an equally good exception, namely, that *medinal* and *nepenthe* go very well together. (6) They are better not prescribed in tablet form but in a cachet, as a powder, or best of all in solution. Substitution or reduction of the dose is then possible, which it may not be if the patient has become habituated to a trade-marked tablet.

Mixtures

Hypnotic drugs are good examples of synergism and for this reason many blendings of them have become traditional, such as pot, brom. and chloral, and all practitioners discover favourite mixtures of their own. In their search for a sleep-producing drug, with pain relieving qualities, which is not an opium-derivative, the drug houses have put many proprietary preparations on the market which are mixtures, usually in tablet form. *Allonal*, *Cibalgin*, *Veramon* are examples of a few. Most of them are mixtures of amidopyrin plus a barbiturate, despite the fact that recent work has demonstrated the danger of amidopyrin. There is usually too little analgesic in one tablet and too much barbiturate in two; it is better therefore, if desired, to use such a preparation to prescribe a personally-tested mixture of analgesic and hypnotic.

In fact the form in which they are given and that the time of their administration may affect their action, the hypnotics are no exception to other drugs. Solution accelerates their action as does administration at a time when the stomach

is empty. It is common to hear patients complain that a preparation upon which reliance can be placed has failed to act when in reality what has happened is that it was taken immediately after a late and heavy meal. For similar reasons if the drug is given in a solid form, particularly as a tablet, the patient should be instructed to take a good draught of water, and not merely sufficient to wash it down.

(Thanks are due to Prof. F. R. Fraser for his help and criticism in the construction of this paper.)

(From the "Practitioner" September 1936).

Treatment in General Practice.

Treatment of Diabetic Coma.

In this insulin era diabetic coma is becoming a rare condition and theoretically should never occur.

Diagnosis.

The differentiation between diabetic and other comas is easy if the rule of a routine test of urine-obtained by catheter if necessary—is not omitted in all severely ill and unconscious patients. Albuminuria is always present in diabetic coma, and its finding should never be allowed to suggest a renal condition until the urine has been examined for sugar and acetone. Confusion may most easily arise in known insulin cases between true diabetic coma (ketone intoxication) and unconsciousness from an overdose of insulin.

Table I.

	DIABETIC COMA.	INSULIN COMA.
Onset	Gradual	Very sudden
Tongue	Dry	Moist
Respiration	Deep air hunger	Quiet
Skin	Acetone in breath	None
Dehydration	Dry: blue colour	Sweating common
Pulse	Marked	Absent
Blood pressure	Rapid; feeble	Normal; bounding
	Low	Normal

	DIABETIC COMA.	INSULIN COMA.
Eye tension	Usually low	Normal
Nervous system	No pathognomonic signs	Convulsions frequent
Chemical tests:		
Urine sugar	Plus Plus Plus	Nil or trace
Ketones	Plus Plus Plus	do.
Albumin	Very common	Very rare
Blood sugar	Very high	Very low

It should be remembered that in insulin coma some sugar may be found in the first catheter specimen, because this was secreted into the bladder perhaps some hours before, when the blood sugar was high. But the next sample obtained from the indwelling catheter will be sugar-free. If any doubt remains about diagnosis an unconscious diabetic should be immediately treated with sugar (1 oz.) for hypoglycaemia. This should abolish the insulin coma within fifteen minutes, will do little if any harm to the diabetic coma, and gives time to think and decide any further treatment.

Coma and Precomatose Conditions.

Diabetic coma is due to the poisons of disordered fat metabolism (the acetone or ketone bodies) which accumulate in severe diabetes whenever insufficient sugar (glucose) is being metabolized. The treatment therefore consists in burning large amounts of sugar by large and repeated injections of insulin. Besides this it is necessary to treat the dehydration and circulatory collapse which is usually present. Precomatose cases that can swallow and retain sugar and fluids can be easily treated at home.

If vomiting has been present washing out the stomach may stop it. Regular amounts of carbohydrate are given by mouth, and the insulin is started with 40 units intravenously and continued four-hourly. Urine is tested every four hours. Abundance of fluid should be taken by mouth.

Apply warmth and complete rest, as in all cases of collapse. Strophanthin, 1/100 grain; coramine, 1-2c. cm; caffeine, 3 grains; adrenaline, 3 minims—subcutaneously and repeated. Bicarbonate of soda is not essential, but hastens the removal of the

acidosis (2 drachms four-hourly up to 1 oz in total). The bowels should be opened by aperient or enema, Sepsis and toxæmias must be sought for and treated.

Some patients may be seen for the first time in profound coma, with intense dehydration and circulatory collapse, a rapid and almost imperceptible pulse, and a blood pressure under 70 mm. Hg. In such cases large amounts of intravenous normal saline are immediately necessary. One or two pints is not enough. It should be continued in whatever amounts are necessary to restore the eye tension and bring the blood pressure over 100 mm. Hg.

Difficulties in Desperate Cases.

A not infrequent complication is oliguria or even anuria when the bloodpressure is extremely low or dehydration extreme.

(From the *British Medical Journal* July 11th '36).

Sodium Sulphate

By

DR. A. GREVILLE YOUNG, F.R.C.S. (Ed.) D.T.M.,
Church of Scotland, Hospital, Jalna (Deccan).
(From the '*Antiseptic*' September '36.)

SODIUM sulphate is one of the most useful of drugs if indeed such a simple salt can be called "a drug."

If we look in a *Materia Medica* Book we shall not see much, if any, account of its use externally but actually it is most valuable in the treatment of wounds, especially septic wounds. A 12% solution is the optimum strength. Gauze is soaked in this and applied to the wound and over it jaconette or rubber to prevent evaporation. If the patient is provided with a bottle of the solution he can pour down a little at the side of the dressing in order to keep it wet and thus further enhance its drawing power.' This is not absolutely necessary and a daily dressing usually suffices. One so often sees patients with septic wounds on which have been plastered ointments or strong antiseptics which have little value or may even do harm. What is required

is some solution which has the power of drawing the pus by osmosis without damaging the healthy tissue cells. The sodium sulphate dressing is both comfortable and cheap. It can be applied by any practitioner, or, for the matter, by any lay person without any fear of damage to the part, and its results in cases where there is pus are, in my opinion, superior to flavine, eusol, hydrarg perchlor and all the usual antiseptics.

Internally the drug is well known in India for its value in bacillary dysentery; 60 grains of sodium sulphate with sodium bicarbonate grains 10 every hour or every two hours often acts like a miracle in clearing up dysentery of the bacillary type, and should always be resorted to before emetine unless there is unmistakable evidence of amoebic dysentery by microscopic examination of the stools.

The value of sodium sulphate over magnesium sulphate is that it may be combined with an alkaline in solution. This is especially useful in the case of children suffering from enteritis, where a milk alkaline solution with sodium sulphate grains 15 per dose for a child of 1 year is indicated.

Thus to summarise, sodium sulphate inside and out may be a wonderful remedy in the Indian Home. It costs only 2 annas a pound. It may be used in a 12% solution (4 teaspoonfuls to the average cupful of water) as a dressing for any wound; as a strong purge in a dose of 4 teaspoonfuls, and as a specific in bacillary dysentery in doses of one teaspoonful every hour or so.

There are many fancy and expensive medicines on the market but here is a drug costing practically nothing which is of the utmost value. Let it not be despised.

Tests for Hyperthyroidism.

(From the American Medicine through 'Antiseptic' September 1936.)

I, Bram in an article entitled: "The Quinine Test for Hyperthyroidism", in the Journal for *Laboratory and clinical Medicine* for November states that while the recognition of typical exophthalmic goiter or Grave's disease is devoid of difficulties, the many atypical cases require laboratory tests for confirmation of the diagnosis. In 11 per cent of his series, both exophthalmos and goiter were absent at the time of the primary examination. Aside from the basal metabolism test, which, under proper conditions is quite dependable, there are several other tests. Among these are: the adrenalin test, Kottman test, the blood iodine and blood cholesterol tests, the impedance angle test, and the quinine tolerance test described by Bram in 1920. Bram states that in his experience, the most dependable tests for hyperthyroidism are: (1) the experience and five senses of the doctor himself, (2) the basal metabolism, and (3) the quinine tolerance tests. Bram, in a series of over 4,000 cases of hyperthyroidism (with and without Grave's disease), found that over 95 per cent tolerated from 30 to 90 grains of quinine sulphate daily for weeks without evidence of cinchonism. The relative immunity to cinchonism lent itself to the adoption of the test, whose technic is: The patient is given 12 capsules each containing 10 grains of quinine hydrobromide or sulphate, with instructions to take one capsule three times a day. If after 4 days, there are no evidence of cinchonism, the individual's reaction may be considered positive for hyperthyroidism. When 20 or 30 grains have been taken by persons in whom thyroid function is normal or deficient, symptoms of cinchonism develop. A sense of fullness in the head, impaired hearing with tinnitus, occasional dizziness and headache, less frequently gastric and bladder disturbances are experienced. If however, the patient is suffering from hyperthyroidism, the daily administration of 30 grains of quinine may be continued with impunity for months, and often with improvement of the clinical picture. The merits of the quinine test are its simplicity, relative dependability, and cheapness. The results are not affected by emotional disturbances nor errors in technic, as may happen in basal metabolism tests.

The Abuse of Tonsillectomy

(Clinical Journal September 1936.)

Mr. T. B. Layton points out that tonsillectomy is still too frequently performed. The operation should be confined to cases with local evidence of sepsis. Recurrent sore throats, due to follicular tonsillitis, cease after removal of tonsils. Only in these cases can improvement be obtained in rheumatoid arthritis and on the whole the results are disappointing, in this disease. In the two lethal diseases of childhood, acute rheumatism and nephritis, no benefit is obtained. Indeed in all children under 5, and perhaps under 8, the removal of tonsils seriously impairs resistance to the general infection, which produce severe sore throats, colds and shotty glands in the neck. This particularly applies to the type of operation in which the pharynx is practically flayed of lymphoid tissue and a thorough adenoid operation is performed. In the children of the well-to-do not much harm is done, though catarrhal deafness my result. In the children of the poor, living under unhygienic conditions, the results may be serious, and vary from fading away of the child for no apparent reason to chronic nasal catarrh. Removal of tonsils seldom cures recurring colds, and may make them worse. Nor does it cure otitis media, and this is extremely difficult to cure in a tonsillectomized child, especially if a "flaying" operation has been done. In adults conservation of the lymph tissue is not so important, but in one condition it is necessary—in persons with a large nasal airway, a large naso-pharynx and an oro-pharynx in which the soft palate hangs down at an undue distance from the posterior pharyngeal wall. They have large red tonsils, as though Nature tried to limit the cross-section of the airway. The removal of these makes the symptoms much worse.

The Treatment of Tetanus.

(From the 'Clinical Journal' Sept., '36)

Dr. Leslie Cole points out that antitoxin prophylaxis for all deep and infected wounds has altered the type of wound which causes tetanus in civil practice to slight superficial wounds, which, though infected, have not been properly cleaned—mild whitlows in agricultural workers, and superficial abrasions in children which have been allowed to scab over. There forms a cavity full of pus, in which the anaerobic tetanus bacillus germinates. The presence of foreign bodies in the wound favours this.

It has long been known that the prognosis of tetanus depends on the length of the incubation period, but its calculation is open to the fallacy that the wound may have been infected some time after infliction. Another measurement of value is the interval from the occurrence of the first symptoms to the first generalized spasm, which Dr. Cole calls "the period of onset." In his own series of 25 cases he found that if the incubation period, is more than 7 days, the period of onset is more than 2 days and the combined periods are less than 9 days, recovery is unlikely.

Antitoxin treatment should be begun as soon as possible. The intravenous route seems to be the most rapid, and therefore the best method of bringing antitoxin into the general circulation and probably in contact with the nerve cells. The intrathecal route appears to be inferior and has serious disadvantages. Fluid introduced into the theca tends to pass out by the arachnoid villi, and not to the nerve centres in the cord, moreover, it has been held that toxin which has reached the central nervous system is inaccessible to antitoxin. Dr. Cole favours one large intravenous dose of antitoxin (usually 200,000) given as soon as possible, with the sole idea of preventing further absorption of toxin from the blood and lymph.

Treatment of the wound is important, as toxin is probably still being formed there. But the wound should not be disturbed until the antitoxin has had ample time to reach the tissues and

neutralize any further toxin which is being absorbed. Exacerbations have followed operation on a healed wound, and the removal of a foreign body from old war wounds has produced tetanus, probably by stirring up and releasing pent-up infection. Therefore, Dr. Cole is careful not to disturb any wound for at least an hour after the intravenous injection. After this thorough local treatment is important. All scabs should be carefully removed, foreign bodies and septic material evacuated, and the wound syringed with hydrogen peroxide. In some cases excision of the edges of the wounds may be desirable, and penetrating wounds should be opened up. Whitlows should be incised, and if the nail is involved it should be removed. Light dressings which do not exclude the air should then be applied 4-hourly. Care should be taken to avoid superficial healing.

To control the reflex spasms patients should be kept as quiet as possible in a darkened room on a water-bed, with the bedclothes cradled. In mild cases, in which there is only tonic rigidity without reflex spasms which are dangerous. Directly they appear every effort should be made to control them. Avertin is the best drug for preventing them and relaxing the jaw. Given rectally in doses of 0.07 to 0.1 c.c. per kilo of body-weight, it usually stops reflex spasms and relaxes the jaw for 4 to 6 hours. As soon as the spasms begin to return a dose, judged by the effect of the previous one and the severity of the spasms, should be given. Severe spasms involving the respiratory muscles and threatening suffocation are an indication for a large dose. Doses usually have to be given at intervals of 6 to 8 hours. The only ill-effect which appears to be due to avertin is shallow rapid respiration about 10 minutes after administration, and slight cyanosis may appear after half an hour. Hence it may be advisable to inject atropine hypodermically, and to give warmed nasal oxygen for the cyanosis. At night paraldehyde in doses up to 6 drms. may be given rectally to produce sleep and relaxation. For sudden respiratory spasm nitrous oxide and oxygen, or even chloroform or ether, may be necessary until the basal anaesthetic takes effect. But repeated use of the two latter is undesirable.

Out-Patient Treatment of Leprosy.

(By Dr. ANIL CHANDRA ROY, *Leprosy officer, Mayurbhanj State.*)

Many doctors do not treat-leprosy in an outdoor dispensary for want of knowledge on the subject. There are numerous charitable and private dispensaries in this country and if the medical officers take up treatment of leprosy, as they treat other diseases a long felt want will be removed and the shadow of leprosy will gradually vanish from this land. Though leprosy has been grouped under infectious diseases, it is not so very infectious like other disease of the same group. If cases are recognised early and induced to come on some particular week-day there may be no dearth of patients to start a clinic. Sometimes it is complained that leprosy cases do not come for treatment in dispensaries. This is partly due to the fact that no specific remedy for leprosy is known and the medical officers often refuse to treat such cases. A kind and sympathetic doctor will always attract cases.

Management of Outdoor Clinic.

Two kinds of clinics as recommended by the Calcutta Leprosy Conference, March 1933 are necessary.

(1) *Wholetime or special clinic.* It should be located in District or sub-divisional head-quarters and a wholetime medical officer with special knowledge on the subject should be maintained. The clinic should work four days in a week; two days for treatment of leprosy and other two days for laboratory work, recording of new cases and preparation of special drugs such as ester and hydnoceol. On other days the staff may take up preventive work such as survey, follow-up cases and propaganda. The clinic should have sufficient accommodation and should be provided with adequate general medicines, special drugs, equipment for performing Kahn's test and sedimentation index, ester making apparatus, special treatment cards, necessary surgical instruments and a microscope. It should also have propaganda materials such as magic lantern with slides, wall charts, pamphlets and leaflets dealing with the disease.

(2) *Branch Clinic.* In such clinics the patients are treated by the dispensary doctors in addition to their own duties in

general dispensaries. Only the special drugs, treatment cards and some necessary instruments are required to carry on the work. These doctors should have some training in Leprosy before they are given the charge. These clinics should work in collaboration with the special leprosy dispensary. The following special drugs and other articles are necessary for a whole time clinic.—1. Oil hydnocarpus wightiana (pure), 2. trichlor acetic acid, 3. pot. antimony tart., 4. mercurochrome, 5. avenyl, 6. creosote double distilled, 7. absolute alcohol, 8. acid sulphuric pure, 9. calcium gluconate, 10. Kahn antigen, 11. syringes (record), 12. stout and guarded intradermal needles, 13. surgical instruments with ear trimming forceps (Muir), 14. Microscope, 15. Kapadia steriliser, 16 Kahn apparatus (complete set), 18. ester making apparatus, 19. special treatment cards, 20. propaganda materials:—magic lantern with popular slides, wall charts, pamphlets, leaflets and village survey cards.

Selection of Suitable Cases.

Selection of suitable cases for treatment is of prime importance in an out-patient clinic. Very advanced and reacting cases are unsuitable for treatment in such a clinic. Great improvement can be shown in early cases within a short time which will have stimulating effect on new comers. On the other hand ill-response to treatment of advanced cases will have harmful effect. So, it is a wise policy to confine treatment to hopeful cases only in an outpatient clinic. Though more advanced cases do get benefit from treatment yet their permanent damages will remain as such which will dishearten the patient.

Case Taking and Recording of Lesions.

As we have said before, each clinic should have special treatment cards with body charts and other data for case notes. Every case should be thoroughly studied. The lesions of leprosy as found on clinical examinations are to be noted. Family history, type of the disease, predisposing factors, onset, progress and duration of the disease should be thoroughly recorded. Sample of such treatment cards can be supplied on application.

For co-ordination of work we should request our readers to follow the methods of charting as described in the leaflets available from the Hon. Secretary, British Empire Leprosy Relief Association.

All patients should be explained at the beginning about the long course of treatment which will be required for recovery. In order to find out predisposing causes, a careful study of the case is necessary and serological and bacteriological findings will greatly help in detecting the underlying factors.

Treatment of leprosy consists of both general and special measures and should include, besides treatment of complicating diseases personal hygiene, diet, exercise and mental welfare.

Results of Treatment.

It is desirable that every case should be periodically examined for ascertaining the results of treatment. A half yearly note of this finding should be recorded in the special treatment cards. The following terms are generally used by us to denote the progress.

1. Active stage, 2. improved, 3. much improved, 4. controlled, 5. arrested or cured.

1. All cases with full activity of the disease as demonstrated by the clinical as well as by the usual method of bacterial examination.

2. The patient feels better and the signs are gradually abating.

3. Signs almost disappeared and no new lesion appears.

4. Signs have disappeared and no further activity of the disease as evidenced by clinical or bacteriological examination is present over a period of 6 months.

5. After a period of 2 years, controlled cases may be declared as arrested or cured.

Observation and follow up cases.

These should form a part of the duty of a special clinic. Patients whose diseases have become arrested should be kept under observation. Open cases as well as cases which have

discontinued treatment should be followed up periodically. Every clinic should also aim at the preventive side of the work. Open cases should be explained about the infectiousness of the disease, the way of transmission, the importance of home segregation and also the precautions they should take to save others from getting the infection. They should be further warned about the susceptibility in children and adolescents. Their children and other members of the family should be periodically examined for any sign of the disease and should also be followed for prevention and control of leprosy from the area.

From economic point of view it is desirable that every whole-time clinic should prepare hydnocarpus preparations such as hydnocreol and ethyl ester hydnocarpate locally for its clinics if the drugs are manufactured in a large scale.

(From the Indian Medical Journal, July 1936.)

The Trichinopoly District Medical Association

(REGISTERED)

A monthly meeting of the above Association was held at 5 P. M. on Sunday the 27th September, '36 in the E. R. High School, Teppakulam, Trichinopoly, when about 25 members were present. Dr. Mrs. D'Costa was 'At Home' and Dr. T. V. Swaminatha Shastry, L.M. & S., presided. Dr. T.N. Subramanyan, L.M. & S., delivered an interesting lecture on 'Laboratory as an aid to diagnosis,' in the course of which he said that though clinical methods are essential for proper diagnosis yet the Laboratory was useful to confirm or correct the bed-side findings and appealed to medical men to make more use of Laboratory methods.

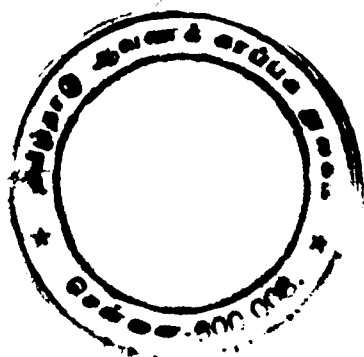
Dr. Raghavan gave his experiences mostly of cases in which the Laboratory diagnosis was contrary to clinical findings and treatment based upon Laboratory findings were invariably correct as shown by the results. In his concluding remarks the Chairman stressed upon the need of a well-equipped Laboratory in such a place like Trichinopoly and hoped that Medical men will make use of Laboratory methods for correct diagnosis of cases.

Miss. Sakuntala of Mysore a girl of 6 then gave a demonstration of mental feats such as mathematical calculations etc., which was much appreciated.

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

TRICHINOPOLY, }
30-9-1936.

P. A. S. RAGHAVAN,
Secretary.



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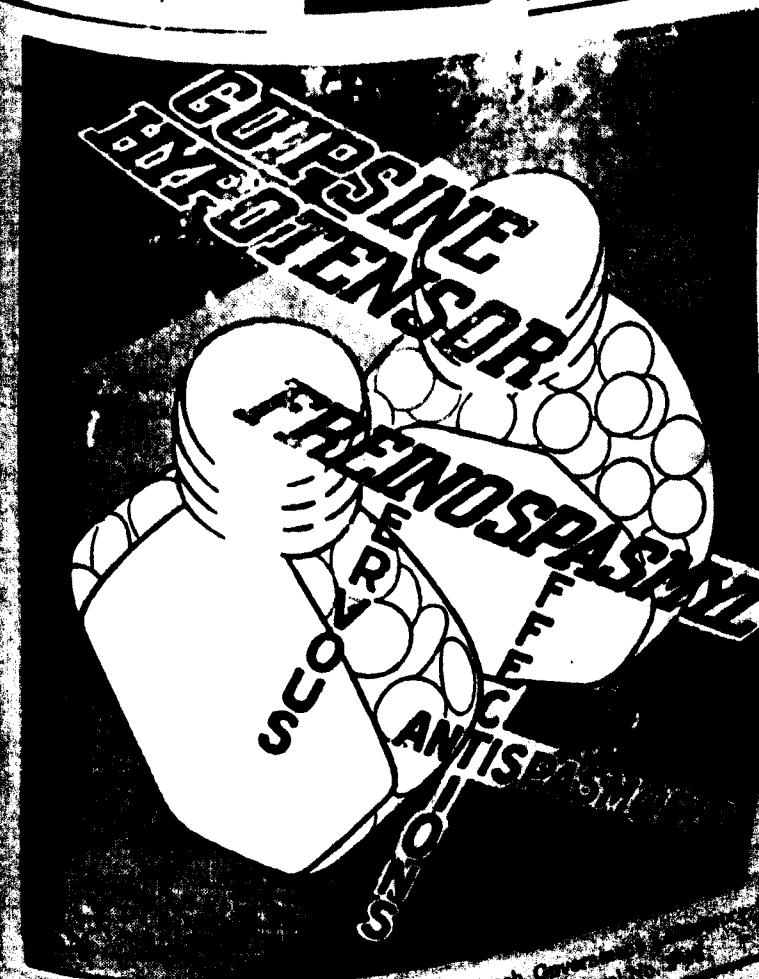
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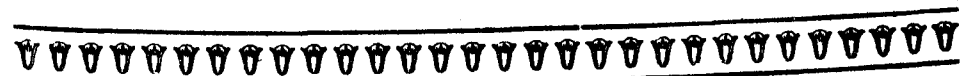
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Principal,
THE CITY COLLEGE, MADRAS

CALCITONE
(REGD.)
Active Calcium Treatment
in a highly assimilable form.
CALCITONE
is a preventive & cure in Tuberculosis, ordinary coughs and
colds, Rickets, Low fevers etc.,
CALCITONE
is essential for recovery, from Dermatitis, Psoriasis, Acne
Vulgaris, Eczema and Folliculitis.
The Madras Chemical & Pharmaceutical Works, Ltd.,
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JEEVAMRUTHAM

(The ideal health restorer)

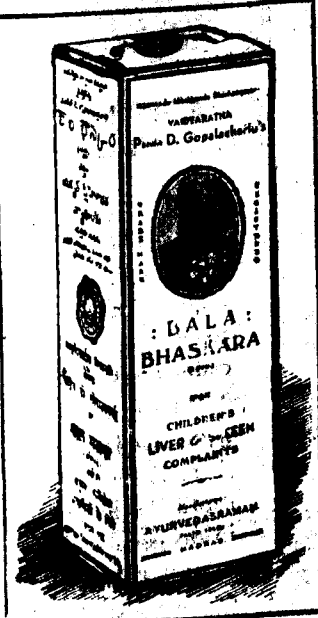
Jeevamrutham has been in use all over since 1908 as a tonic for young and old and prescribed by eminent medical men of both Western and Eastern systems. Indicated in Nervous weakness, Anaemia, Loss of Vitality, Indigestion, Loss of appetite, palpitation of heart, loss of vigour etc. Improves blood and thrills with ever increasing health, strength & energy. A rare gem invented by Pandit D. Gopalacharlu.

Your chemists stock it in 2 sizes.
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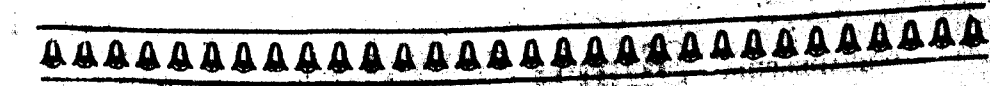
BALA BHASKARA

Approved specific for those dreaded diseases in children viz., Infantile Biliary Cirrhosis of the Liver, Enlargement of Liver and Spleen & c. Also indicated in Dilatation of stomach, constipation, frequent rise of temperature, vomiting, jaundice, swelling of feet and hands, enlarged abdomen and such other diseases owing their origin to deranged Liver. Preferred by medical men after trial of unsuccessful treatments. A product of Pandit D. Gopalacharlu.

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Manufacturers:- AYURVEDASRAMAM, Madras.



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சே எண் :

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[illegible]

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**GLYCODIN
- TERP -
VASAKA**

Antimony Tartarate	1/160 gr.
Terpene Hydrate	1/8 gr.
Codeine Phosphate	1/8 gr.
Menthol	1/24 gr.
Syrup Tolu	15 min.
Syrup Vasaka	Sufficient.

The antimony in it lipuifies the viscid mucus which is the cause of tight cough, terpene promotes effective expectoration, codeine allays unnecessary cough and vasascine checks vagal irritability and counteracts any spasmodic element that may be present. It does not check secretions and does not cause constipation.

Samples on request.

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The quickest and sure cure for enlargement
of Liver and Spleen in Children and Adults.

Definite improvement in 21 days and
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