

The Medical Practitioner

A Monthly Medical Journal

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CONTENTS.

	PAGE.
Editorial :	
Reform of the Provincial Medical Councils	149
Original Articles :	
Bronchial Asthma, By Lt. Col. J. M. Skinner, I.M.S.,	151
Salpingitis, By Dr. Ida. S. Scudder, M.D.,	157
Abstracts :	
The End-Results of the Tonsil and Adenoid Operation in Childhood and Adolescence	160
Notes on Treatment of Diseases	163
Notes on Therapeutics, Diagnosis, and other Medical Subjects :	
Treatment of Leprosy with Pharmosol Chaulmoogra oil	164
News and Comments	165
Correspondence, Reports, etc.	169
Reviews	171
List of Postings of Sub-Assistant Surgeons for the month of January, 1933	172

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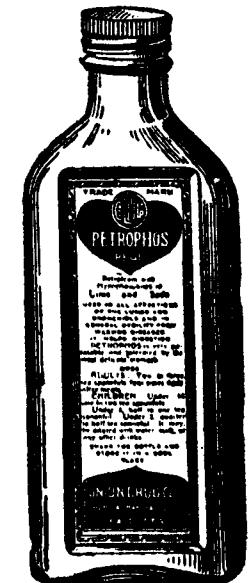
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names from the medical registers. The existing Medical Acts which have brought into existence medical councils are not functioning to serve either the public or the profession and may as well be repealed, and in case the members of the profession are desirous of enjoying the rights and privileges as members of the medical profession after having undergone severe ordeals in the medical schools and colleges, they should not be apathetic as they have been so far. Apart from public interest, the interests of the profession demand that the profession should put forth united efforts and agitate to bring about suitable reforms in the Medical Acts which should not only add to the dignity of the profession but help to foster the highest ideals worthy of the good name of the profession.

India is a continent in itself and the provincial councils should continue to exist as separate independent entities. The proposed Indian Medical Council Bill does not contemplate to do away with them; on the other hand the provincial councils are required to appoint provincial committees for the purpose of working of the Indian Medical Council Bill. So, the life of these councils as independent bodies, is guaranteed; it is therefore essential to reform them without delay.

We have referred above as to why Medical Acts are needed and what the functions of the medical councils ought to be. It is evident that the provincial Medical Acts are more or less copies of the British Act. It is also plain that the spirit of the British Act has been mutilated to suit the bureaucratic atmosphere pervading in India. The existence of two sections in the profession, the service and the non-service, and several grades in both the sections, have made matters worse and the existing medical Acts tend to increase the cleavage in the profession. Those in service do not require a medical council. The existence of a separate department under the Surgeon-General or the Inspector-General exercises full control over them both with regard to professional matters and discipline, consequently the position of the Surgeon-General and the Inspector-General as Presidents of the Councils, has materially affected the good working of the existing Acts, defective as they are.

The most important items of responsibility vested in Medical Acts are registration, education and disciplinary control over the profession, and the Medical Acts should be reformed to bring about changes in the existing Acts in such a way that the scope of work covering the above three items is not hampered on any account. As conditions prevail now with the Heads of the Medical Departments as the Presidents of the Medical Councils, the Medical Acts have been dead letters. The most important duty of publishing the Medical Registers yearly on due dates has been criminally neglected at least by one Council to our knowledge, that in Madras. The delay could be counted not by days or months but by years, the Register for 1931 not being published till this day. It has not been possible for the Presidents of the Councils to realise their responsibility for such an omission. We have deliberately said the Presidents, as the existing Councils are only their creatures. We learn that one of the non-official members of the Madras Medical Council moved a resolution calling upon the Registrar to explain the delay in not publishing the Register in time and the resolution fell through for want of a seconder. Regarding medical education, the Medical Councils do not exercise any control, though the Medical Acts give them complete authority over medical institutions, be they colleges or schools. The cause for such a neglect is not far to seek. The Surgeons-General and the Inspectors-General are the sole advisers, nay dictators, to the Governments concerned regarding medical education, and consequently they did not feel the necessity of referring this subject to the Medical Councils though the statute has provided for such a procedure. Nobody has been bold enough so far to question the default on the part of the authorities, which has resulted in the usurpation of the legitimate powers of the existing Medical Councils by the Surgeons-General and the Inspectors-General. They naturally feel it safer to guard vested interests individually rather than collectively with the help of the Medical Councils over which they preside.

If the Medical Councils do function at all, it is in respect of disciplinary action over private medical practitioners, and that

too, generally in a haphazard way. It is most unfortunate that even with regard to procedure to be adopted in these cases the provincial Governments did not copy the British Medical Act in full, with the result that there has not been uniformity of procedure which is little or not respected and consequently, there have been cases where practitioners have not been fairly treated. No appeal against the decision of the Medical Councils has been provided for in some Medical Councils, as in Bombay, and if the decision of the Council is arbitrary, at times illegal, and even against facts, the practitioners have no remedy. It will not be out of place to mention here that there have been few or no cases at all so far brought before the Medical Councils charging medical men in government service for infamous conduct in a professional respect, though there has been evidence, in places like the floors of the Legislative Councils where medical officers holding high position were impeached for such offences and the Heads of the Department concerned, who are the presidents of the Councils, have not so far seen their way to try these people in Medical Councils for such offences. Yet, there has been at least one instance in one of the provincial Councils where the President did not hesitate to play the part of the informant to the Medical Council against alleged infamous conduct of medical practitioners. This piece of news may look strange and against all known procedure, not to mention highly injudicious—yet it is true. In cases like this, it is natural that judgments are given before hearing and whether the unfortunate practitioners can ever expect justice may better be imagined than described.

Having said so far by way of introduction regarding the necessity of amending the existing Medical Acts, we shall deal here in the next issue as to how the reform in the Medical Councils may be brought about.

Original Articles.

BRONCHIAL ASTHMA*

By LT. COL. J. M. SKINNER, I.M.S.

*Superintendent and First Physician
General Hospital, Madras.*

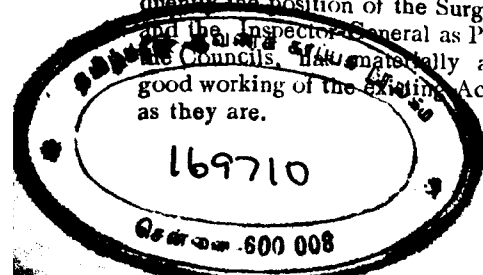
In this lecture we have to do only with Bronchial asthma. It may be described as paroxysmal dyspnoea in patients of neuropathic inheritance which manifests itself as attacks of expiratory dyspnoea due to bronchial constriction set up by reflex, chemical or nervous causes.

ETIOLOGY.—Hurst believes that asthma is essentially due to a diathesis which causes an unstable bronchial centre. The nature of the diathesis is not known, but owing to the instability of the bronchial centre the normal balance between bronchial constriction and bronchial relaxation is upset by various factors which do not so act in a person who is not a subject of asthma.

1 That Bronchial constriction is the immediate cause of asthma has been fully demonstrated by Professors Dixon and Brodie. Of the two opposing ideas of bronchial constriction and bronchial congestion, bronchial constriction is now almost universally held to be the immediate cause of asthma. Muscular constriction impedes the exit of the air more than entrance, for as the alveolae collapse in expiration, they collapse in the same direction as the force of the constricting muscle, so that expiration aids the constriction while inspiration hinders it. For when the alveolae dilate, they act in the direction opposite to the direction of the constricting force. Further the movement of inspiration is more powerful than that of expiration so that here again difficulties are greater in expiration which depends more on the collapse of the alveolae and the chest wall than on the comparatively weaker muscles of expiration.

Spasm of bronchea can be excited by stimulation of the posterior and upper part of the mucous membrane of the nasal septum. Dixon believes that in practically all cases due to reflex stimulation of the medulla oblongata, this is due to some poison which reacts on the medulla oblongata.

*Lecture delivered under the auspices of University Extension Board, Madras and contributed to The Medical Practitioner.



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gata or on the peripheral neuro muscular apparatus of the bronchioles. He also emphasises the importance of the nasal factor in asthma. Further, when asthma has occurred several times, the medulla oblongata is more easily excitable, so that after a few attacks, asthma is produced by very slight stimuli. The patient retires to bed, asthma is feared and the expected arrives. In other words a conditioned reflex has been set up. Compare this with Pavlov's experiment in which a dog was fed simultaneously with the ringing of a bell. Feeding and bell ringing produced salivation; later the sight of food and bell ringing also produces salivation, still later, bell ringing only still produces salivation. Similarly, in the case of asthma, asthma becomes associated with bed time. The asthmatic may thus develop a conditioned reflex.

2 REFLEX STIMULI—(a) nasal. The clinical counterpart of mechanical stimulation of the nasal septum to produce asthma is found in states in which the middle turbinate is congested and swollen and comes into contact with the septum all the more easily if it so happens that the septum is at all deviated to that side. During the day time the passage is quite clear. There is no contact and the presence of any abnormality may not be suspected. At night the mucous membrane or polypus becomes more congested and swollen and touches the mucous membrane of the septum in the asthmogenic area and a person who is predisposed to asthma is almost certain to get an attack of asthma. A comparatively slight degree of turgidity is more likely to cause asthma, than a severe degree of turgidity where there is a large polypus filling the nose and pressing continuously on the septum. Thus, intermittent pressure is much more likely to cause asthma than constant pressure. This is further illustrated by the fact that after incomplete removal of a polypus which has been continuously in contact with the septum, asthma may arise where there was none before. All patients with polypi are not asthmatics, a further condition is required; the patient must have the asthma diathesis. In other cases the nose on examination may appear to be entirely normal. Yet asthma may be cured by light cautery of the asthmogenic region of the septum.

3 VASOMOTOR NEUROSIS. Dr. Alexander Francis believes that asthma was a vasomotor phenomenon comparable with that in rhinitis. Vaso dilatation of the bronchial vessels is primary in cases where the blood pressure is low or secondary in those in which the blood pressure is high, with constriction of the vessels elsewhere. Dixon pointed however that anatomy of the circulation of the bronchioles is quite different from that in the nose. The turbinates are lined with mucous membrane containing sinuses with smooth fibres the constriction of which may close these sinuses and render the mucous membrane turgid by congestion in which case it swells up and constrict the nose. In the bronchioles the condition is quite different. There is a simple columnar epithelium without blood sinuses. There is no smooth muscle capable of obstructing the circulation so as to cause any turgidity. Further in the experimental production of asthma by muscarine or pilocarpine such turgidity of the mucous membrane does not occur. Again the utmost congestion that could be produced as by clamping the pulmonary vein will not cause asthma. Dr. Francis believes that this neurosis is brought into play by toxicosis due to imperfect metabolism from overeating and deficient exercise and in some cases by reflex from an abnormal nasal condition. The treatment advocated by him is the same in principle as that of Dr. Adams who stresses the toxicosis element of asthma especially. Dr. Francis in later observations studied the blood pressure before and after the operation of the nose and thought it possible to affect profoundly the blood pressure and the vasomotor system generally.

4 TOXICOSIS. Dr. Adams stresses the toxic factor in the production of asthma and describes the states which he calls toxicosis, and calls attention to certain factors as supporting his contention.

(i) Periodicity—(a) week end asthma. In this form of asthma, frequently results from overeating and deficient exercise which result in the accumulation of incompletely metabolized matter which upsets the chemical constitution of the body fluids, resulting in a susceptible person in asthma. During the rest of the week the patient is at work, the metabolism is more normal and there is no asthma.

(b) Menstrual periods. Asthma may occur in susceptible persons before, during or after the menses. He thinks it probably due to endocrine unbalance.

(c) Nocturnal attacks. Attacks which coincide with the acid tide. In this case, he believes the normal p.H. is too easily upset, for example in the periodic week end asthma. When the organism is struggling to maintain a precarious p.H. balance a little deviation which will not upset the normal patient may produce asthma in a predisposed patient. The fact that week end asthma occurs during the period of overeating and deficient exercise, tends to confirm his view. Also that many asthmatics are cured by the return to a more reasonable way of living.

(ii) Again 50% of asthma begin before 15th year, i.e., during a period of infections such as measles, whooping cough and so on; or when they are still at home and perhaps overfed or too much coddled in which case asthma may appear more easily. 25% of these cases which shows skin allergic reactions exhibit laryngismus, recurrent bronchitis etc.

(iii) Others again have a sallow skin and the cachetic appearance suggesting possibly adrenal defect. Some of the nocturnal attacks are possibly due to the adrenal being exhausted by evening time and Vagus overacting in consequence. That many asthmatics have a low blood sugar confirms this.

(iv) Mouth breathing is another way in which toxicosis may arise. By mouth breathing the bronchial changes occur and changes may occur in the hilar glands. The diaphragm was frequently drawn up with defective aeration. This results in imperfect oxygenation which interferes with proper metabolism. Exercise, nose breathing, abdominal respiration and proper aeration corrects the chemical faults of the metabolism. Dr. Mans observes in cases of asthma rarely frequently low blood urea, low urea in the urine, urates, high ammonia and eosinophiles. This observation indicate the struggle to maintain normal p.H. (specially the increased urea in the urine) and a strong tendency to acidosis. Excess of amino acids had been found in the blood and sometimes a low chlorine content in the blood and urine. Dr. Barbour and Dr. Oriel think that the excess amino acids in the blood and urine indicates

defect in liver function. A rise of the cholesterol in the blood is believed by Cantonnell to point to the same thing. Accordingly in such cases Barbour and Oriel give glucose and salvolatile in large doses. Barbour regards asthma as due to sympathetic defect rather than vajotonic. Adams regards toxicosis as a good soil in which allergens can be effective. Treatment should attend both to the soil and the seed (allergens).

5. FOCAL SEPSIS: Emphasis is laid on focal sepsis as the cause of asthma. The bacterial toxins being the exciting cause, Sir William Willcox urges very strongly that in every case, examination should include a thorough research for sepsis. Frequently this is not at all obvious but is found principally in the tonsils, nose turbinates, ethmoid sinuses, teeth, intestines, gall-bladder and kidney, posterior urethra. When found the sepsis, if possible, should be eradicated and vaccine prepared and given in small doses.

He recommends one minim of vaccine containing one million bacteria to the c. c. This is frequently between 50 and 60 thousand bacteria in a dose. He increases the dose by 1 minim up to 1 c.c. at intervals of 2 or 3 days for smaller doses and lengthening this to one week when the reaction begins to occur. I have frequently used vaccine in the treatment of asthma. When it was effective, it was thoroughly effective. When it was a failure it was a thorough failure. It was never a partial success. When giving vaccines, they are not to be given in large doses. Violent reactions are harmful. When undertaken, good supplies should be obtained. A course merely of 6 injections is quite useless.

6. TISSUE DAMAGE FACTOR: Dr. Freeman thinks that as rheumatism may attack damaged joints, so in asthma, eczema, etc., the site of disease may be determined on some previous injury or disease. He suggests that tissue damage is a factor in dermatographia. Recent damage causes chemical changes likely to increase the reaction. Lewis has shown that substance to be histamine in the skin. The histamine reaction is almost identical with that of dermatographia. The symptoms are produced at the point of contact with the offending protein substance. For example, in hay fever, the Pollen protein comes in contact with the nasal mucous membrane and there follows

fever. If however the skin is scratched with Pollen grass, the edges of the scratch become puffy and inflamed in a susceptible individual. A foreign protein in the blood may cause a marked reaction in selective areas, especially those parts previously damaged or sensitised; for example, bronchioles in asthma, skin in eczema, brain, possibly, in migraine. But per contra, subsequent injections are not more severe which further suggests recent trauma as a determining factor at the site of the disease. A super-dose of hay fever vaccine does not however react in the off season. But in a recently damaged part, for instance, the skin, joint, bronchiole or kidney, there may appear wheals, swelling of the joint, asthma, albuminuria. On a study of the history of babies, the hereditary tendency shows that asthma tends to begin after some disease such as whooping cough, measles, which supplies the necessary trauma, though they are free of asthma at birth. It has been shown that such infants even before they ever had any asthma, are sensitive to asthma producing allergens. An interesting example of this class of case was that of a flower girl who became sensitive to the handling of flowers and developed extreme urticaria due to contact with flowers. Previously this contact was perfectly harmless. It was found that the system had been permeated with toxins from a gut sepsis found to be due to streptococcus. When this condition was removed by vaccines, the trauma no longer caused urticaria.

CLIMATIC: Professor Leeuwen of Holland in a paper (and also in a communication to the Royal Society of Medicine) suggests that a very large number of asthmas in Holland are due to climatic allergens. The allergens concerned are in the atmosphere and in bacteria, moulds, insects, especially mites, hair, dandruff, feathers. The exact nature of the allergen is not known. These allergens are very effective if the soil is damp. Further that such patients when removed to altitudes such as 4,000 feet lose their asthma in 90% of the cases. In 70% they lose it in three days. In 20% they lose it in a few weeks. The residence, however, required is from two to three years; otherwise asthma relapses at once on return home. The allergens in air are not specific in Holland. Examples collected from practically all European countries gave reactions in his patients in Holland. Professor Leeuwen has practised

sensitizing, but it is found dangerous unless the patient was removed to allergen-proof chamber. Such a chamber he makes of asbestos. The air is warm and collected from 35 meters up; if necessary it is purified by cooling during which water vapour carries down the impurities. He finds such a chamber useful for diagnosis, relief, and de-sensitization. For the poor he advises removal of all furniture likely to store allergens, pillows, etc., and the air to be warmed in order to dry it.

ALLERGY: 1. Specific and non-specific sensitisation.

Allergy is sensitisation to a protein substance. It differs from anaphylaxis in the following ways:—

- (a) Reaction (to de-sensitisation doses) is less severe.
- (b) Very diverse results appear from allergy, whereas in anaphylaxis de-sensitisation the symptoms are well defined and always of the same kind.
- (c) The reaction does not usually de-sensitise.

Asthma is therefore not an anaphylactic state, neither is it always an allergic state. In this matter there are 3 possible states:—

1. Normal. When the antibodies to protein are absent.
2. Sensitisation, in which antibodies to protein are attached to the tissue cells.
3. Immunity, antibodies, free in the blood. The object of de-sensitisation is to neutralise the antibodies attached to the tissues and to create a state in which there are no antibodies, i. e. normal state.

Specific de-sensitisation affects one antibody only, for instance, cat de-sensitises, but not horse by the same serum. Various substances are used for non-specific de-sensitisation, such as Peptone (Auld) Tuberculin O (Leeuwen) Sulphur T. A. B. The action is not permanent, but the treatment can be repeated. To distinguish asthmas which are allergic and those which are non-allergic the following facts will help:—

1. By the skin test.
2. Dandruff test is positive to inhaled antigens.
3. Asthma in which amino acids increase in the blood and the urine, is usually due to

an injected protein to which the patient is sensitive, or to a serum or possibly to eczema, or urticaria, not depending on external irritants. In the allergic type of asthma it was found by Oriel and Barbour that the urine acidified gave an ethereal emulsion on being shaken up with ether. From this emulsion a substance was precipitated by alcohol which gave the reaction of a portein and resembled a proteose and was called P. substance. It was found that during an attack the relative amount of P. nitrogen was greatly increased when compared with that of the intervals between the attacks. Further work showed that this substance was specific, that is, it reacted with cases of other sensitisation but not with P. derived from other sources. P. from patients sensitised to pollen reacted to dandruff sensitised patients but not to others.

APPLICATION TO TREATMENT:—Take the case of Urticaria.

1. Exposure to the antigen always reproduces the symptoms.

2. Test is positive if injected in the sensitised area not if injected to an unsensitised area

3. Passive sensitisation e.g. of a guinea pig should be possible, but this does not usually follow with asthma cases. If the P. substance fails to react, the case is not allergic and the patient is probably vagatonic. The same patient may react differently at different times. The P. substance isolated from the patient when at home where he is exposed to his antigen is more potent than the P. substances when he is away from his own conditions.

TREATMENT WITH PROTEOSE: Non-specific allergens. Van Leeuwen pointed out that very many asthmas gave a Von Perquet's reaction. He was led to try this in his search for a non-specific allergen. Van Leeuwen worked out a system of treatment which he found successful in about 75% cases whether Von Perquet was positive or not. He used Tuberculin O in solutions of one in a million of which he gave doses of 0.1 c.c. rising weekly by the same amount to an optimum dose when a reaction is just evident. He gave 3 such courses with a rest of one month between.

As referred to earlier climatic allergen of Van Leeuwen claims that in Holland

90% of his asthma are due to climate allergen: 70% of his cases became free from asthma in 3 days at an altitude of 4000 feet and 20% became free in a few weeks and the remaining 10% with no benefit obtained. A stay of 2 or 3 years is necessary and children benefit most. The relief is not always permanent. After a few years asthma may relapse. In the 10% that do not react he finds that his fever treatment is more successful than in other cases. It is well known that pneumonia causes a temporary disappearance of asthma which may remain absent for months or even years, or on the other hand may return a few days after the crisis. But influenza, measles, whooping cough make asthma worse and may even precipitate it. Van Leeuwen induces an artificial fever by an intra-muscular injection of 1 c.c. of 0.5 solution of sulphur in oil. The fever lasts for 2 or 3 days but the injection may be repeated to maintain the fever. There is considerable discomfort from the fever and a certain amount of pain, but there is freedom from asthma for a period of 6 months or one year.

Peptone, 1 c.c. at 1% solution may be used intra-muscularly or intravenously. By the latter method serious accidents may happen and the effects of Peptone are not permanent. Injections from milk, blood or serum from the patient himself or some other patient is similarly used with effect but the result is not permanent.

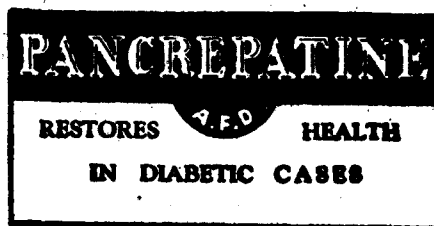
Use of specific allergies: P. substance of Buet and Barbour isolated from the patients' own urine. The proteose is isolated from a quart or so of urine collected in a bottle containing a small amount of toluene. This prevents decomposition and fermentation. The isolation of the proteose is done in any bacteriological or biochemical laboratory. Solutions of 1 c.c. are put up in strength of 1 in 1,000,000 and 1 in 100,000. The injections are always intradermal; it is not certain that hypodermic injections are efficacious. The injections are weekly and the doses are 0.025 raising by 0.025 each time to 1 c.c. and if necessary the stronger solution (1 in 100,000) can be used in the same way starting with 0.15 c.c. In a person sensitised to this substance there is often a flush around the wheal created by the injection. A fine needle such as Burroughs Wellcome's No. 203 is to be used as otherwise the injections are painful.

DIETING is of great importance. The evening meal should be small and light so that the stomach is not loaded by the time the patient goes to bed and is not distended with gas. Most patients tend to overeat and under-exercise. The auto-intoxication which follows is dealt with by avoiding stimulating articles, and articles containing much purin, and the diet must be adjusted to the amount of exercise the patients takes. Exercise should preferably be in the open air and must be moderate. Chlorine free diet has been tried and found successful, in some cases. Attention must be paid to the evacuation of waste matter chiefly through the bowels. Patient should be as free as possible from worry. Change of air is often advisable, but it is often difficult to advise patients where to go and except in altitudes, patients respond very differently to climatic change. Patient should not be advised to buy a house in any special place until he has previously resided there for a time and found it agrees with him.

To combat toxæmia, Iodine and its compound are mostly used. Iodine is much used as Pot. Iod. and fulfils many functions. It facilitates the disintegration of protein. It favours Thyroid secretion which assists metabolism. Phagocytosis is stimulated. It favours blood formation. The selective action on the system diminishes Venous stasis, and increases voluntary secretion. Doses should be moderate. Atophan 10-40 grs. is useful to assist uric acid excretion. Thyroid Ext. $\frac{1}{2}$ to 3 grs. t. d. s. is useful to modify the nervous diathesis by restoring the balance of the Endocrines. Radiotherapy and ultraviolet light also in small doses have similar effects. Calcium 15 grs. given thrice daily benefits the patient. The residence at Mount Dore, and drinking of its waters combine most of the above effects. Natural waters are alkaline; they are radio active and contain some arsenic and are also beneficial to the nervous system. They tend to increase bronchial secretion. The residence for 25 days every year for 3 years is the time necessary. This altitude is also favourable for asthma patients. Nasal treatment has already been referred to in the earlier part of the lecture, but I want to remind you that nothing is more important than the thorough examination of the throat and nasal passages both for sepsis and obstruction and dealing with

these. Estimation of the blood sugar which is often low in asthma cases owing to the failure of adrenalin or the blood urea which is frequently low in the intoxication cases, is useful. The use of vaccines has been mentioned previously. It is important to remember that small doses should be used.

TREATMENT OF THE ATTACK: Numerous remedies have been employed. Those most effective are Adrenaline and Ephedrine. Adrenaline is used in doses of 2 to 5 mms. of 1 in 1000 solution which generally relieves at once. This remedy must be used with care in elderly persons. Antispasmodics such as Antipyrine (10 gr.), Benzoal Benzoas (2 drs.), Sod. nitrite ($\frac{1}{2}$ gr.) are useful in warding off attacks. Where there is nasal obstruction intranasal inunction with the following is successful: Anaestile 20 grs, Vaseline 1 dr., Liq. Paraffin 2 drs. It is applied to the interior of the nose on cotton wool. It is frequently so efficacious that the patient puts off or permanently postpones any intranasal operation for Asthma. Another useful remedy, though it is not without risk, is a spray: Cocaine Hydrochlor 2 grs., Adrenaline 1 in 1000 - 15 mms, Balsam, 7 grs., Glycerine 3 drs. and water 1 ounce. Opium is an infalliable remedy though it does not really check Asthma, it sends the patients to sleep and on waking Asthma is usually gone or very much better. In the grave but fortunately uncommon instances of status asthmaticus, Hurst's treatment with Adrenaline is usually successful. In this method the patient is given hypodermic injection of 5 mms, the needle is left in situ and every 15 to 60 seconds, according to the patient's reaction one or two mms, of Adrenaline (1 in 1000) are injected for half an hour or more. Relief is sure and the patient usually falls asleep.



SALPINGITIS.

BY

DR. IDA. S. SCUDDER, M.D.,

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Salpingitis is an inflammatory condition of the Fallopian tube due to bacterial infection. It is usually bilateral, and is not the only organ involved, as owing to the anatomical relations it is seldom that Salpingitis remains localized. The inflammation involves the ovary secondarily in a complicating oophoritis, and a pelvic peritonitis, with exudation causing adhesions between tubo-ovarian mass, intestines, omentum, appendix, bladder and uterus. Salpingitis is nearly always secondary to septic infection of the genital tract. 1. It may be simple or mild Salpingitis. 2. It may be Salpingitis with exudation. 3. Pyosalpinx. 4. Ovarian abscess. 5. Diffuse pelvic suppuration. 6. Hydro salpinx &c. The tubal inflammation may subside later.

CAUSES: There are four principal causes, and the mode of infection may be divided into four groups.

1. **ASCENDING INFECTION** through the vagina and uterus. The normal tube is free from bacteria. The factors operating in tubal infection are the same as those responsible for a uterine infection.

(a) **Gonorrhœa** accounts for $\frac{1}{2}$ to $\frac{2}{3}$ of all the cases of acute Salpingitis. The gonococcus is an ascending infection by way of the mucous surface of cervix.

(b) **Puerperal or post abortive infection** is usually due to Streptococcus, but may be combined with gonococcus and B. Coli. This is an acute form occurring during the second or third week after labour. As these infections are by continuity from vagina it follows that both Fallopian tubes are affected equally, and we rarely find bilateral Salpingitis in virgins. This infection primarily affects the mucous membranes of the tube. As the uterine os is closed for a few days after delivery, the infection is probably by peri tubal lymphatics from the uterine cavity. The onset of Salpingitis after the original infection of gonorrhœa may vary from weeks to months or even years. It is important to get the history dating back to a gonococcal infection or post abortive or post puerperal infection.

II. **DESCENDING INFECTION:** The vermiform appendix is usually at fault. (But the large and small intestines may also become adherent and infect the uterus.) It is often found in contact with the Fallopian tube, or hanging over the brim of the pelvis, therefore the right tube only is at first affected and B. Coli and streptococcus are found. As this is a descending infection the outer coats of the tube are first attacked and the mucous membranes may escape. Therefore there is not so much occlusion of tube. The left tube may become infected from the pelvic colon. This form affects virgins as well as parous women.

III. **INFECTION THROUGH THE BLOOD STREAM:** Probably tubercle is a more common cause of Salpingitis than is usually supposed. Some authorities claim that about 10 per cent of all cases of chronic Salpingitis are T.B. It is found in youth and is usually bilateral. Metastatic Salpingitis also occurs rarely during acute specific fevers. In T.B. peritonitis the tube may become infected through the fimbriated end.

IV. **THROUGH THE ABDOMINAL OSTIUM:** as in T. B. peritonitis. Clinically Salpingitis most frequently follows, 1. puerperal infection, 2. gonorrhœa, 3. appendicitis.

Owing to the anatomical relations of the tube it is seldom that Salpingitis remains localized. If the infection is an ascending one, it extends through the fimbriated end and involves the peritoneum and other structures in the vicinity. Therefore Gonorrhœa is a much more serious condition in the female than the male, by causing peritonitis. The peritonitis which results from this extension is usually confined to the pelvic peritoneum but may become generalized and much more grave.

ACUTE SALPINGITIS: The infecting organism of Acute Salpingitis may be gonococcus, staphylococcus, streptococcus, B. Coli and Pneumococcus. The infection takes place on the mucous surface and soon the whole extent of this surface becomes involved. The lumen becomes blocked by the congested, swollen, oedematous mucous membrane. The mucosa of the fimbria also becomes congested; there is increased exudate which is at first serous and later purulent. Inflammation continues, epithelium proliferates, the muscular coat next becomes

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infiltrated and infected and abscesses may be produced. Interstitial hemorrhages may be seen. The ampulla and infundibulum folds are much thickened, the fimbria indrawn, invaginated and the surfaces become adherent. Both ends of the tube become occluded, the uterine end with its small lumen closes first and then the fimbriated end is drawn in and peritoneal adhesions cover over and seal it. The inflammation may subside leaving a fibrous thickening of the tube wall and a few adhesions around the fimbriated extremity.

2. If the inflammation has been severe and there has been desquamation of the surface epithelium, adhesions of mucous membranes may cause narrowing of the lumen or complete obstruction.

3. The tube may become greatly thickened and tortuous.

4. The lumen may be dilated and filled with mucoid or purulent contents.

5. An indrawing and invagination of the fimbria, so that the peritoneal surfaces become opposed and adherent and the opening closed. The lumen dilates, secretions are retained and a pyosalpinx results, and the swelling is described as retort-shaped. The peritoneal coat is injected and covered with a serous exudate which leads to intestinal adhesions. A quiescent period may follow. Often a secondary bacillus coli infection takes place. At this time the infecting organism usually dies later the B coli die and the tube is left distended with foul smelling sterile pus.

When acute pyosalpinx has been diagnosed it may be best to wait until all acute symptoms have disappeared before opening the abdomen, (though this is a muted question) in the hope that organisms have died when the operation can be more safely undertaken. If the tube ruptures and sterile pus escapes, there is no special danger to the patient.

Several mild attacks will cause a hydrosalpinx and when the infecting organism is virulent, the catarrhal stage passes to one of purulent exudate, the organisms penetrate deeply into the walls of the tube, cause inflammatory changes which result in marked thickening of the tube wall, which rarely, if ever, ruptures, and the peritoneum covering becomes involved, causing a local peritonitis and later peritoneal adhesions.

Peritoneal fluid is poured out between coils of intestine, becomes localized and forms adhesions.

If the organism is very virulent and pus rapidly formed, it may be poured out of the fimbriated end before it has had time to close—the peritoneum becomes infected and generalized peritonitis and peritubal abscesses are formed. If pus is poured out between the coils of the intestine, adhesions form, and an encysted serous peritonitis results—otherwise the pus is diverted into the posterior cul de sac, and forms the pelvic abscess we so often see. This of course is less grave than when pus travels up into abdominal cavity. Fortunately a generalized peritonitis is rare.

The results of acute Salpingitis are therefore 1. Resolution—leaving adhesions inside and outside the tube. 2. Hydrosalpinx in mild infections. 3. Pyosalpinx. 4. Chronic interstitial Salpingitis with ovary involved and matted together. 5. Tubo-ovarian abscess. 6. Pelvic abscess—Post cul de sac. 7. Chronic salpingo oophoritis with abdominal osteum closed, tube thickened. 8. Sterility. 9. Undermined health.

CLINICAL PHENOMENA. The mode of onset varies with the nature and virulence of the organism. In some cases it is sudden. The symptoms of acute salpingo oophoritis are similar to those of acute pelvic peritonitis—appendicitis-ruptured ectopic. Acute, sudden, severe pain in lower abdomen, sometimes in midline, often towards side affected. Abdomen does not move with respiration. Pain increased on movement, at first generalized and then localized. Pulse increased, seldom over 120 and does not continue increasing in rapidity and weakness, unless it is a very virulent infection. Rigours may occur at onset. Temperature raised—102° or 103° and tends to be irregular and intermittent (one considers malaria). May subside in 4 to 8 days when patient is kept at rest, returns when they get up and move about. The most virulent cases are those with low temperature with an increasing pulse rate. Tongue furred, but clears up soon. Vomiting at onset, and constipation. If a peritonitis spreads from pelvis to general peritonitis, vomiting continues. Leucorrhoea, always metrorrhagia present. Hemorrhage may occur at onset of pain. Symptoms often abate at end of a week or ten days if the infection is limited to the

tube by plastic adhesions. Tenderness and rigidity over lower abdomen, with thighs raised. A marked hyperaesthesia over an area crossing the abdomen from side to side just above the pubis may be observed attendant with muscular rigidity. There is localized tenderness on deep palpation. It may be difficult to distinguish between a mild attack of appendicitis and right sided Salpingitis. However the tenderness in Salpingitis is at a lower level than in appendicitis. History also will aid in a differential diagnosis. In appendicitis there are more intestinal symptoms and the attacks are at irregular intervals, while in Salpingitis the pain is usually increased at menstruation.

PELVIC EXAMINATION: In the initial stage very little may be detected except tenderness in one or both lateral fornices. Later stage when tube is thickened and distended with pus a distinct swelling can be palpated. If the tubes are greatly dilated the uterus is pushed forward by a mass which may fill up the pouch of Douglas. If secondary cellulitis or localized peritonitis with effusion has formed, the whole pelvis is filled with an inflammatory mass of irregular outline and firm consistency with softened areas. It is very difficult at this stage to diagnose between a cellulitis and a pyosalpinx densely adherent with a secondary inflammatory infection. The thickening of the peritoneum and cellular tissue prevent the cervix from being as freely movable as usual. Pain in fornices is increased on moving the cervix. Uterine body is tender and may be slightly enlarged. The presence of a thick, hard, elongated, fixed and tender swelling at the side of the uterus is nearly always indicative of Salpingitis. A chronically inflamed appendix with matted omentum over it, and adherent to the back of right broad ligament closely simulates Salpingitis. A rectal examination is often helpful.

DIFFERENTIAL DIAGNOSIS: During the acute attack when the Pouch of Douglas is filled with exudate, the only diagnosis is acute inflammation of Pelvis, and one must wait until the acute inflammation subsides. In Pelvic haematocele, following rupture of tubal gestation difficult and very confusing but the history of suppressed menstruation with signs of internal haemorrhage attend-

ant with pallor increased pulse rate, restlessness (but these may be absent). Sub-normal temperature, passage of shreds from slightly enlarged uterus may help in arriving at diagnosis. In Appendicular abscess diagnosis may be rather difficult. Appendicular abscess is higher up, better felt through rectum. No symptom of menorrhagia. Vomiting is more persistent, tongue dirty, does not clear up. There is no leucorrhoea or history of abortion. Resistance and tenderness, or unilateral Uterus not enlarged. Differential diagnosis has also to be made with regard to Pelvic peritonitis from other causes such as criminal abortion, intraligamentary fibroid. Ovarian cyst, with torsion of pedicle and infection and rupture of tube.

TREATMENT: Formerly all cases were treated on strict conservative line. 1. Prolonged rest in bed—4 to 6 weeks. 2. Hot antiseptic douches every 4 hours. 3. Glycerine and ichthyol tampons or tannin and glycerine. 4. Treat constipation. 5. Heat to abdomen. Hot water bags and poultices. Radiant heat twice weekly. Drugs: Asperin, Phenacetine. Possibly morphia if restless and sleepless, but avoid morphia. Milk injections.

SURGICAL TREATMENT: Many cases are best treated by early Laparotomy especially those: 1. Where appendix is involved. 2. Post partum and post abortum cases. 3. Those associated with general peritonitis. 4. Profound toxæmia low temperature-increased pulse. Tendency in present day is to operate early.

1. Immediate operation is indicated in chronic cases with undermined health attendant with anæmia, pain and menorrhagia, repeated attacks, pulse in pelvis.

OPERATION: Open abdomen in the midline. Study condition of ovaries and tubes with great care.

If ovary can be separated, and has no pus, looks fairly healthy leave it alone. If diseased, search for any part that is normal—remove the diseased part, but leave even a small piece of healthy looking ovary. Examine tubes. If an old chronic case with abdominal osteum closed and fimbria turned in, remove that portion, and insufflate the remaining tube, watching carefully for any excessive torsion or adhesion. See that air passes through the uterine end of tube. A probe may be carefully passed. Leave even

† inch of tube turning over in a cuff shape and suture. Tuck omentum carefully around the stump.

Always remove the appendix at this time, for fear of a future infection. If patient is over 42 and is suffering from menorrhagia and leucorrhoea if uterus enlarged and adherent perform Hysterectomy. Fluctuation in Post cul de sac calls for evacuation.

Abstracts

The End-Results of the Tonsil and Adenoid Operation in Childhood and Adolescence.

By J. ALISON GLOVER, O.B.E., M.D.,
M.R.C.P., D.P.H.,

AND

JOYCE WILSON, M.B.,

[Abstracted from the *British Medical Journal*,
10th September, 1932, p. 511.]

1. The rising flood of tonsillectomy has been shown in the immense and rapid increase in the numbers of operations annually performed, and by the astonishing fact that more than half the most carefully nurtured children in Britain are now subjected to it, whereas forty years ago none of their parents underwent the operation. Whilst the incidence of tonsillitis is at least as high amongst the poor as amongst the well-to-do, the children of the latter have an incidence of tonsillectomy at least four times as high.

2. A review of the literature suggests that, with the single exception of diphtheria, the incidence of the ordinary infectious diseases is unaffected by tonsillectomy; that while the incidence of recurrent sore throats is perhaps somewhat diminished, that of frequent colds is unaltered, or perhaps slightly increased. The incidence of otitis and mastoid disease is the same, or perhaps slightly increased upon the tonsillectomized, while their liability to bronchitis and pneumonia is also probably slightly increased.

3. The evidence with regard to the prophylactic and therapeutic end-results of tonsillectomy on acute rheumatism, chorea and carditis is distressingly confusing. There is no sufficient case for the routine removal of apparently healthy tonsils in a

rheumatic or potentially rheumatic child simply as a measure of prophylaxis against acute rheumatism. Removal should only be undertaken if there is some definite indication.

4. Observations have been detailed on the relative incidence of nasopharyngeal infections upon the tonsillectomized and the non-tonsillectomized pupils of a school population numbering nearly 14,000. Most of these pupils were between the ages of 13½ and 18, and belonged to the well-to-do classes. Save for two, with a total of 1,100 pupils, all the schools were boarding schools. Rather more than half of this population was tonsillectomized. Some of the observations cover a period of seven terms, or two and one-third years, whilst others are confined to certain terms of epidemic prevalence.

5. These interim observations (so far as they have gone) give no statistical support to the theory that the removal of tonsils closes an entrance for infectious or respiratory diseases. Hardly any cases of diphtheria have occurred, so that the prophylactic value of the operation in this disease could not be assessed. In scarlet fever, otitis media, and mastoid disease no significant differences were observed. In the two latter diseases the slight differences observed were in favour of the non-tonsillectomized.

6. These observations, based on actual attack rates in a school population, generally support the conclusions arrived at by Cunningham from a study of the histories of a similar number of somewhat older students. She found that the tonsillectomized pupils gave a history of higher incidence of all illnesses, and suggests that the fact that children who are often ill are those most frequently tonsillectomized may be the explanation. Comparing the proportion of the amount of illness reported before and after tonsillectomy in the same pupils, she suggests that the removal of tonsils had little influence in lessening the susceptibility to most infections.

7. We hold no brief for the retention of diseased or really obstructive tonsils or adenoids, nor do we wish to cast doubt upon the high value of the operation in cases in which there is sure evidence of toxic or obstructive damage. A review of

the literature and the epidemiological observations made on a highly tonsillectomized child population suggest, however, that the excellent end-results of tonsillectomy in selected cases have been statistically overweighted by indifferent end-results in cases in which the operation has been performed without sufficient indications as a more or less routine prophylactic ritual. In our opinion, a large proportion of the tonsillectomies now done in children are not necessary, entail some risk, and give little or no return.

Treatment of Hypertony

By I. HARRIS, M.D.,

KONIGSBERG

(Abstracted from the *Lancet*,
10th September, 1932, p. 560)

Recently we have shown that the administration of certain drugs for the purpose of reducing pressure in cases of hypertony results in a disturbance of the equilibrium of the different blood constituents. Patients with hypertony whose pressure was reduced artificially showed an increase of blood-urea and non-protein nitrogen; the water-excretion function was depressed, the alkali reserve of the blood diminished, and the cardiac reserve power lessened. These facts suggest that the indiscriminate use of pressure-reducing drugs is extremely undesirable. In this paper an attempt is made to study certain methods of treatment of hypertony in relation to their action on blood chemistry.

At the outset it is necessary to differentiate between methods of treating hypertony whose object is simply the reduction of pressure without regard to aetiological factors, and methods whose aim is to reduce pressure by treating the causal factor. The first must be of doubtful value, the second can do nothing but good.

The patients were kept in bed. During the first week no treatment was given. During the second week Collosol sulphur was injected, 3 c.cm. daily. During the third week six pints of water were given daily. The patients were kept on a standard diet all the time. In other cases the procedure

was altered. In the first week the patient had no treatment; in the second week he was put on salt and sugar-free diet; in the third week a diet consisting mainly of carbohydrate and in the fourth week a pure meat diet was given.

WATER.

I know of no method of reducing blood pressure which is uniformly efficacious in all cases. Indeed, considering the various aetiological factors of hypertony, no uniformity can be expected. The drinking of large quantities of water effects a striking reduction in the blood pressure in many cases. I have used this method with good effect in cases of high blood pressure with a high degree of viscosity for the purpose of lowering the latter. At that particular time it was not clear to us why the action of water should have been what it was. I am now in a better position, I believe, to conjecture the reason of its beneficial action. I found that in cases under sulphur treatment, *pari passu* with the reduction of pressure, there was an accumulation of deleterious substances in the blood. The same phenomenon was observed when the pressure fell simply as the result of heart failure. This suggests that high pressure in cases of hypertony is needed for the purpose of maintaining a normal chemistry balance in the blood. On the other hand, cases under treatment with water, although the blood pressure was definitely reduced, showed a normal blood chemistry. The beneficial effect of large doses of water is probably due to the fact that it enables the kidney to excrete urea and allied substances more easily. In this way a normal blood chemistry balance is maintained and there is no longer a necessity for a compensatory hypertony.

It has been contended that large quantities of water increase the strain on the heart by increasing the blood volume. It is, however, obvious that a treatment which reduces pressure and blood viscosity must also diminish the cardiac strain. Moreover, I have been able to show that there is no hydraemia after the imbibition of large quantities of fluid. Therefore there cannot be an increased blood volume under this treatment. So far as the kidney is concerned, the drinking of large quantities of fluid is all to the good. It has long been

established that the work which the kidney performs in passing concentrated urine is far greater than when the urinary output is diluted.

SALT- AND SUGAR-FREE AND PROTEIN DIET.

A salt- and sugar-free diet reduces and a protein diet increases the blood pressure. Broadly it may be stated that in hypertony the blood pressure stands in an inverse ratio to the non-protein nitrogen level in blood. It is true, as we have seen, that after the imbibition of large quantities of water both the pressure and the non-protein nitrogen (N.P.N.) tend to be lower, but in this instance the action of the water is what it is because it apparently does away with a causal factor of hypertony (viz., increased blood viscosity). The blood-urea is somewhat increased under the salt- and sugar-free diet and somewhat diminished under meat diet, although urea is an end-product of protein. It is possible that a low blood-urea after meat may be explained by the diuretic properties of this substance. The increase of blood-urea after a salt-free diet is by no means so pronounced and constant as it is under conditions where pressure-reducing drugs are given. It is possible that the increase has something to do with the maintenance of the normal osmotic pressure, which is lowered by a salt-free diet.

After venesection there was a pronounced reduction of blood pressure, and the blood biochemistry remained normal, but, as has been the experience of many others, the beneficial effect of this procedure is only transitory. Within less than a week the blood pressure reached its usual level.

I was further able to show that the urea-concentration test so much in vogue is not always quite reliable. Urea was given to a patient before the blood pressure was raised and also when the pressure was relatively low and the blood urea high. The effect of the same quantity of urea was different in the same patient under these two conditions. Apparently, when the blood-urea is already high, an additional dose of urea may exert a pronounced diuretic effect which may result in a lowering of the blood-urea level. This was the reason why the urea-concentration test has given no consistent results in this investigation.

The conclusion is that it is undesirable to employ drugs for the purpose of reducing pressure. On the other hand, the imbibition of large quantities of water ought to be encouraged. The diet should be of low protein content, and excessive amounts of salt should be avoided.

The Indian Medical Gazette, Jan'y., 1933.

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CLINICAL NOTES AND PRACTICAL SUGGESTIONS Rheantine

ANTI-GONOCOCCIC BACTERIO-THERAPY

BY

THE GASTRO-INTESTINAL TRACT.

Since 1913 Messrs. A. Lumiere and J. Chevroter had been undertaking a fresh series of experiments and clinical researches with reference to the above subject. Their work on the administration of vaccines by the gastro-intestinal tract having led them to study more closely the conditions of the vitality and culture of the gonococcus, they found a certain number of fallacies in the ideas currently held on this subject. Indeed if one were to believe the classical treatises on bacteriology, the vitality of the gonococcus outside the organism is very feeble, viz: that gonorrhoeal pus kept a 10 degree or even at the ordinary temperature becomes sterile in 24 hours: hence the failure to make cultures after a lapse of time or even some hours subsequent to taking the pus and also the necessity, in order to maintain the cultures, of keeping them permanently in the oven at 37 degrees. There is a wide difference between these data and the results of their clinical observations which cannot fail to strike the reader. How indeed can the extreme frailty of Neisser's diplococcus, be reconciled with its considerable resistance in the organism, and the tenacity of gonorrhoeal infection in man which is even more marked in the female? These considerations led Messrs. A. Lumiere and J. Chevroter to suppose that the difficulty with which the gonococcus vegetates in the media in which it is usually cultivated, must be due rather to the defective character of these media than to a defect in the vitality in the microbe itself. Much work has already been done by bacteriologists to find a suitable media for the culture of the gonococcus. No less than fifty-six different formulæ have been proposed for the constitution of culture broths, and all of the following preparations have been used at various times: human serum (Bumm, Wertheim); the serum of the hare, the ox, the horse, the pig, the

dog, the guinea-pig (Christmas, Kral, Wassermann, Finger, Ghon, Schlagenhauser, etc.); the cystic liquid (Menge); the pleural liquid, ascitic, orchitic serosity (Heimann, See, Steinschneider, etc.); the whole blood of man or of animals (Pfeiffer, Bezancon and Griffon); various albumens; albumen from blood, the white or yolk of hen's egg, the serum of milk, etc. (Thalmann, Piolowski, Sabouraud, etc). Others experimented by means of urine (Pinger, Dujol, Olliviero), others with the culture media usually employed, modifying them more or less (Bisc, Lipschuetz, Furrs). These basal substances were associated with agar-agar-peptones, sugars, urea, and broths of the most various kinds, (Neisser, Bouchard and Capitan, Vibert, Borday, Walhard, Clarke, Patellani, Kusmoki, Oppenheim, Halle, Hammer, Rey, Durand, Bose, etc). The very multiplicity of these formulæ clearly indicates that none of them perfectly solves the problem. Dujol who, in a recent thesis summed up the present position of the question, arrives at the conclusion that the cultural media to which preference should be given are Bezancon and Griffon's human blood gelose, the kystagar of Menge, ascitic agar and as a liquid medium, the broth of human serum. But apart from their difficulty of preparation, all these media present the same serious drawback, that they do not yield positive cultures with gonorrhoeal pus which has been kept in a tube or in a pipette for several hours and that they necessitate the heating of the preparations to 36 degrees or 39 degrees at the moment of sowing and even in spite of these precautions that they fairly frequently lead to failures. (A. Lumiere and Chevroter). Messrs. Lumiere and Chevroter, in order to overcome these difficulties, conceived the idea of utilising the wort of beer, being guided to this consideration by the fact that in the course of gonorrhoea where the disease regresses or tends to become chronic, partaking of certain liquids such as beer for instance, provokes a relapse; this beverage appeared therefore likely to possess the elements favouring the vegetation of Neisser's diplococcus.

LUMIERE'S CULTURE MEDIUM.

This medium based on the wort of beer, is eminently favourable for the development

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of the gonococcus. It is made up in the following way: a solution of 6 grammes of albumen in 1,000 c.c. of wort of beer is brought in the autoclave up to a temperature of 115 degrees; after hot filtration and alkalization, it is again sterilized at 110 degrees for 10 minutes; then 1.5 c.c. of horse or donkey serum is added to 15 c.c. of the wort thus prepared; this addition is not indispensable.

The wort of beer contains about 110 grammes of reducing sugars per litre, and according to Christmas, this strong concentration may constitute an obstacle to the vegetation of the gonococcus. Now the proportion of 1 per cent of glucose considered by Christmas as the most favourable, when it is a question of the media utilised up to the present, appears to be sufficient in the case of the wort of beer, which gives better results in a dilution comprised between one-quarter and one-half corresponding to 22.5 grammes and 55.5 grammes of reducing sugars per litre. Messrs. Lumiere and Chevrotier made a large number of tests, mixing various kinds of albuminoidal substances with the wort of beer, among them the serum of donkey employed in the proportion of 1/10 seems particularly interesting. It should be remarked that the wort of beer is not a definite product, and that it may contain the most diverse substances according to its origin; it is absolutely indispensable to use preparations which only contain barley malt, with or without hops, but free from any other amylaceous, sugary matter and especially from chemical substances, of any nature. It is also very important to assure oneself of the reaction of the medium, which should be rendered slightly alkaline by carefully adding to it, a weak solution of pure caustic soda. The solid media are obtained according to the usual technique by adding broths of agar-agar at the rate of 20 grammes per litre, and making certain, after this addition, of the slightly alkaline reaction of the mixture. It is necessary to sow with several drops of pus; traces of gonococcic purulent matter are not always sufficient to insure the success of the cultures. In taking these precautions, the experimenters sowed several hundred specimens of gonorrhoeal pus derived from acute or chronic urethritis without any failure; the bacterial associations which are encountered in chronic

infections, sometimes gave them more or less contaminated mixed cultures, but all the sowings were positive and in the great majority of cases, they provided pure gonococci. Two specially interesting conclusions should be referred to, drawn from these researches and based on the constancy of the results: Up to the present bacteriologists have considered the gonococcus as aerobic, the attempts at culture in vacuo having always failed; now Messrs. Lumiere and Chevrotier have been able to cultivate in all their stocks, without exception, either by sheltering them from the air by a layer of vaseline oil, or by placing them in a vacuum. On the other hand as regards the sensibility to cold of Neisser's diplococcus, it was hitherto held that gonorrhoeal pus kept for 24 hours in a vaccine tube is no longer liable to vegetate and that the development of the cultures is definitely arrested by being for a few hours in a refrigerating chamber at 0 degree. One might indeed be astonished at the special and exceptional sensibility to cold of a pathogenic agent, seeing that other micro-organisms are perfectly resistant to the lowest temperatures. Now in a series of experiments, Messrs. Lumiere and Chevrotier submitted the gonococcus in a medium of beer wort to temperatures varying from 17 to 20 degrees for several weeks, or even in liquid nitrogen to 195 degrees for 24 hours. By new sowings they ascertained that the diplococcus had lost nothing of its vitality, nor of its initial morphological and micro-chemical properties. "From this series of experiments, it appears that the gonococcus is optionally aerobic, that it resists low temperatures like other micro-organisms, that it can be cultivated like the great majority of them with the greatest ease in a medium on the basis of beer wort and donkey serum and that the difficulties encountered hitherto by the experimenters who have tried to cultivate it are only due to the unfavourable composition of the media used for this purpose" (A. Lumiere and Chevrotier, *Loc. cit.*).

PREPARATION OF ANTIGONOCOCCIC ENTEROVACCINE.

The form in which this method has been carried out does not differ materially from that employed for obtaining antityphoid vaccine. The cultures of gonococcus derived

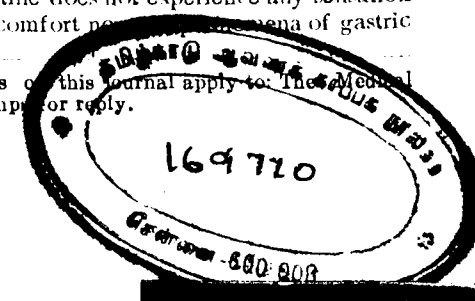
from 24 different stocks are obtained on the special medium of the wort of beer which gives very abundant colonies in 24 hours. These colonies are placed in the stove for 48 hours, then they are gathered and washed with physiological serum and finally centrifugally treated in order to eliminate the greater part of the exotoxines. The microbial mass is then emulsioned by mechanical agitation in such a volume of water that each c.c. contains about 10 thousand millions of bacilli. After heating for one hour at 50 degrees, we make certain by inoculation culture that the liquid is sterilized; this sterilization may moreover also be obtained by means of a saturated solution of ether and chloroform. Then we proceed to dessication either by atomisation or better still by the method of instantaneous cold dessication, carried out since 1912 by Messrs. A. Lumiere and J. Chevrotier. We think it may be interesting to explain here this process, which is more simple and more rapid than that usually employed. As a matter of fact, up to the present in order to obtain organic substances in a dry state, they were submitted to the action of a vacuum in the presence of a hygroscopic substance or else they were arranged in thin layers and then exposed to a current of dry air. Now in all these methods the rapidity of the drying is dependent on the temperature; therefore from this practical point of view, dessication can only in general be obtained after several hours' treatment at 30 degrees or 40 degrees. It appears therefore that there would be a great advantage if one could in certain cases carry out this operation more rapidly and more completely in a cold state. Now certain mineral salts, which are non-toxic and inert, are capable in the anhydrous condition of absorbing a large proportion of water as compared with their weight in order to supply dry hydrates. For instance if one mixes a definite weight of bibasic anhydrous sodium phosphate $\text{PO}_4\text{Na}_2\text{H}$, with the same weight of any organic liquid to be dried, one finally obtains a perfectly dry powder, the water of the organic liquid having been absorbed and yielding dry hydrated phosphate of sodium. According to the preparations to be dried and the use for which they are intended, one can have

recourse to various kinds of anhydrous substances, the most absorbent of which are the following: Bibasic sodium phosphate, sodium sulphate, magnesium sulphate, sodium sulphite, borax, alum, zinc sulphate and chrome alum. At the moment of the admixture of the anhydrous salt with the liquid, the temperature has an inclination to rise, the hydration being effected with the production of heat, but in order to obviate this objection it is sufficient to cool the products beforehand, to mix them in small portions only and to triturate them in a mortar which is itself cooled. Various kinds of serum, broths of filtered cultures, and pepsine dried in this manner lost nothing of their antitoxic or bacteriolytic properties, nor of their toxicity nor of their hydrolysing power. (A. Lumiere and J. Chevrotier). The dessication of the cultures being thus effected, one obtains a perfectly anhydrous and stable vaccinal powder containing about 50 millions of bacilli per milligramme. There now remains nothing but to cover them with an inert excipient and to divide the mass into spherules which are finally keratinised. This preparation contains approximately 3 thousand million of bacilli per spherule, derived from 24 different stocks, which makes a strongly polyvalent vaccine of them.

CLINICAL TRIALS OF THIS TREATMENT

We have already seen above the possibility of obtaining clinical results by the administration of vaccine by the digestive tract, reported in the most diverse kinds of infection. This vaccine had been administered at the rate of 4 to 6 spherules per day between meals, to various patients suffering from acute or chronic urethritis and in a certain number of complications following gonorrhoeal infection (orchitis, epididymitis, rheumatism, ophthalmia, etc.). These spherules, owing to their keratine coating, do not become active until dissolved by the intestinal secretions and the contents are then easily absorbed by the intestine, especially as the bacillary bodies have been deprived of their exotoxines in the preparation of the vaccine. The general reaction is nil, and the patient after taking the Rheantine does not experience any sensation of discomfort nor any nausea or gastric

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or intestinal intolerance; there is never any erythema at any period during the treatment. Messrs. A. Lumiere and P. Vigne, who studied the action of Rheantine in cases of acute and chronic urethritis and the various remote complications of gonorrhoeal infection, recently communicated to the Therapeutic Society of Paris (14th June, 1916) the result of their observations: "It is not a rare thing, write these authors, to observe in the very first days a more or less marked recrudescence of the discharge. This negative phase, which, however, is temporary, is always followed by a well defined positive phase, in the course of which the characteristics of the urethral pus undergo a rapid change: the discharge, which is at first thick, abundant, and creamy, passes gradually into the hyaline state, diminishes in quantity, and in the majority of cases ceases.



FIG. 1.—EXTRA-CELLULAR GONOCOCCI.

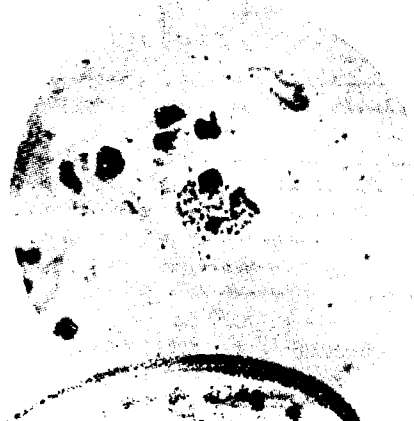


FIG. 2.—BEGINNING OF EXTERIORISATION.

"Under the microscope, these successive changes are demonstrated in equally definite stages; whatever may have been the duration of the disease, the characteristics of the pus become rapidly modified: after two or three days treatment, the gonococcus, first intra-cellular, becomes exterior; it ceases to act as a parasite on the polynuclear leucocytes and the large epithelial cells—one then finds them disseminated outside the leucocytes. "Finally some days later if the administration of Rheantine is continued, the condition undergoes still further change: the gonococci become agglutinated, arranged in a mass and finally bacteriolysed. These clinical and bacteriological observations constitute irrefutable proof of the efficacy of anti-gonococcic bacterio-therapy by the gastro-intestinal tract. The clinical reports given by various doctors or noted by ourselves, show that anti-gonococcic bacterio-therapeutics are capable of giving highly satisfactory results, both in acute and chronic forms of urethral gonorrhoea and also in the various infectious complications due to Neisser's bacillus.

Reports on treatment of Gonorrhoea by oral vaccines.

REPORT I.

BY DR. G. ROUSSEL.

(Specialist in diseases of women and the urinary organs).

ACUTE GONORRHOEA.

B.....corporal, Colonial Infantry. Commencement on 28th March, 1916. Very abundant purulent flow. Pains on micturition, and in the whole perineum. Glandular enlargement. Beginning of Vaccino-therapeutic treatment (Rheantine) on 1st April in the evening. Already on the following day almost absolute suppression of the discharge, no pain during micturition. On 8th, very clear and scanty discharge. On 15th recrudescence of the discharge (second box). On 20th the discharge diminished. Between the 15th and 20th, two injections of Iodargol. The flow diminished. Finally about the 28th, all the symptoms disappeared almost suddenly. The patient is really cured. What is remarkable, is the rapid and absolute disappearance of the pain during micturition.

REPORT II.

BY DR. G. ROUSSEL.

CHRONIC GONORRHOEA AND GONOCOCCIC EPIDIDYMITIS.

B.....unmounted rifleman. Entered the Infirmary with chronic gonorrhoea of a year's standing revived. Light yellow discharge, pains during micturition, inguinal pains. Epididymitis, bulky painful nuclei, sensitive and hard. Spherules of Rheantine on the 4th. On the 9th perceptible improvement. Discharge whitish, no pain during micturition. Epididymitis softer, less painful, the nuclei have diminished. Unfortunately the patient was removed. Result: perceptible improvement in a chronic revived infection with various complications.

REPORT III.

BY DR. DECHODANS, AT SAINT-JEAN-DE-GONVILLE (Ain).

GONORRHOEAL RHEUMATISM.

Gonorrhoeal rheumatism of the knee, which had resisted all the classical methods of treatment, local and general. The patient was beginning to be seriously anxious about the matter, and I questioned whether I ought not to call in a surgeon, when I administered Lumier's anti-gonococcic vaccine (Rheantine). The result was marvellous.

In a few days, without any discomfort as regards the digestive organs, I observed a considerable improvement in the local and general conditions altogether. Shortly afterwards the cure was complete without any stiffening of the joints.

REPORT IV.

• BY DR. PAUL GUINAUDEAU, VICHY.

GONOCOCCIC ANNEXITIS.

L. L....."demi mondaine," 21 years of age.

Called in urgently on 4th May. Temperature 38 degrees C., pulse 100. Green vomiting. Abdomen very painful, hardly bears

touching. Rectal pains, painful and extremely frequent micturition. Greenish pus at the meatus and the vagina. Examined under the microscope, numerous gonococci were observed.

The patient, who had never previously had disease, noticed an abnormal discharge which dated back a fortnight. She had no treatment excepting some injections of permanganate. We diagnosed the case as one of gonococcic infection. Ice on the abdomen; injection of 0.02 centigramme of morphine. Rheantine spherules administered.

3 days later the pains had decreased by half, the abdomen may be touched without pain and vaginal palpation is tolerated. The discharge persists.

After a fortnight's treatment with Rheantine, according to Messrs. Lumiere's instructions, there was no more discharge, and no more pain. The patient got up, walked about and had already had sexual intercourse. There was no contamination. We advised injections according to our formula:—

Tannin	...	} 1.50 g.
Bicarbonate...	...	
Borax	...	

to 2 litres of very hot boiled water.

The patient did not return to consult and must be considered as cured.

REPORT V.

BY DR. PAUL GUINAUDEAU, VICHY.

GONORRHOEA IN THE MAN AND THE WOMAN.

M....., 17 years of age. Strong, well-developed girl. No previous history of disease. No fluor-albus. Living as the mistress of a man. On 15th April she had intercourse with another man and contracted gonorrhoea, which brought her to our consulting room on the 2nd of this month. It is certainly a question of very distinct gonorrhoea. Gonococci in the pus. She communicated the disease to the man she lived with and he came to consult me a week afterwards. The two patients were treated with Rheantine. They each took 3 boxes in

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three weeks. The vaccine was very well borne. Both are now cured, and if their complaint was slow in disappearing, it evolved in an almost painless manner. No other treatment was carried out.

REPORT VI.

PERSONAL.

CHRONIC URETHRITIS DATING BACK 26 YEARS-CURE.

X....., apothecary at R..... Infected on 5th September, 1889, at the age of 16. Has been successively treated by injections of permanganate of potassium, sallobromol, subnitrate of bismuth, etc. Tenacious persistence of a muco-purulent flow. This condition lasted for several years. The patient then tried balsamics: santal oil, copaiba, etc., with injection of sulphate of zinc, Chloride of zinc, resorcin, etc. In despair about the matter, he used injections of salts of silver, then copious douches of permanganate. The discharge slightly modified, passed from a milky appearance to a mucous condition, without ever entirely disappearing. Walking, taking alcoholic liquors, coitus bring back the purulent condition.

In August, 1915, X.....submitted himself to bacterio-therapeutic treatment. After taking 24 spherules of Rheantine, the morning pus disappeared. At the end of one week the cure was final (after being chronic for 26 years). No relapses were brought on by coitus, beer drinking, etc.

Gold Therapy.

Ever since Moellgaard of Copenhagen introduced Gold for the treatment of Tuberculosis there has been persistent endeavours in the elaboration of Gold preparations. These were prepared according to Paul Ehrlich's method which consisted in producing an excellent remedy by means of different chemical variations of the organic compounds of Gold and at the same time possessing low toxicity and high therapeutic action. This was achieved by combining univalent Gold to organic bodies by means of Sulphur attachment. After a series of these variations a formula has been reached, the credit of which goes to

August Lumiere. This Gold preparation known as Aurothysin has proved itself a genuine chemotherapeutic agent i.e. it has a selective curative action in certain diseases. This property has doubtless gained for it a very high place in dealing with Tuberculosis. Despite much scepticism on the part of several clinicians the favourable therapeutic effect of Aurothysin in cases of Tuberculosis is now well established. From the above remarks we can gather that systematic investigation in the field of Gold therapy has given us Aurothysin, a preparation in which detoxication of the metallic elements has been attained to its maximum without in any way diminishing its therapeutic action. In Aurothysin Sulphur is directly combined with Gold and its second valency has been taken up by an organic radicle. The preparation is available in the form of an amorphous pale yellow powder which is easily soluble in water but insoluble in organic solvents. It is stable but decomposes without melting at high temperatures. It contains 35% of its weight of Gold.

The great problem of the Modus Operandi of Aurothysin, which had so long remained unsolved, has been made clear. There are at present two views about the mode of action of this preparation. One is that there is a direct chemical reaction between the bacilli and the product either in its unchanged form or as modified by the host of the bacilli. Some believe that Aurothysin enhances the defensive forces of the subject. It appears that the latter view is more correct of the two, as experiments and clinical experience has shown that the power of Aurothysin to inhibit the development either of Tubercle bacilli or other pathogenic organisms or to kill them in vitro is very weak. It can be safely asserted therefore that Aurothysin acts by raising the natural defensive forces of the diseased body. Aurothysin being an effective "Metallic Catalyser" rapidly activates the defensive processes in the mesenchyma where the infection first starts. The metabolic processes are speeded up due to the excellent Catalytic property of Aurothysin and this results in increased vital activity which means mobilisation of lymphocytes, plasma cells and giant cells. These latter may bring about destruction and the curative action may thus be started in the foci of the diseased tissue. In addition to this

the tonic effect of Aurothysin is indicated by the fact that it increases the functional activity of the normal cells. To sum up we can state therefore that Aurothysin does not act directly on the Tubercle bacilli but by means of its catalytic property promotes autolytic processes which are soon followed by the formation of fibrous tissue. Concerning the range of applicability of this product the first infection that strikes us is the Tubercular. By means of careful administration and proper individualising in regard to the selection of the patient decisive results have been obtained with Aurothysin in early stages of Tuberculosis and in cases of moderate severity. Remarkable improvement can also be brought about in severe cases where cavities have been formed. It has been deduced from clinical experience that relapsing forms of Pulmonary Tuberculosis of the exudative variety can soon be converted into the fibrous type because of the tendency of Aurothysin to bring about cicatricial healing. In fact the cure that is effected by this product resembles that accomplished by natural processes which means that in the beginning absorption and restitution of the exudative products takes place and the connective tissue in which the cure starts is soon formed into a fibrous capsule. Usually small and moderate doses of Aurothysin are to be preferred. The physician should fix up the dosage according to the individual needs and conditions. The exudative forms of Tuberculosis respond best to Aurothysin treatment. If used with discrimination it certainly brings about a cure in the early exudative type wherein the disease has spread wide and is somewhat severe but where there is evidence of effective resistance. In the fibroid type where the symptoms persist and the tubercle bacilli thrive Aurothysin renders valuable service. This preparation of Gold when suitably administered exercises almost a specific effect in cutting short recent Pulmonary Tuberculosis. Another sphere into which this Gold preparation has been introduced with success is the treatment of Tuberculosis of the larynx. Under the influence of Aurothysin the infiltrative as also the vegetative tubercular processes in the larynx have been found to disappear rapidly. Laryngeal

tuberculosis often takes the mixed form of exudative, oedematous and infiltrative vegetative changes in the tissues. It is always advisable to start energetic treatment of Aurothysin as experience shows that it particularly yields best results in these cases. Cases which fail to respond to this line of treatment are few and far between.

Satisfactory results have been reported in Tuberculosis of the testes and also of the lymph glands. If the latter infection is not accompanied by foci of disease in other organs cure can quickly be effected by vigorous treatment of Aurothysin in large doses. Tuberculous disease of the eyes can also be brought round by means of this Gold preparation.

Aurothysin unfortunately is not of much service in Tuberculosis of the bones or joints. In fact it is valueless in surgical Tuberculosis. It is not at all suitable in the different manifestations of this disease in infants and children.

Aurothysin has been used with considerable success in Lupus Erythematosus. By administering small and moderate doses of the product the results are quite satisfactory and also there is greater possibility of avoiding the injurious effects of the disease. Small doses with long intervals should be the rule in these cases, as by this method not only is the cure permanent but secondary effects such as pigmentation can be avoided. Large doses set up an energetic reaction which is harmful in Lupus Erythematosus.

Another skin-disease, Psoriasis, of unknown origin yields to Aurothysin treatment. This remedy appears to work reliably and uniformly even without any local treatment. The treatment should be persisted even after a cure has been established in order to make assurance doubly sure and also to prevent recurrences.

Aurothysin can be advantageously employed in certain severe cases of acute, subacute or chronic arthritis which are refractory to any other treatment. Of these Rheumatism constitutes the chief cause in about 80 per cent of cases and the bacilli responsible for it are the streptococci; but chronic arthritis may also be caused by staphylococci, gonococci or bacilli of Dysentery, Typhoid, Syphilis or Influenza. After dealing with

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the focus of primary infection which is usually found in the tonsils, teeth or accessory sinuses the infection can be favourably influenced by Aurothysin. These cases of infective polyarticular arthritis often of septic character, which are resistant to salicylate and vaccine treatment can be beneficially influenced and brought to normal by this Gold product. Excellent effects are generally experienced in persistent cases of this character where the origin of infection has not been found out. The temperature drops by crisis, there is amelioration in the local symptoms and the condition is soon restored to normal. These results are witnessed in several cases.

Clinical experience has definitely confirmed that Aurothysin exerts a selective curative action on Spirillosis. It has been found very effective in Relapsing fever. It not only helps to cut short the first attack but subsequent attacks can be prevented by it.

Aurothysin is used with benefit in severe cases of fever due to rat-bite Spirillum. If it is indicated early it may help to abort the disease.

Experience with Aurothysin has demonstrated that it is tolerated by all sorts of patients remarkably well. The chief advantage that this preparation offers is that it never causes renal damage even if the treatment is protracted or even if large doses are administered. Usually injections of Aurothysin are not accompanied by general or local reaction but there are cases where on account of particular susceptibility of individuals reactions have been provoked. In such cases exanthemata and other toxic skin eruptions have been observed. These are mild when proper dosage is adhered to. They are considered to be of anaphylactoid origin and can be treated with either Glucose or injections of Pituitary and Adrenalin. The rash caused by Aurothysin is known for its mild nature and course. This is because of the fact that the excretion of the product is relatively rapid. These rashes take two to four days to disappear. At times at the commencement of the treatment slight traces of albumen appear in the urine but this should not deter the physician from carrying on the treatment as these disappear after continuation of the treatment for some time. Barring these few minor inconveniences Aurothysin can be considered a safe and harmless preparation of Gold.

Concerning the contra-indications of the product we must exercise utmost care with patients suffering from diseases of the kidneys. It is better to suspend the treatment until the symptoms disappear. This is particularly advisable in cases where a non-specific renal disorder has been diagnosed. Sometimes when the treatment is started leucocytes or redcells together with albumin and renal casts are found in the urine. This might be an indication that a latent tuberculous focus in the kidney might have been flared up and should be considered as a warning for stopping the treatment. When the reaction has passed away careful subsequent treatment with Aurothysin will effect considerable improvement in the disease under favourable conditions. Amyloid disease of the liver is an absolute contra indication for the exhibition of this product.

Treatment should be commenced with small doses as clinical experience has clearly demonstrated that they are more effective. The initial dose 0.05 gm. should be gradually increased to 0.10 gm. according to the necessities of the case and response of the patient. With every ampoule of Aurothysin, which contains about 2 c.c. of the product, is provided an ampoule containing 8 c.c. of saline solution. The injection is prepared by mixing the two and it is always advisable to prepare a fresh solution. The dose should be repeated three days after, care being taken to see that the reaction caused by the previous dose has subsided. These doses are repeated so long as they do not give a pronounced general or local reaction. If we find that the reaction is inadequate there is no harm in increasing the dosage. If on the other hand the reaction produced is rather violent the dose should be reduced and given at longer intervals. Thus we can determine the dosage according to the reaction the patient shows, because the reactivity of individual cases varies considerably. The total amount necessary for the completion of treatment is 30 consecutive injections but one cannot state definitely that this number is sufficient because individual needs differ very much.

Aurothysin offers the possibility of a safe and effective therapy in various infections mentioned above and deserves a wide trial at the hands of the profession.

Notes on Treatment of Diseases.

N.B.—These notes are intended to supplement the treatment given in ordinary text books and are neither expected nor possible to be exhaustive.

Hepatitis: Sub-acute and Chronic. Freshly prepared Nitro-muriatic acid both internally and externally. The acid should be of lemon juice colour and should be mixed with water just before it is taken, mms 3 to 5, three times a day (This should not be given in the acute stage). Externally 1 to 3 drams in a pint of hot water to be applied on flannel or spongiopilene. Boldine pills A.F.D. containing pure alkaloid of Boldoa Fragrans has been found useful in chronic hepatitis and hepatic hypertrophy: 6 to 10 pills a day.

Hepatic Abscess: If single and small, give Emetine gr. 1 by injection every day for 12 days. If the abscess is big aspirate and give the same injections. In multiple abscess give only injections (I.M.G.). In the case of an abscess caused by Amoeba, aspirate the pus and inject into the cavity a solution of Quinine Hydrochloride.

Hepatic Cirrhosis: Phosphate of Sodium 20 grs to 3 drs, once, twice or thrice a day according to desired laxative effect. It is best given dissolved in hot water. It is particularly useful in bottle-fed children who continuously suffer from constipation alternating with diarrhoea.

Hepatic Colic: Coal-tar preparations should not be given. Olive oil and Soda Salicylate are useful. As a prophylactic Sodium Glycocolate 10-15 grs. may be given a day (M.M.).

Herpes Zoster: In the early stages an ointment containing Plumbi Acetate dr. 1, Pulv. Camph. grs. 15, Ol. Amygdali drs. 2, Ceraflava oz. 1, for external use is very useful. But if there is itching starch drs 2, Acid Boric dr. 1, Cocaine grs. 4, Ung. Zinc. Oxidi oz. 1. If injected, the vesicles should be opened and cleaned with HgCl₂ solution 1 in 5000 and a dusting powder

containing Zinc. Oxide dr. 1, Acid Salicylas grs. 10. (P.M.)

Recurring herpes: Of the lips and gums: Arsenic is the specific remedy and also pituitary gland. Herpes on the lip accompanying menstruation, local application of Spts. Camphor or Zinc. Sulphide 0.5 to 1 grm. in 100 c.c. of water. (J.A.M.A.). Herpes which appears throughout the whole body, an ointment containing Heliobrom 10 grs. and 100 grs. each of Zinc Oxide, Starch, Glycerine and Water relieves pain and cures the affection. Intravenous injection of Sulphur water—containing 6 grs. per 1000 of Sodium Chloride 3 grains per 1000 of Calcium, Manganese and Sodium Sulphate and 7 volumes per 1000 of Hydrogen Sulphide. (M.A.). Pituitary by hypodermic injection is being tried with success. In Recurrent Herpes, the parts are to be painted with ammoniated Mercury 1 grm, Boric Acid 7 grams and collodium to 50 grams. Intravenous injection of Sodium Iodide stops the pain permanently. Intramuscular injection of one's own blood taken from a vein and injected into the gluteal muscle 5 to 20 cc. (M. H.). Parathyroid 1/16 grain is useful. Intravenous injection of 5-10 cc. of 40% solution of Urotropine either alone or with Sodium Salicylate is being given with good results (Advance Therapy).

Hydrocele: Tapping and injection of adrenal chloride (Sajous). After tapping, inject into the sac 3 grains of Sodium Antimony Tartarate in 10 cc. of water. After a slight swelling which lasts for about a fortnight, the hydrocele is cured. The patient need not be kept in bed. (I.M.G.). 10 c.c. of sterilised solution of 20 grains of Quinine Hydrochloride and urethane may also be injected into the sac and after washing the sac with saline solution, Sodium Morrhuate 4 to 5 c.c. of 5% solution may be injected with good results, (M.A.).

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Notes on Therapeutics, Diagnosis and other Medical Subjects.

Treatment of Leprosy with Pharmosol Chaulmoogra oil.

The treatment of leprosy is a prolonged one; oral administration of chaulmoogra or hydnocarpus whitiana oil causes, after a time which varies with each individual, gastro-intestinal irritation and so the administration has to be suspended. Other methods of administration have to be tried: intradermal, subcutaneous and intramuscular injections of ethyl esters, fatty acids of chaulmoogra and hydnocarpus, solutions of sodium salts and purified oil mixed with olive oil and creosote are being tried extensively. As stated above, in the treatment of a disease which actually extends over years every endeavour should be made to eliminate pain at the site of injections and the preparation used should yield a satisfactory therapeutic effect. Pharmasol Chaulmoogra oil A.F.D. fulfills both these desiderata in an admirable way. The preparation can be given subcutaneously and intramuscularly without pain and reaction at the site of injection. I have all along used this preparation intravenously, when all available areas for injection have become fibrotic and nodulated by different injections, and found it quite effective. The patient finds a relief from the intolerable pain which he experienced formerly from other injections. Except for the prick of the needle for the intravenous injection he feels no pain. I have never observed the occlusion of any vein selected for injection. Repeatedly the same vein was used; doses varying from 2 to 20 cc. of the 0.1% solution have been administered. It is put up in rubber-capped bottles of 1 oz. each: 2 cc. ampoule injections are available for use by any desired route.—Capt. S. Thambiiah, B.A., M.R.C.P., D.T.M. & H., Dermatologist, Government General Hospital, Madras.

Treatment of common colds with vaccines.

I am convinced, from my own personal experience, and from my clinical experience with this method, that vaccine therapy offers

the most promising results in both immunization and treatment of the common cold.

In producing immunization, I prefer a stock vaccine containing the influenza bacillus, pneumococcus, streptococcus, micrococcus catarrhalis and staphylococcus. The inoculations should be given twice a year, in the early spring and the early fall. The course consists of six treatments, at intervals varying from three days to a week, well to start with a small dose (0.2 cc.) which in some cases may be increased to as much as 2.5 cc. The dose should always approximate the patient's limit of tolerance to the vaccine.

In treatment of colds that are fully developed, I believe that the autogenous is preferable to the stock vaccine. The cultures should be made from the secretions of the nose, throat and mouth. The vaccine should be administered as early as possible and in much larger and more frequently repeated doses, guided by the patient's tolerance—Dr. W. W. Carter, of New York, in *Med. Times and Long Island M.J.*, May 1932.

Hemophilia Treated with Ovarian Extract

In a case of hemophilia, a prolonged bleeding of spontaneous bleeding was terminated by intramuscular injections of ovarian extract ("Azule" prepared by Allen and Hanbury, London). The amount given was 4 grains, begun immediately and continued at intervals of six hours until bleeding stopped, and then at intervals of 24 hours.

Experiments were carried out to determine the effects of various doses of ovarian extract on the coagulability of the blood. The data obtained provided information of possible value in developing standard methods for prevention and treatment of persistent bleeding in this disease—bleeding that occurs from either accidental or surgical wounds—Drs. H. T. Kimm and C. M. Van Allen, Peiping, China in *J.A.M.A.* Sept. 17, 1932.

(*Clinical Medicine and Surgery—Jan. 33*).

Iodobesin contains the anti-obesity hormones.

News and Comments.

Quackery Encouraged: Elsewhere in the Correspondence columns there appears a communication under the caption 'An Un-ethical Ceremony'. Soon after we got this communication we addressed a letter on 29-1-33 to Dr. D. V. Venkappa, the Secretary in charge of Exhibition, and the letter ended thus: ".....Will you kindly let us know at your earliest convenience the Committee of doctors who sat in judgment about the preparations and their therapeutic uses before the medals and certificates were distributed?" The letter was duly acknowledged. Having no reply, a reminder was sent on 13-2-33 which was also acknowledged, but no reply came so far. Later we addressed a letter on 20-2-33 to Major-General C. A. Sprawson on the subject, and amongst other things we mentioned in that letter: ".....It is very likely that this person as well as others who have received medals and certificates of merit from a person of the position you occupy not only in the profession but also in Government service might misuse the medals and certificates of merit got by them from you.", and he replied on 21-2-33: ".....I was asked by one whom I believe to be Secretary of the Madras Branch of the All-India Medical Licentiate's Association to distribute these certificates as part of my duties as President of the Conference; and I did so. I do not know who were the judges of the Exhibition." Not being satisfied with this reply, yet another letter was addressed to Major-General Sprawson, and the Major-General replied as follows: "I have nothing to add to my letter of February 21st in reply to yours of February 20th. I was elected President of the Conference on December 20th and carried out to the best of my ability what I understood were the duties of that office. I had no knowledge of the Sanitary and Scientific Exhibition, of its exhibitors or its judges and did not regard it as part of my duties to enquire into their merits." The final reply of the Major-General is certainly most disappointing and makes the matter more mysterious, especially as it is said that the Reception Committee of the All India Licentiate's Association did not incur any expenditure either towards the award of prizes or the tea party given on the day of the award. It is usual for those who preside over such func-

tions to get an advance copy of the report embodying therein the details of the various items so as to enable them to make suitable remarks. None can question the Major-General for this omission, as it is purely of personal nature, but when specific allegations are made against a function presided over by a person who holds the combined office of the Surgeon-General with the Government of Madras and President, Madras Medical Council, it is unfortunate that such a person did not mind to disclaim his responsibility in awarding prizes to persons who are dealing in secret remedies. Association of registered practitioners with those dealing in secret remedies is considered in medical ethics as "infamous conduct in a professional respect," and practitioners resorting to any of such practices render themselves liable on proof of the facts to have their names erased from the Medical Register. Code of Medical Ethics is formulated by the elders in the profession not only for the guidance of the members of the profession but also to protect the public against the misuse of the rights and privileges conferred on the practitioners by virtue of their being registered. When the Secretary who organised the award of prizes chose to be silent and evidently took advantage of his position and had the function presided over by a person of the position of Major General Sprawson and when Major General Sprawson did not mind to ascertain the correctness or otherwise of the allegations made on a subject which if not brought to light was likely to affect the prestige of the profession, the only course left open to us is to say what we feel in the matter.

We are conscious as others are that what comes from the mouth of a person of the position of the President of the Madras Medical Council cannot possibly be questioned especially now, in a country like India.

Madras Medical Budget: The discussion of the Medical Budget this year on the floor of the Madras Legislative Council was rather a tame affair compared with the discussions in previous years. More members took part last year and the items of discussion covered a wider range. Mr. T. A. Ramalinga Chettiar led the debate. The general complaint was that the Government spent large amounts of money for the city

hospitals both on buildings and on staff and starved the mofussil institutions, all the same it was satisfactory to note that several members brought to the notice of the Government the urgent necessity of improving the Victoria Hospital for Caste and Gosha women and even Mr. Ramalinga Chettiar and other mofussil members who complained of large expenditure in the city did plead for this hospital. We are glad that the appeal made by us in these columns last year has not been in vain. Mr. V. T. Arasu who was the only solitary member who took up the cause of this hospital last year will be very much encouraged, that a good and honest cause will always win, though there may be obstacles to begin with. The fact that the Bobbili House patronised this institution with large funds from its very inception and that the Rajah Saheb of that House is now the Chief Minister having medical portfolio under his charge, seems to be most propitious and as announced by the Rajah Saheb, time will not be long before this institution for the fair sex is equipped in a manner worthy of the purpose it serves in addition to its being a teaching institution.

The other subject for discussion was Rural Medical Relief and the employment of practitioners of the Indian System of Medicine on a larger scale in rural areas. The Hon'ble the Chief Minister announced that ere long the Government would be able to provide more funds for Rural Medical Relief and that he was prepared to increase subsidised dispensaries and that Taluk Boards were at liberty to appoint practitioners of indigenous systems for rural dispensaries if they so desired. Regarding the complaints of apathy of the Government towards Indian Medical School, he assured the House that it was not so and said that after he became Minister, the Government had sanctioned two posts of additional assistants in the School and two inspectors to supervise rural dispensaries of indigenous systems.

Honorary Medical Relief System was as usual a subject of discussion and there was a complaint from the honorary members that medical officers in the City Hospitals were not being transferred, with the result that some of them had recourse to questionable activities in private practice, and at times the mofussil hospitals suffered for not having

the best men who had gained expert experience in the City Hospitals. The Minister replied that the scheme of honorary medical officers was being gradually developed by the Government and that the medical officers from the City could not be transferred on account of their being in charge of teaching institutions.

Honorary Medical Relief Scheme cannot advance so long as a paid Surgeon-General guides it. The only way to put down the misuse of private practice in City Hospitals is to stop at least those in charge of teaching from having any private work, and in case the public wished to consult any experts amongst those in the teaching staff, the fee charged for such work should go to the Government Treasury, and if this is not possible all at once, a proportionate commission could be allowed to such experts as is the case in the X-ray and King Institutes.

We have been repeatedly complaining in these columns about the injustice done to the senior men in service they being superseded by juniors with higher qualifications. We are glad that the Chief Minister admitted it as an anomaly and assured the members that it would not recur again and that seniors would be given preference with regard to study leave in future.

Further provincialisation of Taluk Board Hospitals was another subject talked about and the Minister hoped that financial condition in the future might very likely help the Government to complete this scheme. It is a pity that the Local Bodies which should take a pride in controlling their own medical institutions should try to shirk their responsibilities.

Bombay Medical Budget: We are obliged to a lay friend of the medical profession in Bombay for having supplied us materials to comment on the debate of the Bombay Legislative Council. We hope to receive copies of proceedings of the Legislative Councils in other provinces and in case we are able to get them in time shall attempt to compare and contrast the aims and objects of the non-official members of the Legislative Councils and gauge the effect of the activities of these members on the profession as a whole. As in Madras so also in Bombay there was a complaint

from mofussil members that the Bombay City got all the privileges of Government finance for the running of the medical institutions and the rural areas suffered the most. The remedy suggested by the Minister in charge, of training school teachers to function as doctors for treating most common diseases or of bringing into existence a class of medical practitioners of two years practical training, is certainly not conducive either to the welfare of the rural population or of the medical profession. It is most unfortunate that the lives of villagers are valued so cheap as to entrust the treatment of their ailments to unqualified people. If the Government is really sincere about their concern in the welfare of villagers they should direct paid qualified service to villages entrusting medical relief to the members of the independent medical profession in cities and towns where there is no dearth of qualified medical practitioners. The Government should run only in-patient hospitals for necessitous poor. It looks as if the members of the Bombay Legislative Council either cannot nor did not realise the financial responsibility that will accumulate year after year if the public were to be treated indiscriminately in state hospitals. The members should educate the public and see that the charitable institutions run by the Government at public cost, attend only to the necessitous poor and not the rich who should not be treated at all in the hospitals even by receiving money for treatment rendered except in special cases where there are no facilities for expert treatment. The only and the effective way of improving medical relief could be by voluntary service to the poor in the Government Hospitals. The I.M.S. and I.M.D. were the subjects of very severe criticisms and the Government was asked to do away with these medical officers who are maintained with very heavy expenditure. The Bombay European Hospital was another target. The Government was severely criticised in reserving this hospital only for Europeans and the Minister had to agree that the hospital would be converted into a mixed institution setting apart a certain number of beds to Europeans. Public Health policy was also vehemently commented upon, one nominated member suggesting to the Government to follow the methods of propaganda adopted in the Madras Presidency.

A Blind notion: Our readers might remember that the Bombay Medical Profession held a public meeting in Bombay last year to protest against the proposed Indian Medical Council Bill. This was presided over by Dr. G. V. Deshmukh and Dr. Dadachanji took prominent part in that meeting. Both are prominent members of the Bombay Medical Union and Dr. Dadachanji was the President of the Bombay Medical Union last year (we are not quite sure whether he continues to be so now). Amongst the resolutions passed was one for the inclusion of the Licentiate in the All India Medical Register. Some time after, there appeared an Editorial in the Bombay Medical Journal, the official organ of the Bombay Medical Union, in which the Editor made an appeal to the Licentiate not to press their claims to be brought within the purview of the Indian Medical Council Bill. We commented adversely in these columns on this attitude on the part of the Editor of the journal of an Union whose President strongly pleaded for the inclusion of the Licentiate. Not being content with the injustice shown to the Licentiate in the columns of the Bombay Medical Journal, the Union Secretaries have now rushed to the columns of the lay newspapers in disclaiming the responsibility of the utterance of the President of the Union. It is most unfortunate that the Bombay Medical Union one of the oldest Medical Associations in India which has a large section of English qualified practitioners on its rolls seem to have no clear notion of the purposes of Medical Registration. May we refer the Secretaries to the very first sentence in the Preamble of the British Medical Act? The Medical Register is not a document for advertising the qualifications of the different members of the profession. Its main and only purpose is to show to the public who is qualified and who is not. The Licentiate are certainly as good qualified practitioners as any body else, the question of superiority or inferiority does not arise for the purpose of registration.

Following the heels of the Editor of The Bombay Medical Journal, the President of the Sind Medical Union has come out with a sermon to the Licentiate to keep aloof from the proposed Indian Medical Council. There seems to be a real fear lurking in the

Patches. He also said that regular treatment for 6 months in A cases and for two years in B cases was quite adequate for curing cases of Leprosy.

After the conclusion of the lecture, there were a number of questions to which the Lecturer replied clearing the doubts. In his concluding remarks Dr. T. S. S. Rajan who presided in the later part of the meeting stressed on the necessity for the early diagnosis of Leprosy and said that the old remedy Chanmoogra oil still held the field as the specific for the disease. He also warned the practitioners about giving intradermal injection and pushing Potassium Iodide.

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

A Scheme for Improving the Public Health of the Zemindars of the Lyallpur District.

The chronic ignorance prevalent in all ranks of society in our country is greatly responsible for the deterioration of public health. The condition of villages discloses a lamentable lack of knowledge of the rudiments of hygiene and sanitation. This is well-known that the indigenous system of medicine has long ago been consigned to the limbo of oblivion and as there is no satisfactory method of guarding against the ever-increasing evils of that system the only science now in the field is the western scientific treatment. People living in cities and towns have reached a stage of development in which it is hardly necessary to enlighten them upon the ways and means of preserving public health. But the villages and their inhabitants know absolutely nothing about these things. The result is an alarming mortality amongst them and the undermining of the public health. The Doctors who come in contact with the villagers are the only persons who can be looked upon to effect improvements in the existing state of affairs. The dissemination of knowledge pertaining to public health will in the long run be a source of benefit to them. When the ignorant masses learn the advantages of the western sciences they will naturally need the services of the

doctors and as virtue begets virtue the services that they will render in the beginning will be their own gains in the end. It is proposed, therefore, to start a public health campaign under the auspices of the All-India Medical Licentiates' Association on the following lines:—

OBJECTS: Dissemination of the elementary principles of hygiene and sanitation amongst the ignorant masses.

PROCEDURE: 1. Distribution of literature, pictures and leaflets on the above and altered subjects,

2. Periodical magic lantern lectures at important fairs, social gatherings, Anniversaries of Schools, Tournaments and other suitable occasions.

PERSONNEL: A Sub-committee under the All-India Medical Licentiates' Association will be formed with its headquarters at Lyallpur. The Honorary Secretary of this Committee will maintain a list of those gentlemen who agree to carry on the above campaign in their respective jurisdictions. A periodical programme will be issued beforehand by the Honorary Secretary to ensure the successful working of the campaign.

FUNDS:—1. Public donations.

2. Grants from Local Bodies.

RULES AND REGULATIONS: The Sub-committee will be empowered to frame Rules and Regulations about the details of the work and will be at liberty to change them or add to them as occasion requires.

Gianchand Biaggana.

Allopathic Registrars for Government Indian Medical School.

In connection with the proposal now before the Government of Madras to appoint Registrars for the Government Indian Medical School, it is painful and surprising to note that Government have decided to allot these posts to Allopathic practitioners, especially at a time when a number of brilliant licentiates in Indian Medicine who are qualified for the posts, are still unemployed and are anxiously awaiting their turn of being offered such posts under Government whenever a chance arise. The reasons for selecting Allopathic practitioners as Registrars of Indian Medicine in preference to

L.I.Ms. are not quite apparent. An L.I.M. who has gone through a four years' course of training in which he has gained a good knowledge and thorough grasp of the subjects in Indian Medicine besides being trained in practical pharmacy and dispensing of indigenous drugs, is better suited for the post of Registrar than an Allopath who has had no training or insight into Indian Medicine. As a matter of fact, even the so-called F.I. Ms who are supposed to have undergone a two years' course in Indian Medicine cannot come up to the level of the L.I.Ms in their knowledge of Indian Medicine. It is therefore in the fitness of things that Government should take steps to open new avenues of prospects for the Indian Medical graduates who are turned out of the Government School at Kilpauk and protect their interests. Is it not unjust to appoint an Allopathic practitioner as a Registrar, especially as he has to sit in judgment over the question of efficacy or otherwise of Indian drugs? Is he the proper authority to shape the destiny of the Indian Medical Schools and Hospitals in India? Such a selection will be, to say the least, putting a square thing in a round hole and is sure to create discontent among the L.I.Ms. May I ask if the powers-that-be would countenance a proposal to appoint a Hakim or Vaid as Registrar of an Allopathic institution? It is not always that we can hope to procure the services of eminent doctors like Dr. Gananath Sen, Mr. G. Srinivasamurthy and Dr. A. Lakshminpathi who are well-qualified in both the systems of medicine and are free from bias and eminently suited to be at the helm of affairs concerning Indian Medical Schools and Colleges in India. Before introducing this new experiment, may I request the benign Government to pause a little and consider the feasibility of their proposal and see how far this new scheme will be workable without jeopardising the interests of Indian Medicine?

L. I. M.

(The grievance of the L. I. M. seems to be reasonable and modest and it is hoped that Government will not give room for such a complaint—E. D.)

Reviews.

DIABETES MELLITUS

OR

EROTOMANIA

BY

DR. M. VIJAYA RAGAVULU, B.A., M.B. & C.M.
PUBLISHED BY THE GAUTAMA PRINTING OFFICE,
PERIARNA MAISTRY STREET, MADRAS.
PRICE Rs. 5 or sh. 7-6.

Diabetes Mellitus is one of the most common diseases in India and it takes a large number of valuable lives. Any book, therefore, which treats the disease in a practical and instructive manner must be welcomed. In Southern India—particularly in the Province of Madras—writers on medical subjects are few. Diabetes is a disease where errors of diet play a large part. Europeans cannot understand the Indian dietary and consequently the books written by them are usually not practical. Indian doctors should come forward in large numbers and write books on diseases peculiar to this country and its people. Dr. Vijaya Raghavulu with the experience of over 30 years in the practice of medicine has now brought out a book on Diabetes and it must be unhesitatingly said that it is highly creditable to him and to the profession to which he belongs.

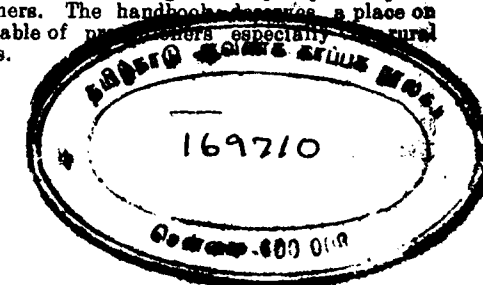
Many may not subscribe to his views about the causation of the disease and other items dealt with in the book and the name Erotomania given to it. The diagnostic methods given and the chapter on Pathogenics are highly practical. The book on the whole is instructive and readable.

SRINIVASAN'S MEDICAL HANDBOOK

PUBLISHED BY BHARATH PHARMACY,
TRIPPLICANE, MADRAS, PRICE Rs. 1-8-0

The Medical Handbook covers almost all branches of medicine and a large portion is devoted to obstetrics. The additions made in the new British Pharmacopia (1932) and the preparations removed from the old Pharmacopia (1914) are given in detail. This is very important and does away with the necessity of purchasing the new Pharmacopia by medical practitioners. The outstanding feature of the Handbook is the portion containing the synonyms of non-official remedies and the list of Indian drugs with their vernacular names. The vernacular names of Indian drugs which have come into use largely of late, are highly useful for practitioners who prescribe them. The standard prescriptions in use in large hospitals, given in the book deal with the treatment of almost all kinds of diseases, and the list of preparations containing morphia and other dangerous drugs with reference to the Dangerous Drugs Act will be of great help to private practitioners. The handbook deserves a place on the table of practitioners, especially in rural areas.

Papaya tablets relieve dyspepsia.



List of Postings of Sub-Assistant Surgeons for the month of January 1933.

No.	Names of Sub-Asst. Surgeons.	From	To
1	Dr. J. Ponnuswamy Pillai	L. F. Dy., Yercaud	Govt. Hl., Attur.
2	" P. K. Narayana Nambiar	Govt. Hl., Attur	c/o P., D.B., Salem.
3	" V. Krishna Rao	Leave	Govt. Hl., Ramagiri Udaya- giri.
4	" K. Varadarajan	L. F. Dy., Kunnawaram	Govt. Hl., Amalapuram.
5	" K. Achuthan Nair	Leave	c/o P., D.B., Tanjore.
6	" T. C. Sitaram	L. F. Dy., Vaithiswaran- koil	Govt. Head. Qrs. Hl., Trichy.
7	" A. Satyanarayana	Leave	Govt. Hd. Qrs. Hl., Tanjore.
8	" M. Pichumani Ayyar	Forest College Camp	Govt. Hd. Qrs. Hl., Tanjore.
9	" V. N. Narayana Ayyar	C. M. H. Hl., Mettur	Govt. Hd. Qrs. Hl., Tanjore.
10	" S. Sesha Reddi	Leave	L. F. Dy., Poonamalle.
11	" M. B. Victor	Leave	c/o D.H.O., Ramnad.
12	" A. Susaimarian	Govt. Hd. Qrs. Hl., Madura	L. F. Dy., Tirumangalam.
13	" K. S. Ganesan	L. F. Dy., Uttangarai	c/o P., D.B., Salem.
14	" Md. Yusuf Khan Sahib	L. F. Dy., Kaveripatnam	L. F. Dy., Uttangarai.
15	" A. Bhagyanatham Pillai	Police Hl., St. Thomas Mt.	Port & Marine Dy., Madras.
16	" E. Sengallappan	Govt. Dy., Kotpad	Govt. Hd. Qrs. Hl., Madras.
17	" T. S. Ramachandran	Govt. Hd. Qrs. Hl., Madura	c/o Civil Surgeon, Vizag. Agency.
18	" K. P. Nayagam	L. F. Hl., Nowrangpur	Govt. Hl., Tiruchengodu.
19	" P. P. Narayana Nair	Govt. Hl., Tiruchengodu	c/o Civil Surgeon, Vizag. Agency.
20	" M. V. Hanumantha Rao	Govt. Royapettah Hl., Madras	Govt. Ophthalmic Hl., Madras
21	" Ch. Krishnamurthy.	Govt. Ophthalmic Hl., Madras	Govt. Hd. Qrs. Hl., Masuli- patam.
22	" Md. Ayub Khan	Govt. Hd. Qrs. Hl., Ellore	Govt. Hl., Narasapur.

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| 1. Dr. D. Appalarasayya, L.M.P.,
Konitiwada, Attili P.O.,
W. Godavari Dt. | 4. Dr. William Samuel, L.M.P.,
L. M. Hospital,
Neyyoor, P.O., S. Travancore. |
| 2. Dr. K. V. Narasimham, L.M.P.,
Anatomy Section,
The Royapuram Medical School,
Madras. | 5. Dr. Usman Khan,
Civil Hospital, Trichur. |
| 3. Dr. S. V. Sitarama Rao, L.M.P.,
Sub Asst. Surgeon,
Biccavole, E. Godavari Dt. | 6. Dr. Syed Ikram Ali,
Kambrial P. O.,
Attock Dt. Punjab. |
| | 7. Dr. P. Narasimha Rao Naidu, L.M.P.,
Sub-Asst. Surgeon, Gooty. |

"For this Success of mine, you are solely responsible. Your earnestness induced me to launch into this course and your unfailing encouragement sustained me all through. My pen does poorly express what I feel....."

(Via) OTTAPALAM, } (Sd.) E. K. PADMANABHA NAMBIAR,
Malabar Dt. }
10-3-1933. Kannambra, Manchapra.

AMONG THE NON-MEDICALS.

Miss G. Chellamma, daughter of Mr. P. V. Nair. Forest Officer, Ayyalur, Madura Dt., Madras Presidency, who passed in the very first attempt with the help of the Postal Tuition given by the City College, Madras, deserves special mention in following circumstances. She had studied only up to Form IV and discontinued her studies in the year 1928. When she joined our course in July 1932, she was completely out of touch with her studies. She underwent our course only for six months.

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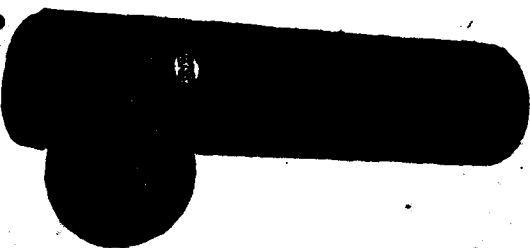
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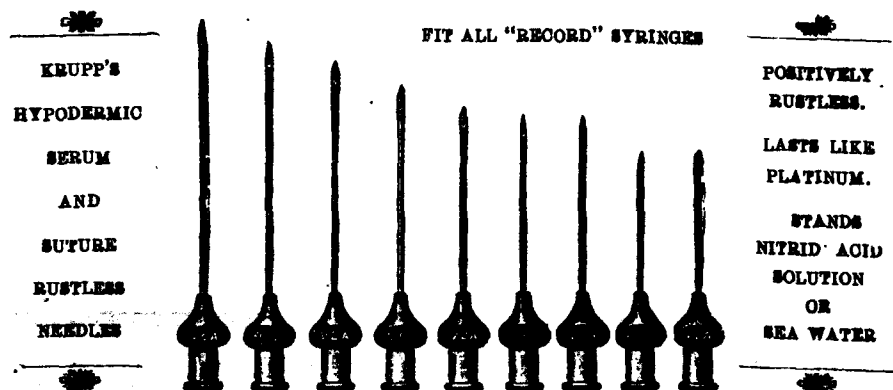
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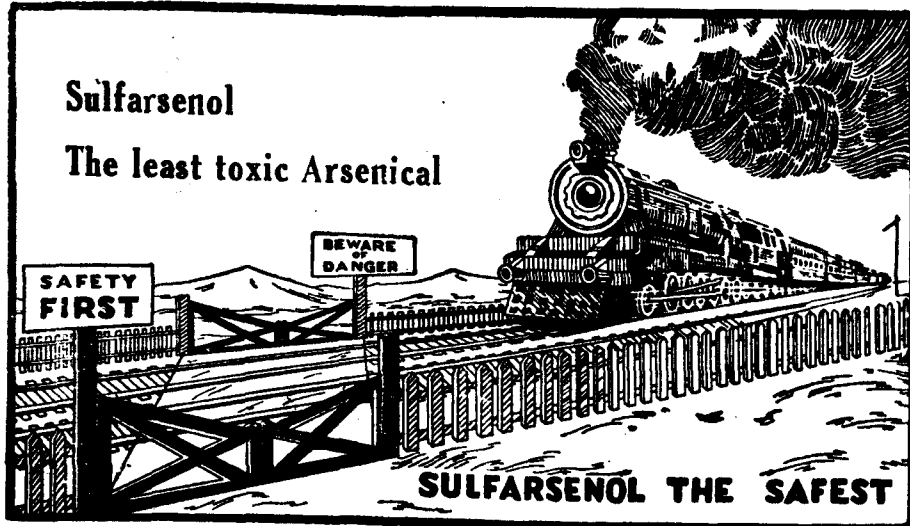
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