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Original Articles.

GLYCOSURIA

By

DR. S. S. RAO, M.D.,

Bombay.

By glycosuria is meant glucose (dextrose) in the urine.

The presence of glucose in the urine is detected commonly by two methods *viz.* the Fehling's test and the Benedict's test. The principle of both the tests is the reduction of copper from the cupric to the cuprous condition in the presence of an alkali.

The Fehling's is the older one, but since a positive reaction in case of this test may be due to the presence of not only glucose, but many more substances than in the case of Benedict's test, the latter test is more commonly employed now-a-days.

Benedict's test is performed as follows :-

5 c.c. of Benedict's qualitative reagent is taken in a test-tube and 8 drops of urine are added to it. The

mixture is boiled for 2 minutes and then allowed to cool. A positive reaction is indicated by a change of colour and turbidity. The colour changes may be green, yellow, orange, or brick-red according to the amount of the reducing substance. Before performing this test if the urine contains albumen it should be removed by boiling and filtering and if highly alkaline should be rendered slightly acid by the addition of a few drops of dilute acetic acid.

The substances in the urine which reduce Benedict's solution are :—
(1) the sugars *viz.*, glucose, levulose, lactose, and pentose (2) uric acid (3) creatinine (4) homogentine acid.

To eliminate all except the glucose and levulose the fermentation test is performed as follows :-

The sample of urine is boiled to expel all gas and kill all bacteria which

produce gas. The fermentation tubes are taken. The first is filled with a mixture of yeast and the sample of urine, the second with a mixture of yeast and plain boiled water and the third with a mixture of yeast and plain boiled water to which a small quantity of glucose has been added. The tubes are labelled A, B. & C. They are inverted over a basin containing mercury and set aside in an incubator at 37°C for about 12 hours. Tubes B. & C. act as controls.

If the urine contains either glucose or levulose tube A will contain gas which is carbon dioxide caused by the yeast fermenting glucose. Tube B is meant for testing the qualities of yeast; some kinds of yeast produce gas even in the absence of glucose and such yeast is useless for this test. Hence if the yeast is good there should be no gas in tube B. Tube C also is meant for testing the quality of yeast some varieties of which do not ferment sugar at all. If the quality of yeast is all right, tube C should contain gas. If the fermentation test should be of any value the controls should always be used.

The only substance which requires elimination is levulose. Levulosuria is very rare. It is found in persons with defective liver function especially after taking large quantity of fruits. The only way to distinguish this rare variety of sugar in the urine is by the polarimeter. Glucose is dextro-rotatory while levulose is levo-rotatory.

For all practical purposes a substance in the urine which reduces Benedict's solution and also is fermented by yeast is glucose. Glucose is found in the urine in the following conditions:

1. Diabetes mellitus.
2. In some persons after a heavy

carbohydrate meal (alimentary glycosuria).

3. In alcoholic coma.
4. Exophthalmic goitre and when thyroid is taken by mouth.
5. Severe physical or mental strain.
6. Chronic pancreatitis.
7. Apoplexy.
8. Tumours of the anterior pituitary gland.
9. Hyperplasia of the suprarenal medulla.
10. Bronsed diabetes (Haemochromatosis)
- 11 Renal glycosuria.

It is necessary to find out what is the disease that the person is suffering from, from among the above.

1. DIABETES MELLITUS: Here Glucose is constantly found in the urine, the blood sugar is more than 180 mgm per 100 c. c. of blood, there is polyuria, great thirst and unaccountable weakness. Sometimes the patient becomes unconscious and in the condition of coma, when the urine contains not only sugar but butyric acid, acetic acid and acetone.

2. ALIMENTARY GLYCOSURIA: In this condition sugar is found in the urine after a heavy carbohydrate meal. Ordinarily there is no sugar in the urine. They are the people who may later on develop diabetes because in them the metabolism of sugar is not properly controlled.

3. ALCOHOLIC COMA: The difficulty arises when we have to distinguish it from diabetic coma. In alcoholic coma the patient can be roused to a certain extent though with

difficulty. The breath smells of alcohol and not of acetone. In cases of diabetic coma if alcohol is given the breath may also smell of alcohol. This can be made from the history gathered from those attending on the patient. The urine will not be loaded with sugar and there will be no acetone.

4. EXOPHTHALMIC GOITRE: The internal secretions of the thyroid pituitary and suprarenal glands are antagonistic to that of the islets of Langerhans. Hence when thyroid secretion is more as in Exophthalmic Goitre the sugar tolerance is lowered and sugar appears in the urine. There will be the other signs also like tachycardia, tremor, exophthalmos and goitre. There will be the history in those cases where thyroid is taken by mouth for the cure of either obesity or myxoedema.

5. SEVERE PHYSICAL OR MENTAL STRAIN: The glycosuria in these cases is only temporary and there will be a history of great physical or mental strain.

6. CHRONIC PANCREATITIS: The examination of the stools will reveal a large quantity of undigested muscle fibres and neutral fat globules in this disease. There may be a certain amount of jaundice and the patient will be very ill-nourished.

7. APOPLEXY: The amount of sugar will be small. There may be albumen. The blood pressure may be high; the cause of the apoplexy is central haemorrhage, and murmurs may be found in the heart when it is due to embolism. When apoplexy is due to cerebral thrombosis there may be signs of syphilis. In very many cases of cerebral thrombosis in elderly patients, the blood pressure is high and the thrombosis is due to sudden

lowering of blood pressure in diseased arteries.

8. TUMOURS OF THE ANTERIOR PITUITARY GLAND: In addition to signs of increased intracranial pressure like headache, vomiting, and optic neuritis there is also hemianopia and signs of acromegaly.

9. HYPERPLASIA OF SUPRARENAL MEDULLA: In these cases there is very high blood pressure associated with the hyperglycaemia.

10. BRONSED DIABETES: There is pigmentum especially of the dorsum of the hands and ascites due to cirrhosis of the liver.

11. RENAL GLYCOSURIA: This can be diagnosed by finding the fasting blood sugar level. In these cases the sugar appears in the urine though the blood sugar is less than 1-20 mgms per 100 c. c. of blood. Normally the renal threshold for sugar is 180 mgms per cent. This is a family disease and several members of the family may be affected.

The most important and most common cause of glycosuria is diabetes mellitus and will be considered in detail.

Diabetes mellitus literally means sweet syphon. This is a disease characterised pathologically by degeneration of the islets of Langerhans, clinically by polyuria, polyphagia, polydipsia and glycosuria and metabolically by derangement of carbohydrate, fat and protein metabolism.

AETIOLOGY:

1. *Heredity*: It runs in families most probably partly by inheritance and partly on account of the same mode of living among the members of the family.

2. *Age*: In India it is mostly found among persons after forty. It is sometimes found among the young people in whom it takes a virulent course.

3. *Sex*: Males are more frequently affected than females.

4. *Build of Body*: It is more common among the obese individuals, short statured with short neck.

5. *Race*: It is now common among the Jews. In India it is a bit common in the Southern parts.

6. *Occupation*: Sedentary occupations involving great mental work predispose to it. It is not common in people who have to do a lot of physical work.

7. *Food*: People who indulge in eating food containing large quantity of carbohydrates and sugars are apt to get the disease more than people who eat sparingly.

The disease gains ground over the body in such an insidious way that it is sometimes discovered by accident either in an examination for insurance or when the patient goes to the doctor for some skin disease like eczema or boils or when an apparently small operation for whitlow or heel abscess is not making satisfactory progress.

Signs and symptoms: The patient generally comes to the doctor for some of the complication of the disease or for extreme weakness even when the body seems to be fairly well nourished. When questioned regarding the urine the answer invariably is, that there is nothing wrong with it, and that it flows in good quantity. A little close questioning reveals that he has to get up twice or thrice in the night to pass urine. The appetite is quite good and

sometimes voracious (polyphagia). There is extreme thirst (polydipsia) to make good the large quantity of water passed in the urine. The large quantity of urine (normal 50 oz. per day) is due to the water which is necessary to dissolve the sugar that is passed. The urine on examination is acid of high specific gravity (1030 or more) and contains sugar. There is generally constipation and the skin is dry. On physical examination the tongue is raw and dry (beefy tongue). There is nothing specially found on physical examination except it be some complications of the disease. The knee jerks are lost when the nervous system is affected e.g., when neuritis has set in. The sugar in the blood is more than 180 mgms. (normal 120 mgms. per cent). In cases of impending coma the alkali reserve of the blood becomes less than 55 per cent (normal 55 to 75 per cent by volume) and the carbon dioxide content of the alveolar air less than 5 per cent which is normal. The urine contains B. oxybutyric acid, acetoacetic acid and acetone. The ammonia coefficient of the urine which is $\frac{\text{ammonia nitrogen}}{\text{total nitrogen}} \times 100$ becomes more than normal which is 5 per cent.

COMPLICATION:

1. *Pruritis*: This is specially found in the genital region most probably on account of the irritation of sugar which is passed in the urine.

2. *Eczema* or successive crops of boils or abscesses occurring frequently.

3. *Carbuncle*.

4. *Wounds* either due to accidents or operations which do not heal for a long time.

5. *Gangrene* especially of the toes or perforation of the foot.

6. *Neuritis* especially sciatica.

7. *Dimness of vision* or cataract.

8. *Coma*.

In all these cases the urine should always be examined for sugar.

9. The diabetics are more prone to get tuberculosis than healthy individuals. Pneumonia when it occurs becomes very serious as either gangrene of the lung or coma ends the scene.

10. High blood pressure is found among the diabetics and hence blood pressure should always be taken.

11. There is sometimes a concurrent nephritis and whenever sugar is found in the urine, albumen should always be looked for.

12. Other complications are optic neuritis, retinitis and lepaemia with its characteristic retinitis in which the blood in the vessels shines on account of the large amount of lipoids contained in it.

To understand the subject of diabetes properly it is necessary to know the functions of the Islets of Langerhans and the metabolism of carbohydrates fats and proteins. The Islets of Langerhans first discovered by Von Mering and Minkowski consist of 3 varieties of cells the Alpha, Beta, Gama which have granules staining differently. The functions of the Alpha and Gama cells are not known. The Beta cells secrete the hormone, insulin discovered by Banting and Best which convert glucose into glycogen which is stored in the liver. Whenever these cells are diseased insulin is not secreted in proper quantities all the glucose in the blood is not converted into glycogen, and hence sugar is passed in the urine. The secretion of insulin is not only dependent on the integrity of the Islets

of Langerhans but also on the hormones of the anterior pituitary, thyroid and suprarenals. The hormones of these glands are antagonistic to insulin and hence whenever there is excess of these hormones, the insulin secretion becomes less and glycosuria occurs.

CARBOHYDRATE METABOLISM: All the carbohydrates which we ingest are converted ultimately into the monosaccharide glucose which is converted into glycogen by insulin to be stored mostly in the liver and to a small extent in the muscles to be utilised as occasions arise for purposes of energy, the ultimate products of glucose metabolism being carbon dioxide and water. In diabetics on account of the deficient secretion of insulin the glucose is not converted into glycogen and it does not circulate in the blood as such. As there is no sufficient supply of insulin to convert glucose into glycogen to be utilised by the tissues, glucose is not used up, but is excreted in the urine.

FAT METABOLISM: The fats that we take in, are converted into fatty acids and glycerine absorbed by the lacteals as such reconverted into fats and sent to the thoracic duct and thence into the blood stream. The fats are found in blood in three forms viz, neutral fats, lecithin and cholestrol, the latter two having in addition a phosphoric acid radicle attached to them. The fats go to form (1) integral part of all the cells like the proteins. These are called essential fats because they are essential for the cell structure and are never used up. They are found in the brain, heart, kidney and spleen. (2) The storage fats which are found in the depots e.g., subcutaneous tissues omentum, perineal tissues etc., and are used up as occasion arises. Whenever fat is used from the storage depots, it first of all goes to the liver when certain changes occur on

account of which its iodine content is increased and saturation decreased and then is used for combustion. Normally the result of combustion is oxidation and the final products are carbon dioxide and water; the combustion of fats takes place in the fire of glucose and when the fire of glucose is not bright as in the diabetic subject, smouldering of the fats takes place; the oxidation of fats stops short up to the stage of oxybutyric acid, aceto-acetic acid and acetone.

B. Oxybutyric acid has got the following formula:—

$\text{CH}_3 \cdot \text{CHOH} \cdot \text{CH}_2 \cdot \text{COOH}$. When oxidised 2 of the Hydrogen atoms are removed and aceto-acetic acid $\text{CH}_3 \cdot \text{CO} \cdot \text{CH}_2 \cdot \text{COOH}$ is formed. When further oxidation takes place acetone- $\text{CH}_3 \cdot \text{CO} \cdot \text{CH}_3$ and CO_2 is formed.

B. oxybutyric is not poisonous; but aceto acetic acid and acetone on account of the enolic group which they contain exert a toxic effect on the respiratory centre and vital centres on account of which the breathing becomes deep (Kussmaul type) unconsciousness (Coma) is produced. Aceto-acetic acid is excreted in the urine, while acetone is excreted both in the breath producing an ethereal odour and in the urine giving the Rothera's test.

While circulating in the blood the B. oxybutyric acid, aceto acetic acid and acetone which are called the ketone bodies produce ketosis. They combine with the alkalis of the blood diminishing the alkali reserve; they stimulate the respiratory centre on account of which as already stated, the respiration becomes deep, more CO_2 is given off resulting in lowering the carbon dioxide tension of the alveolar air. As the glucose is burnt imperfectly the fats require a

large amount of oxygen for oxidation hence the respiratory quotient which is $\frac{\text{CO}_2 \text{ given off}}{\text{oxygen absorbed}}$ becomes less than the normal '8.

PROTEIN METABOLISM: The proteins which we take in our food are ultimately converted into amino-acids; these are taken up by the tissue cells to build up the body and to make up for the wear and tear that occurs in life. Those which are not used up are broken up in the liver deaminised into ammonium NH_3 and a non-nitrogenous residue (oxyacids). The ammonium is converted by the liver into urea and excreted and the non-nitrogenous residue which 58 per cent. of the protein is converted mostly as glucose and very slightly as acetone bodies. In a diabetic, it is found that the body mechanism as though in its anxiety to make up for the glucose which is excreted unutilised deaminises all the amino acids and non-nitrogenous moiety is converted into glucose. In the starving diabetic the tissue proteins also are so converted. This is the cause of great wasting in a severe diabetic. Another change which takes place is that the ammonia is not converted into urea, but is taken up by the ketone bodies and converted into ammonia salts. Thus the ammonia coefficient, $\frac{\text{Ammonia nitrogen}}{\text{Total nitrogen}} \times 100$ which is normally 5 per cent is raised.

DIAGNOSIS: The diagnosis has already been discussed to a certain extent when dealing with the causes of glycosuria. To recapitulate, whenever glucose is found in the urine, diseases of the endocrine glands like pituitary, thyroid, suprarenal should be excluded. Bronsed diabetes and pancreatitis also should be eliminated. The urine should be examined for acetone by Rother's test which is done as follows:

To about 5 c. c. of urine, ammonia sulphate is added until the saturation point is reached. About 1 c. c. of strong solution of ammonia is added and then a freshly prepared solution of sodium nitroprusside. A permanganate colour develops if acetone is present.

If both glucose and acetone are present the case is one of diabetes mellitus with impending coma.

A blood sugar tolerance test should also be done whenever there are facilities. It not only eliminates renal glycosuria but also gives an insight into the severity of the case.

It is performed as follows: The patient is given a light meal overnight. Early in the morning his blood is taken and a sample of his urine also. He is next given 50 gms of glucose in 400 c. c. of water. The blood is taken and the urine passed at intervals of half an hour for two hours. All the specimens of blood and urine are examined for the sugar content and a curve plotted.

The following results are obtained:—

In a renal glycosuria the fasting blood sugar is less 120 mgms still there is sugar in the urine. In all the other specimens though the blood sugar does not rise more than 120 mgms per cent the urine contains sugar.

In a moderate case of diabetes the fasting blood sugar is a little more than 180 mgms per cent, the blood sugar rises within half an hour after the administration of glucose but comes down to the fasting level within two hours. All the specimens of urine contain sugar. In a severe case of diabetes the fasting blood sugar is very much higher than 180 mgms per cent and does not come to the

fasting level even after two hours. All the specimens of urine contain sugar. Midway between these two latter curves is what is called the lag curve which denotes a moderately severe case of diabetes. In this curve as its name suggests there is a tendency for the sugar to return to the fasting level within two hours though it lags behind.

PROGNOSIS: The discovery of insulin has considerably improved the treatment of diabetes and increased the longevity of life, though the treatment is life-long. Coma which was invariably fatal during the pre-insulin days has now lost most of its dread and provided insulin is given quickly and in adequate doses, there is very great chance of recovery. Diabetes occurring after the age of 40 is mostly benign and can be controlled in some cases with suitable diet alone. In juvenile diabetes the prognosis is not good as insulin has to be given in pretty large doses together with dietetic restriction throughout the life of the patient.

TREATMENT: This resolves into —

1. Treatment of a mild case of diabetes.
2. Treatment when there is an impending surgical operation.
3. Treatment of a severe case.
4. Treatment of diabetic coma.

Mild cases which occur on the wrong side of 50 mostly require substitution of wheat for rice, abstinence from sugar, moderate exercise in those with sedentary habits, and a fast once a fortnight. All septic foci should be looked for and treated. Saccharin up to 3 grs per day may be taken by those in whom the craving for sweetness is uncontrollable.

When there is a surgical operation impending such as a carbuncle, the urine must be made sugar free by giving 30 units of insulin once or twice a day and giving 1½ ounces of glucose half an hour after the injection. The insulin and glucose may be increased until the urine is sugar free. The operation is to be conducted preferably under local or spinal anaesthesia or under gas and oxygen if a general anaesthesia is considered necessary. Ether can be given along with these if a deeper anaesthesia is considered necessary; but it should not be given alone. Chloroform should never be given to diabetics.

Before treating a severe case of diabetes it is always advisable to have a glucose tolerance test done if facilities are available. The patient is then put on a diet containing a moderate amount of carbohydrate without any sugar and insulin is given to reduce the glycosuria and to remove the ketosis if any. In the meanwhile a careful examination of the patient is made to find out if there are any septic foci, in the nose, teeth, tonsils, gall-bladder and appendix the blood examined for Wassermann to find out whether there is syphilis and the urine tested for albumen to find out whether there is nephritis. The septic foci if any, should be treated first as it has been definitely established that any acute infection or septic foci decrease the sugar tolerance. Treatment for syphilis and nephritis can be deferred to a later date after the urine has been made sugar free with a suitable diet and insulin. The patient after having been accustomed to a restricted diet for a short time can now be safely starved when only water, coffee or tea without sugar or milk is given. The urine is examined for sugar every day and in the ordinary course becomes sugar free within 24 to 48 hours. Even if it is not sugar free, he is no

longer starved but started slowly with the diet required for his age and weight. The fact that his urine is not sugar free even after starvation shows that the diabetes is severe and that the sugar in the urine is from the body proteins and possible from the fats too.

The best way of finding out the diet necessary is not by finding out the exact body weight which may be more than standard on account of oedema etc. or less on account of under-nutrition but by means of certain tables such as of Walker and Dreyer: The body length is found out by measuring the height of the person when he sits on the ground with knees bent, the height from the surface of the floor to the top of the head being the body length. The tables give the standard weight for both sexes for the different body lengths. Having got the weight the basal metabolism, *i.e.*, the metabolism of the person when he is completely at rest both in mind and body should be found out, metabolism consists of anabolism and catabolism, *i.e.*, both building up of the tissues and wear and tear. These processes involve oxidation which means combustion and hence can be expressed as calories per 24 hours. There are also tables which give the basal metabolism for different weight, at different ages. Another rough and ready method is that 15 calories are required for every pound of body weight. The basal metabolism of women is about 10 per cent less and about 20 per cent should be added to basal metabolism to get the metabolism of persons doing muscular work. For children there are special tables at different ages. This will give the number of calories for 24 hours.

It is known that for purposes of diet calculations for dietary 1 gram of carbohydrate = 4.1 calories and 1 gram of protein = 9.3 calories. The total

number of calories obtained for 24 hours should be divided between the various kinds of food stuffs.

Let us take the example of a man whose is 100-lbs. His caloric requirements are roughly 1,500. It has been found that a man requires ¾ gm. of protein for every lb. of body weight. This means that he requires 35 gms. of protein which is equivalent to 307 calories which leaves 1,193 calories for carbohydrates and proteins. Woodyat says that carbohydrates should bear to fats a definite ratio as carbohydrates are antiketogenic. He says $F < 2C^{\frac{1}{2}}$ where F denotes fat, C carbohydrate and P proteins; roughly it works at C:F:: 1:1.3. According to this, carbohydrates should be allotted 518 calories and fats 675 calories *i.e.*, carbohydrates 129 gms. and fats 73 gms. Except in the most moderate cases of diabetes more than 70 gms. of carbohydrates should not be given in the beginning and the fats should be proportionately less *i.e.*, 40 gms. Therefore 75 gms. of protein 70 gms. of carbohydrate and 40 gms. of fat should be divided between the four meals which the patient takes *viz.*, breakfast, lunch, tea and supper; breakfast and tea being lighter than lunch and supper. There are tables which give the number of gms. of proteins carbohydrates and fats per ounce of the various articles of food stuff. By referring to these the dietary can be arranged.

The patient who has been starved is slowly started on this diet increasing it daily. The urine is also examined every day. As soon as sugar appears in the urine insulin should be injected. The first dose should be 5 units given half an hour before supper. The urine is examined three hours after meals and if there is sugar in the urine for three continuous days the insulin is slowly increased, the dose given in the night being

always less than that in the day. As soon as sugar disappears in the urine the diet is again increased, and the dosage of insulin also increased, on the same plan as detailed above. This process is continued until the calculated diet is given. A little care is to be observed when the insulin dosage has come to 30 units in the morning. A blood sugar estimation should be very gradual and if possible controlled by blood sugar estimation.

The dosage of insulin necessary for the standard diet without any glycosuria is continued for a month when it is necessary to make a blood sugar estimation. It so happens in some cases, that the carbohydrate tolerance increases most probably because the overstrained pancreas gets the much needed rest and the islets secrete a little more insulin than before. In these cases the insulin dosage has to be suitably diminished. Thereafter blood sugar estimations should be done quarterly and the insulin dosage regulated.

As the patient requires injections of insulin throughout life, he should be taught to give the injections himself and examine the urine for sugar. Though irksome at first, after a time he will take to it as assiduously as to his other duties. He should also be advised to carry a lump of sugar with him and to swallow it as soon as he feels very weak as extreme weakness is one of the first signs of hyperinsulism.

The treatment of diabetes will not be completed if no mention is made of the high carbohydrate diet advocated by Rabinowitch or the treatment with protamine zinc insulin. The Rabinowitch dietary has a lower total calorific value and the fat content is low. 5 lbs are deducted from the weight when determining the calorific

value so that the patient is kept constantly undernourished. It has been found that such a diet is very useful in those cases where a large quantity of carbohydrate is necessary as in juvenile diabetes, diabetes complicated by gall-bladder disease or by myocardial disease.

Protamine zinc insulin injections diminish the number of injections of insulin on account of the slow absorption of the insulin. Instead of the two daily injections, only one can be given. It cannot be depended upon when a quick effect is necessary as in the treatment of coma.

TREATMENT OF DIABETIC COMA: Patient is given immediately 40 units of insulin intramuscularly. Blood is taken and sent for blood sugar and alkali reserve estimation whenever possible. Hot water bottles are kept at the hands and feet or whenever feasible the body warmth is preserved by an electrically heated cradle. As there is great dehydration a pint of glucose saline 5 per cent is given subcutaneously and $\frac{1}{2}$ gr. of Ephedrine intramuscularly to combat the shock. Soda bicarb upto 3 drachms per 24 hours should be given by the nasal catheter.

If the patient is unconscious even after three hours, another 40 units of insulin are given at 20 c. c. of 10 per cent glucose intravenously.

This process is continued until the patient recovers consciousness. If facilities for blood sugar estimation

are available larger doses of insulin can be given.

An enema to clear the bowels should be given after the patient recovers from the initial shock. After recovery from the coma the patient should be put on ordinary milk diet and insulin injections three times a day until the urine is free from sugar. He can then be treated like the ordinary case of diabetes as detailed above.

A word of caution should be given regarding the comas from which the diabetics may suffer.

These are of two varieties viz., diabetic coma and insulin coma. Sugar is not found in the urine of patients suffering from insulin coma, but it may not be found also in a few cases of diabetic coma. This may happen when a diabetic is suddenly deprived of all carbohydrates. The sugar in the urine disappears, but the fat metabolism becomes so suddenly upset that ketosis develops producing coma. So the urine of a diabetic comatose patient should always be examined for sugar as well as acetone.

In insulin coma there is neither sugar nor acetone in the urine. There is the history that the patient is a diabetic and that he has taken an injection of insulin. The face is flushed, the body is bathed with perspiration; tremors and convulsions before the coma. An injection of occur adrenalin (1-1000) $\frac{1}{2}$ c.c. brings on recovery.

PHONE No: 3034

Dr. S. R. BHAT

M. B. B. S., L. D. Sc. (Calcutta)

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THE SULPHANILAMIDES

By

CAPT. E. S. GOPLAN, M.B.; M.S., A.I.R.O.,

Surgeon, Subbulakshmi Memorial Clinic, Coimbatore.

A volley of papers have been appearing in contemporary medical literature on the role of sulphanilamides, not only in streptococcal infections but also on other acute and chronic bacterial infections. The scope of its uses is being rapidly extended and it is time to have a comprehensive idea of the indications for and contraindications against its uses. Chemotherapy is a triumph to the German pioneers in synthetic chemistry. A near compound to Prontosil was isolated in 1919 not for medicinal purposes but for tinctorial purposes in textile industry. The prontosils were patented in 1923 and it was after thorough experimental and therapeutic researches, that the products were put into the market early in 1935.

The original prontosil, practically out of use now-a-days consisted of a water-insoluble basic azodye (Sulphamido-chrysoidin) suitable for oral administration. For injection purposes an acid dye known as prontosil soluble was evolved. It was proved that the complex molecule of sulphamido-chrysoidin, owed its therapeutic virtue to the fact that it was reduced to P-amino benzene sulphonamide in the body. This simpler compound, easy of chemical preparation, and devoid of patent rights, has become an open product and most of the manufacturing chemists, all the world over, including India, have put up products on different trade names on the basis of this formula or closely allied modifications.

Sulphanilamide structurally consists of benzene sulphonamide with an

amino group in para position. Activity ceases if the amino-group is transferred to the ortho or meta positions. If substitution is made in the amino group sulphamido-chrysoidin, prontosil soluble, benzyl-amino benzene sulphonamide (proseptasine) and soluseptasine are formed. In those in which one hydrogen atom of the sulphonamido group has been substituted, uleron, and similar compounds are formed. Some compounds of the sulphone group which are not chemically related to the sulphonamides, are said to possess antibacterial value. The sulphamido-chrysoidins possess marked activity against haemolytic streptococci of Group A, B, C but not D and F: meningococci and gonococci but none against the pneumococcus with the exception of type III which is itself virtually a streptococcus. Uleron and M and B 693 possess additional action against pneumococcus. The sulphones also possess action against the pneumococcus and streptococcus haemolyticus but are toxic. The results of the new therapy in puerperal sepsis due to haemolytic streptococci, in erysipelas, in streptococcal meningitis and in meningococcal infections, in gonorrhoea, in soft sore, in pneumonia and in coliform infections of the urinary tract have been assessed.

An ordinary dose of the sulphanilamide is absorbed in about four hours from the alimentary canal and an effective level in the blood and spinal fluid is quickly reached besides its penetration into all organs, secretions, effusions and even foetus in utero. Since the drug is soluble to the extent

of 0.8 percent at the body temperature it is available for parenteral uses also.

Sulphanilamide is completely excreted in the urine in 24 hours. The effect of one dose persists for about six hours and for continuous treatment doses should be administered at intervals of four to six hours. In severe infections stiff initial doses are desirable. It is estimated that a daily dosage of 1 gram is necessary for every 20 lbs of body weight. Children require roughly 50 per cent of the adult doses.

TOXIC EFFECTS.

The toxic effects in individuals varies. Though theoretically a dose of 150 grams can be given to a man judging from animal experiments, even a dose of 3 grams per day had produced toxic results. Minor symptoms, such as nausea, dizziness, disorientation and depression are common especially in ambulant patients. There is real danger to the community in that self treatment with its abuses is possible in gonococcal infections.

Sulphanilamide may produce acidosis which can be overcome by administration of alkalis. Sulphamoglobinemia and methemoglobinemia, often insufficient to cause definite cyanosis may occur. But no fatalities from cyanosis have been recorded.

Fever, attributable mainly to the administration of the drug may occur and should not be mistaken for a recrudescence of the original infection. The fever is probably due to a reaction due to the products of dissolved bacteria. There may be accompanying rashes on the exposed parts. Agranulocytosis, anaemia and exfoliative dermatitis are the most serious complications. Particular care is necessary in the administration of the drug to debilitated patients. Acute haemolytic anaemia may occur but it

quickly responds to blood transfusion. As the drug is excreted through breast milk care should be taken while prescribing it to nursing mothers. It will be safe to wean the baby temporarily. As sulphates increase the poisonous effects of this preparation Magnesium or Soda Sulphates usually prescribed as purgatives in toxic conditions should be strictly avoided.

THERAPEUTIC USES

It must be clearly understood that the use of sulphanilamides is not a short cut to established surgical conditions, which require suitable surgical treatment. When pus is present undrained, surgical drainage must be the procedure of choice.

In acute streptococcal infections, septicaemia and erysipelas 1 gram daily for every 20 lbs of body weight should be the normal dose.

In meningococcal meningitis the drug has been found effective in both Group I and II infections. Whether administered orally or subcutaneously the drug rapidly reaches the cerebrospinal fluid and inflamed meninges. Early treatment is imperative for clinical success. It is definitely conceded that intrathecal uses are not necessary. It is also proved experimentally that serum and sulphanilamide have been found to be more effective than either alone.

In Gonorrhoea 10 to 20 per cent of patients fail to respond. It has absolutely no prophylactic value. Experienced observers definitely state that treatment is more effective when begun after the acute stage has passed. Adjuvant vaccine or prior vaccine treatment is also said to increase the curability rate. It is definitely said to be effective in metastatic gonorrhoea ophthalmia and in epidemic vulvo-vaginitis.

In non-venereal urological infections sulphanilamides may compete successfully with the mandelic acid preparations. An alkaline urine with sulphanilamides is more bactericidal. But mandelic acid to have effect must have a decidedly acid urine. But, where as sulphanilamide is effective against *Bacilli Coli* and *Proteus Vulgaris* it has no action against *Streptococcus faecalis* and against Group D. B. haemolytic streptococci. Mandelic acid is ineffective against *Proteus Vulgaris* will eliminate most streptococcal infections. In prostatitis and suppurative pyelitis sulphanilamide is more effective.

There is some activity against the staphylococcus. A few cases of success have been reported in typhoid and paratyphoid fevers and some chronic carriers also are reported to be freed of the infection. It is useful in gas gangrene. Isolated success has been reported in actinomycosis, undulant fever, trachoma and chronic streptococcal dermatitis. Views differ on its uses in tuberculosis, lymphogranuloma inguinale, malaria, bubonic plague, canine distemper, H. Influenza. It is said to be of no use in rheumatic fever and H. Pertussis.

MODE OF ACTION.

This subject is at present controversial, but it is widely accepted that the drug exerts a bacterostatic or perhaps bactericidal action on the invading organisms, which enables the natural body defences eventually to eliminate the infection. These drugs are also not specifically proved to have action on the immunity mechanisms.

PROPHYLACTIC USES.

Experiments on animals have shown that animals treated with effective doses of sulphonilamides on being subjected to test infections, do not prevent the course of the infection for 24 hours, but after that time the infection ceases and the bacteria are destroyed. The delayed action of the drugs in vivo and in vitro suggests they do not act immediately on the primary infections, that during the six hours of contact while the drug is being slowly absorbed on to the organism some multiplication of the bacteria occurs, but, as absorption progresses multiplication becomes more and more difficult and eventually ceases.

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DYSENTERIES

By

DR. K. NARAYANAMURTHI, M.D.

(Continued from the last issue)

PSEUDO DYSENTERIES.

Pseudo Dysentery is a condition associated with dysenteric symptoms where the causating factor is not the organism found in the faeces of the patients suffering from dysentery, such organism being either not pathogenic and if pathogenic the disease produced by such an organism being not usually dysentery to start with.

I shall first enumerate the few types of pseudo dysentery where the organisms found in the stools are not pathogenic. The organisms found in these dysenteries are the flagellates known as *Trichomonas intestinalis* and *Chilomastri mesnili* or the spirochaetes known as *Spirochaeta eusygyrata* or the coccidium *Isospora*.

Trichomonas intestinalis and *Chilomastri mesnili* are the flagellates found in diarrhoeic stools in patients convalescing from Bacillary or Amoebic dysentery. These parasites are considered to be non-pathogenic to man; the presence of these in large numbers in the bowel contents is due to a great extent to the fluid medium in the gut in which they live. In a case of chronic diarrhoea where a large number of active flagellates are found it becomes a matter of difficulty to assign the role they play in the causation of diarrhoea. Hence the term "flagellata dysentery" indicates an abnormal degree of infection of the gut by these flagellates. But one is sure that these organisms in the intestinal canal do not cause any symptoms. No drugs have been found to have a lasting effect on these parasites.

Spirochaetal dysentery is said to be due to the presence of a large number

of spirochaetes in the intestinal canal. These organisms are gram negative and they are composed of three or more spirals and are known as *Spirochaeta eusygyrata*. These spirochaetes are definitely non-pathogenic to man.

Intestinal coccidiosis is caused by the organism known as *Isospora*. More than 150 cases of infection have been recorded with this organism in man. Though undoubtedly parasitic in man, it is not seriously pathogenic. But Manson Bahr and Connel have described a case where continuous debilitating diarrhoea of six weeks duration associated with numerous Charcots Leyden crystals and pus cells in the faeces and a high eosinophilia in the blood. These were cases from the West Indies. With regard to coccidia of the genus *Eimeria* in human faeces Thomson and Robertson have pointed out that these are actually parasites of fish and that the oocysts are passed unchanged through the human intestine after ingestion. These organisms were formerly thought to be parasitic in the human intestine.

Brief mention is made about other pseudo dysenteries of non-tropical kind. These are the complications of other known diseases specific or constitutional.

MALARIAL DYSENTERY: A blood stained discharge or more frequently an intestinal haemorrhage is found to occur in the abdominal forms of subtertian malaria. The blood is very dark due to petechial haemorrhages into the intestinal mucosa. These cases as a rule are very serious. The parasites of subtertian malaria may be

seen within the red blood cells, by which diagnosis can be made. Besides blood in faeces, the other clinical signs and symptoms of the patient such as the sweating, the yellowish tinge of the sclerotics and skin and the enlarged spleen should suggest malaria. Violent diarrhoea may be the outstanding clinical symptom of an intensive sub-tertian malaria infection which is often known as algid type of malaria.

KALA-AZAR DYSENTERY: Blood and mucus may be passed in the faeces in advanced and chronic cases of Kala-azar. This is said to be due to an ulceration of the bowel by the Leishman-Donovan body. The parasites are present in large numbers in the villi of the small intestines. Polypoid growths have also been found in the mucous membrane of the large intestines which are caused by the parasite.

Internal piles which may be associated with a mild form of dysentery is at times confused with other dysenteries. A correct diagnosis may be made by an internal examination.

The commonest form of profuse offensive diarrhoea followed by dysentery with blood and mucus in the faeces is found to occur in tubercular ulceration of the large bowel. Acid fast staining of the stool will settle the diagnosis.

Colitis of the ulcerative, membranous and haemorrhagic varieties resembles Amoebic dysentery in clinical features and in the character of the stools. But it can easily be found out by the microscopic examination of the faeces as well as by means of

the sigmoidoscope. Idiopathic ulcerative colitis is becoming increasingly common. It is undoubtedly a disease "sui generis" and is distinguished by pyrexia, toxæmia and intense anaemia, a tendency to a spontaneous cure and great liability to relapse. Mucous colitis is a very frequent sequela of both Bacterial and Amoebic dysentery and is frequently being confused with both.

Chronic constipation may lead to stercorol ulceration of the bowel which is often associated with myxoedema and may give rise to mucus and blood in stool. Certain surgical conditions such as simple polypus cancer of the bowel, intersusception, or even syphilitic disease of the rectum or rectal stricture following climatic bubo, (the diagnosis of which is easily determined by a digital examination) should always be borne in mind. Polyposis of the intestine which might become malignant is often a distressing symptom. A foreign body in the rectum may cause dysenteric motion. In diverticulosis blood and mucus is often passed. This condition is frequently met with in the tropics. It should not be confused with other cases of dysentery. In chronic mercurial poisoning on account of the large intestines being ulcerated dysenteric stools often occur. In paratyphoid B. infection we notice loose motions with mucus and occasionally blood.

The treatment of all varieties of pseudo dysenteries depends entirely on correct diagnosis. When the diagnosis is correct, the line of treatment becomes easy. The rationale to be followed should depend upon the root cause and other indications.

NOTICE.

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Abstracts.

CALCIUM THERAPY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT

By

EDWARD PODOLSKY, M.D.

Brooklyn, N. Y.

Kirby has done some interesting work on the relation between calcium metabolism and senile cataracts. Experiments with living lensepithelial cells in a synthetic medium showed that these cells can withstand relatively large increases in the calcium content of the medium without showing any change in appearance, growth or activity, but relatively slight reductions of the calcium content caused toxic reactions in the cells.

It has been ascertained that normally the relative proportions of calcium and potassium in the lens is similar to that of the red blood cells. In cataracts their ratio is partially reversed. In studies of calcium metabolism on patients with senile cataracts no evidence of deficiency had been found. These patients show a perfectly or slightly positive calcium balance when of a neutral or slightly alkaline diet. When on an acid residue or when receiving injections of parathyroid hormone these patients show a negative calcium balance. These findings would indicate an entirely normal calcium metabolism with senile cataract. Calcium had not in any way caused the absorption of lens opacities when given. It would be interesting to know what role calcium plays in the prevention of lens opacities if given sufficiently early and over a sufficiently long period of time.

In acute inflammations of the eye, calcium has proven of value. Herrold

in a case of rapidly progressive iridocyclitis of gonorrheal origin with threatening iris bombe, obtained favorable results. There was some difficulty in getting dilatation of the pupil and at the same time treatment was begun there was a complete loss of vision. A few hours after the second intravenous injection of calcium gluconate the pupil began to dilate and within 48 hours the patient could see the fingers at a distance of a foot. Within five days the exudate in the anterior chamber almost completely disappeared. Rochard and Steyn have demonstrated by experiments in animals that it is possible to inhibit the production of fluid in the eyes by the administration of calcium chloride.

Calcium lactate is of definite value as a prophylactic against hemorrhage complications in eye operations. It should be given in 5 grain doses three times a day for several days before operation. In cases where there are recurrent hemorrhages of the retina, calcium is of value in preventing them.

Some oculists have used calcium in cases of glaucoma. Gouterman, among others, has reviewed this problem thoroughly. Glaucoma seems to be due in part to hyperactivity of the cervical sympathetic. According to Gregnier, calcium has a tendency to decrease this hyper-irritability. Abadis, Alt, Weeker have reported favorable results with calcium chloride by mouth and by injection in this condition.

Another eye condition in which calcium has been found to be of value is phlyctenular ulcer. Cremer treated a series of 75 children with phlyctenular conjunctivitis and keratitis by the oral administration of calcium. A control series was observed and it was found that the ulcers healed much more quickly in those who were given calcium than in those who were not. Recurrence of the ulcers occurred in 14% of cases treated without calcium and in only 8% of those who had received calcium. The calcium was given in the form of calcium gluconate, one heaping teaspoon three times a day.

Allergy as manifested in the form of vasomotor rhinitis has interested the medical profession for quite some time. The beneficial effects of calcium in this condition has frequently been noted. It has been proven that there is an increase in the in vivo diffusibility of calcium vasomotor rhinitis as well as in other allergic conditions. This is characterized by an increased cellular permeability which many believe to be the basis for allergic phenomena. Calcium has been found to be of value in cases of vasomotor rhinitis.

Hay fever is one of the most puzzling allergic manifestations in which a definite calciprivia has been demonstrated. The prospect for a complete cure through casual therapy is small. The best way to ward off the attack is to send the patient away to a region where there is no vegetation or to altitude stations where grasses bloom later than in the lowland. Immunization with pollen vaccines is productive of some benefit. Hanhart, who has studied this problem exhaustively, has found that calcium therapy may also prove of value. Calcium is given orally in this condition. A level teaspoon of the powder three times a day; or intramuscular injections of calcium gluconate in 10cc. doses twice a week.

In 1930 Stein showed that one of the most constant and important alterations associated with otosclerosis is a lowering of the blood calcium and a raising of the cholesterol levels. He also confirmed the findings of others when he showed that sclerotic symptoms are likely to be much aggravated during pregnancy. The most rational and effective treatment for this condition is the treatment first advocated by Leicher, and later by Stein. This consists of the intravenous injection of calcium gluconate. Three injections are given the first week and one injection each week thereafter. In pregnant women this treatment is continued throughout gestation.

Ersner and Shapin found that in otitis media associated with sinusitis calcium and parathyroid hormone daily were of great value. The combination of calcium, parathyroid hormone and irradiated foods is especially indicated in cases of an increase of calcium in the pus of the middle ear, or a decrease in the blood serum calcium.

For the control of hemorrhages from the nose, throat and larynx calcium had been used for a great many years. Migeveili has found that no drug is more useful for this purpose than calcium. His regime consists of giving 4 grams of calcium daily, and for children doses of 20 to 30 ctg. per year of age. He begins this treatment five days before the operation and continues it up to and including the day of operation, and for three days thereafter.

Johow has also found calcium therapy to be of value in checking surface oozing and decreasing mucous secretion. He also found that there was less of an edema of the uvula and palate when he gave an intravenous injection of calcium gluconate immediately after the removal of the tonsils.

(The Eye, Ear, Nose and Throat Monthly, December 1938)

Notes on Therapeutics, Diagnosis and other Medical Subjects.

WHOOPING COUGH.

BY

D. G. REDDI, M.D.

The prevalence of whooping cough in South India is fairly great and from time immemorial the residents were fully aware of its infectivity. Both complications and mortality are much less here than in the colder climates. Perhaps this is the reason why people do not consider this as a serious disease. Though it is a infectious disease very few cases are reported to the Public Health Department.

The causative organism is *Hæmophilus pertussis*. The disease is conveyed from one child to the other by droplet infection. The incubation period is from three days to three weeks. Later the child suffers from coryza and bronchitis which finally ends in definite paroxysms. The whooping period lasts from three to six weeks. The condition is infectious throughout the prodromal period and early part of actual disease. The child has to be segregated from 4 to 6 weeks after the whoops have appeared. Complications are chiefly pulmonary: Capillary bronchitis and bronchopneumonia. Due to strain of coughing, hernia, prolapse of rectum, subconjunctival hæmorrhages and cerebral hæmorrhages may occur.

The disease confers life-long immunity.

DIAGNOSIS: Once whoops develop there is no difficulty. Before that, contact with an infected child should give rise to suspicion. Both total and relative lymphocyte counts increase

enormously in this disease. Where there are facilities the organism should be grown from the expectoration. For this, cough plate method is superior to the older ones. The plate containing special media is held a little away from the child's mouth when it is coughing and then incubated. Any bacteriological laboratory will be in a position to supply this media.

TREATMENT: As there is no specific remedy, the treatment of whooping cough is purely symptomatic. The fewer the drugs placed in the stomach, the better. The guiding principles are to segregate the child, help to reduce both the incidence and severity of the paroxysms and prevent complications. The ventilation should be ample and the diet nutritious served in small quantities at frequent intervals. A fairly tight abdominal binder reduces the incidence of vomiting and the child seems to feel a sense of security and well being while wearing it.

The time honoured sedatives that are used extensively even to-day to allay paroxysms of cough are bromides, benzyl benzoas and tincture of belladonna. A common prescription in vogue is

R/

Sodium Bromide.	dr. 1.
Tr. Belladonna.	dr. $\frac{1}{2}$.
Tr. Hyoscyamus.	dr. 1.
Tr. of Sweet Orange.	oz. 2.

Half a teaspoonful every 4th hour.
(1 grain of bromide for one year).

A small dose of quinine may be added to the above mixture. Better results are obtained with smaller doses of belladonna. For a six months child 1/10 m.m. and for a 2 years child 1/4 m.m. per dose is enough. In the place

of sodium bromide, gold tribromide may be used as it gives better results. 1/20 to 1/10 grain in solution may be administered three times a day. The same is now available in a patent form 'Elixir bromaurate' (elixir of gold tribromide). The dose is half to one tea-spoonful thrice a day after food. Some of the recent additions to the above remedies are sodium amytal, acetanilid, chlorotone, ephedrine hydrochlor and synephrin.

Sodium amytal $\frac{1}{2}$ grain, Amidopyrine 3 grains in a capsule. 1/4 to one dose of this powder may be given before bed time. Acetanilid may be substituted in the place of amidopyrine (to ward off agranulocytosis) when paroxysms are severe antipyrine gives better results. Ephedrine hydrochloride may be given with benefit at bed time. A child of one year can tolerate easily 1/4 grain. synephrin can be given in larger doses without the disadvantages of ephedrine. When paroxysms are severe and continuous a mixture of carbon dioxide and oxygen (6 per cent. carbon dioxide) may be given through a nasal catheter. This can be maintained even for a week. Some prefer ether injections; 0.5 c.c. is given the first day and subsequently one c.c. by intramuscular route. As local necrosis is fairly frequent, ether and oil mixture (5 to 50 per cent.) may be slowly run into the rectum both morning and evening (1 dram of mixture per year). In a few select cases, good results are seen when X-ray exposures are given to tracheo-bronchial glands.

PROPHYLAXIS: The old vaccines are of doubtful use. Vaccines prepared with recently isolated strains of *Hæmophilus pertussis* are said to be better. 1 c.c. is given in the first week followed by 1.5 c.c. in the second and 2. c.c. in the last week. Bacterial

antigen can be safely used even when symptoms have appeared. Convalescent whole blood or serum is of some preventive value, if given to contact cases, before catarrhal symptoms develop.

TREATMENT OF HICCUGH.

Hiccough may be the only complaint for which a practitioner may be consulted or it may be a complication which the practitioner has to tackle while treating a patient for any functional or a constitutional disorder. Some cases of hiccough may appear idiopathic but careful observation and understanding of the history of the case will always lead the practitioner to establish the fact that hiccough is always a symptom of a disease and not a disease itself. To understand the rationale and indications of the treatment of hiccough the practitioner should have an idea of the mechanism involved in the demonstration of this symptom and the cause at work which stimulates this mechanism to bring about the hiccough. Hiccough is due to a clonic spasm of the diaphragm resulting in a sudden inspiration. This is as suddenly terminated by the closure of the glottis. The nerves concerned are the phrenic nerve and the laryngeal branches of the vagus which control the glottis. So any abnormality which may stimulate these nerves either in their origin, the course or distribution will produce hiccough. So it may be inferred that hiccough may start as a complication of any organic or functional disease in the organs which directly or indirectly affect the phrenic nerve and the laryngeal branches of the vagus at their origin, the course or the distribution.

Obstinate hiccough may be persistent symptom in brain tumours, meningitis or hydrocephalus. It may appear in functional disorders as

in epilepsy and hysteria being attributed to fright or shock. The higher centres are frequently irritated by toxins due to specific infections such as influenza, malaria, typhoid fever. Obstinate hiccough is usually a terminal symptom occurring in constitutional diseases as in diabetic or uraemic coma and in gout etc.

The causes that stimulate the phrenic or the vagus in their course or distribution are the inflammatory diseases of the lungs or the heart. Mediastinal tumours may also irritate the phrenic nerve. Inflammatory lesions of the stomach and intestines or their converging the peritoneum or the mesentery which irritates the vagus in its distribution are usually the causes of hiccough. Mere irritation of the mucous membrane of stomach or intestines due to strongly spiced food stuff is enough to start the hiccough. Intestinal worms may irritate the vagus and produce hiccough. Hiccough has no age restriction. It is seen in the new born as well as in persons who are very old. It must be remembered that a few hours of hiccoughing may be a serious import both to a feeble infant or a infirm person in advanced age.

The treatment of hiccough depends upon the location and removal of cause or causes that start the trouble. In many instances this seems to be an impossible task and the hiccough turns out to be an ordeal not only to the patient but to the doctor as well. In terminal stages of diseases such as uraemia, diabetic coma or any such toximia, hiccough is a grave omen usually implying that death is very near. Practitioners must have come across cases of persistent hiccough stopping suddenly with little or no treatment or appear to be relieved by either physical artifices or by drugs. It

must be within the experience of some that no treatment was of any avail and time alone was the curing factor. Death occurs usually due to underlying causes and possibly hastened by the nervous and physical exhaustion of persistently obstinate hiccough.

So at the outset when the patient is conscious simple measures such as holding of breath, deep breathing in and out, firm pressure over the diaphragm or on the phrenic nerve, inhalation of smelling salt or firm traction on the tongue, sometimes arrest the hiccough. Sinapism to the pit of stomach may also be resorted to. Administration of alkaline carminative mixture containing preparations of volatile oils may in a few cases relieve the patients if the cause is the irritation of stomach. The alkaline treatment may also lessen toximia. At times mechanical vomiting by tickling the fauces ends hiccough.

Nervous sedatives in the form of mixtures containing large doses of Bromides, Chloral hydras, Belladonna, Hyocymus, Chloretone, Sodium luminal will in case of nervous excitement and may be of much use. In some cases antispasmodics such as nitroglycerin or atropine by mouth or skin may have marvellous effect. Morphia should be the last drug to be tried with great caution. Administration of a general anaesthetic might relieve cases of hysteric origin. In diabetic cases insulin injections are indicated. When all the above measures fail, heroic measures have been advised in books such as deadening the phrenic nerve by the injection of novocain, or stretching of the nerve or actual cutting of it. In fine successful treatment of this most obstinate symptom depends upon the power of observation and clinical skill of the physician than any book knowledge remembering always

that the practitioner has to treat a patient and not a symptom. Attempts should be made to find out the underlying cause that has started the hiccough keeping in mind that the strength of the patient should be maintained while treating this troublesome and obstinate complication. Non-irritating at the same time stimulating and nutritive diet should be prescribed. The strength and resisting capacity of the patient should be maintained by the administration of glucose by mouth, rectum or by the intravenous route depending upon the severity of symptoms. It is also a good plan to make the patient drink water at frequent intervals in between diet so as to help the system to eliminate the poisons or dilute them especially in cases where toximia is the root of the trouble.

HEART FAILURE.

(*Precis of a lecture delivered by Dr. R. V. Chokalingam, B. A., M. B. B. S., on 10-12-1938 at the Independent Medical Practitioners' Association, Tinnevely.*)

The lecturer said that breathlessness on slight exertion with or without cough which eventually developed into dyspnoea very often, the patient not being able to lie down flat on bed, is one of the earliest symptom in heart failure. By palpation alone one could find out the apex beat and the area of the heart and even murmurs could be felt. Modern instruments like the electro-cardiogram etc., should be used only to confirm the findings obtained by palpation and auscultation. Skiagraphy was also very useful in finding out the size of the heart. He mentioned a case where skiagraphy revealed a big heart where the heart trouble was not suspected at all the patient complaining only of a chronic cough. He added that cardiac murmurs were of no

significance unless they were systolic and the estimation of the reserve power of the heart was of more importance than anything else.

TREATMENT: The lecturer said absolute rest both physical and mental was very essential and nothing but Morphia would give the rest essential for a cardiac patient. If any lung trouble was anticipated atropine 1/100 grain might be added to it. Otherwise injections of Morphia 1/4 grain repeated if necessary was the best drug in cardiac pain. Morphia injections might be repeated for at least four or five days without any untoward effect. For combating oedema he condemned the frequent use of drastic purgatives. He advocated digitalis in the form of powder, digitalin, or Gury's pill to be given continuously till symptoms of Digitalis poisoning like vomiting and very slow pulse appeared. Next to digitalis he mentioned preparations of diuretin like calcium diuretin and iodocalcium diuretin. For oedema he suggested Salyrgan to be given early in the morning intravenously. Urea was in his opinion also a very good diuretic. He also mentioned that dehydration should not be produced very rapidly since uraemia might result. A heart patient must be in bed at least for six weeks after all oedema was gone. Diet should be given frequently and in small quantities and articles of diet likely to produce flatulence should be avoided. For the treatment of Angina and Coronarythrombosis, morphia in repeated doses was the best. In heart diseases due to syphilis no arsenical treatment should be given. Pot. Iodides and Liqr. Hydrargri perchlor and Bismuth Injections were the best.

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WHITHER MEDICINE IN INDIA ?

The closing week of the last year and the early days of the new year 1939 have witnessed numerous medical conferences all over India by the practitioners and protagonists of all the systems, the modern scientific system, ancient Indian systems, the Hybrids, the Homoeopaths, the Naturopaths. The ancient system—wallahs want us to return to the days of Charaka and Susruta and one of them was earnest about the restoration of Ayurvedic surgery in its pristine purity. The Madras L. I. Ms want a tinge of both but press for increasing recognition in the shape of a medical college equality of status, etc. The homoeopaths, claim as much recognition if not more for their own system. The naturopaths live by their pet slogans and miserably fail to understand that man has travelled far from the days of Adam and Eve and the forbidden fruit has been eaten bringing in its trail, the so-called hell in the Kingdom of God. Not one association or sect has attempted to solve the fundamental question, the future of medicine as a whole in India. The Governments of the past, miserably failed to visualize a future for Indian medicine and were content merely to give recognition and attention to the official system only, ignoring the treasures contained in the ancient Indian systems. Nor are the practitioners of the ancient systems helpful towards a rational assimilation

of the fruits of ancient labour with the scientific and towards exact interpretation of modern medical science.

Charaka and Susruta, Hypocrates and Galen, were giants in their own times no doubt, but are we to understand that what they wrote are the last words on the subject? This blind hero-worship is quite inconsistent with the requirements of such an exacting mistress as the modern science based on truth. The progress of the 19th and the present centuries might have been accelerated to a great extent if men both in Asia and Europe, had not blinded themselves by the dazzling brilliance of their giants and their dogmas in science, religion etc. The ayurvedists want us to shut ourselves from the modern developments in medicine based on scientific truths. People of such mentality have at all ages, and in all countries blocked human progress and we pray that our politicians should not, out of false patriotism be a party to perpetuate an attitude of mind which refuses to think and see.

We strongly hold that India must play her part in the evolution of an essentially Indian system of medicine based on a thorough synthesis of the ancient love and the modern system. For this purpose what is wanted is not the opening of hybrid schools and colleges but an intensive and extensive research by highly qualified scientific

men, in the vast mineral and vegetable pharmacopoeia belonging to the ancient Indian systems and the yet unstudied medical flora of India. Will there be clear thinking and a rational attitude? If not medicine in India will not know "whither".

ALL-INDIA MEDICAL CONFERENCE.

There are at present two All-India Medical Organisations,—the Indian Medical Association and the All-India Medical Licentiates' Association. The former admits medical men of all qualifications who are registrable in the Provincial Medical Registers and the other, the All-India Medical Licentiates' Association is a sectarian organisation originally started for guarding the interests of the medical licentiates in service and has at present amongst its members a fair number of licentiates in private practice. The members of both these Associations met in conference during the last Xmas season, the Indian Medical Association at Meerut and the Licentiates' Association in Gowhati. It was the 29th time that the licentiates organised an All-India Conference and the All-India Medical Conference held under the auspices of Indian Medical Association was the 15th, the first five conferences being arranged by the members of the medical profession in different centres as a preliminary to start a medical association on the lines of the British Medical Association. Unfortunately for the medical profession the history of the growth of the scientific medical profession in this country could not be different from the political history and if there appears a dawn of political emancipation it was all due to the activities of the Indian National Congress. We wish those who are holding the strings of the Indian Medical Association realise

that the activities of the Indian National Congress were more spectacular than real till Mahatma Gandhi made those who were running the Congress movement feel that unless the political conscience was created in the masses there was no hope for Indians to assert themselves as a nation. The strength of the Congress depends not so much on the leaders but on the masses on whom the leaders have to depend. Therefore the aim of the leaders should be to endear themselves to those who follow them and the sure method to do this is to look after the welfare and prosperity of those who are being led. The expression of sympathy in a pious manner will not do unless such expression is followed by solid practical work which should impress the members of an association that the organisation exists for all. Year after year the successive Presidents of the Indian Medical Association have been adding a long paragraph to their addresses exhorting the members of the medical profession to join the Association in large numbers and Dr. George D' Silva, the President of the Association followed the example of his predecessors. But none so far tried to find out the causes of the callousness on the part of the members of the medical profession to increase the numerical strength in spite of the fact that the Association exists for the entire profession and not for a particular class of practitioners. Attempts were made to unite the two all-India Associations the Indian Medical Association and the Licentiates' Medical Association but unfortunately these attempts instead of demonstrating even a tendency towards unity seem to have increased the gulf of separation as is evidenced in the address of Dr. D. V. Venkappa who presided over the last Conference of the medical licentiates who said amongst other things relating

to the idea of amalgamation of two Associations:

"To me it appears that dissolution is unthinkable, and amalgamation with the Indian Medical Association of doubtful value and utility. Dissolution, like suicide, will be like going against natural destiny. Our amalgamation with the Indian Medical Association is like the comradeship of vanquished and the victor of the oppressed who has realised his strength and of the oppressor who has become friendly out of strategical motives. Let us not forget the fateful history of the medical licentiates since the time of the East India Company, how they have been exposed to all kinds of ridicule and contempt by a handful of medical graduates who out-heroded herod in their derision of this class of medical practitioners who did them no wrong, and who instead of condemning the system which held the graduates and the licentiates as slaves in foreign service indulged in the gratification of their own superior claims and needs at the expense and utter neglect of their downtrodden comrades, and how, only 29 years ago, Sir Balchandra of Bombay lead a tearing campaign that the medical licentiates should not be included within the scope of the Bombay Medical Registration Act of 1912, because, he said, they were unqualified medical men".

It is most unfortunate that the feeling of distrust prevails in the very province where the Indian Medical Association has the largest number of Branches outnumbering even those in Bengal, the province of the birth of the Indian Medical Association. Dr. Venkappa goes a step further and makes a gesture to the graduates that they might join the All-India Licentiates' Association for which purpose he suggests to change the name of this Association calling it All-India Medical Association. 'The conditions in practice are now so changed' adds Dr. Venkappa, 'that it is no longer a question of competition between the graduates and licentiates as between the General Practitioners and the Specialists'.

We trust the Indian Medical Association will take the cue out of passing events and steer clear of the vested interests minding the interests of the Association as a whole. The first step towards this end is to effect an inten-

sive propaganda for the repeal of the All-India Medical Council Act. India is a continent in itself and is found too unwieldy to be controlled by a Central Government and the autonomous Provinces have come into existence. Why should not the medical profession enjoy the same autonomy and have autonomous medical councils? A Central Council like the Medical Council of India which has no medical register of its own and which cannot wield disciplinary control over those whose education is under its control is like a body without a soul. The provincial councils which are devoid of the control of medical education are certainly bodies without a life. Should the medical profession in India tolerate the humiliation of a control from a foreign medical council when the whole nation is determined to have political independence? If there existed in India a medical profession without castes and grades the Medical Council of India would not have come into existence. It has to be said that the medical licentiates did suffer and are suffering for want of sympathy from others in the profession who are not medical licentiates. We cannot blame the non-medical licentiates, for it is but human that advantage is being taken by individuals or group of individuals of existing conditions in individual interests. Instances are not wanting where medical licentiates placed in different positions minded their personal interests to the detriment of the interests of their own class or of the entire profession. The condemnation by a few licentiates of the proposed policy of the Madras Government to prohibit or restrict private practice to the full-time officers of the Government is an instance in point where a few licentiates have been taking advantage of the temporary position they occupy, not minding the interests of their own

class who form the bulk amongst the members of the independent medical profession. From our personal knowledge of the affairs of the Madras Medical Council where there are only two representatives for the medical licentiates out of fifteen the total strength of the council and of the affairs of the medical profession at least in this province to the extent we are entitled to possess, we can assure both the licentiates and others in the medical profession that the relationship between these two groups is a matter of personal equation, the more the individuals in each group come in contact with each other in non-competitive fields (in monetary matters) the more are the chances for the harmonious growth of the medical profession. The constant contact in non-competitive fields is sure to lead to harmony even in the fields of competition in course of time. Just at this juncture it was providential that a medical licentiate in the person of the Hon'ble Dr. Rajan, the Public Health Minister of Madras abolished the medical schools in the Madras province and converted the existing school into a college. This is a right move in the direction of the growth of a national medical profession.

We are glad to note that the Presidents of both the conferences are not in favour of encouraging separate medical institutions to encourage the indigenous system of medicine in this country and advocated in strong terms the need of synthesis of the Indigenous Systems with the existing Scientific System so that India may have one Scientific Medical Profession for relieving human suffering. It is certainly a most retrograde step not even sound financially for the All-India Medical Conference to pass a resolution suggesting the necessity of bringing into existence separate schools

for teaching indigenous systems of medicine where the students are to be given instructions in Modern Chemistry, Physics, Biology, Physiology, Anatomy and Pathology and also in elementary Surgery, Obstetrics and Preventive Medicine. Such a hybrid system of medical education will far from encouraging the indigenous system is sure to do harm for the growth of scientific system of medicine. With all due respect to those who sponsored a resolution on the above subject at the last All-India Medical Conference who also incidentally approved the action of the Government of Bombay in this direction we should say that the Conference did not voice forth the views of the Scientific Medical Profession on this subject.

We did not receive the resolutions passed by the All-India Medical Licentiates' Conference. We have given a gist of the resolutions passed by the All-India Medical Conference in the Correspondence Columns. It is regrettable that the Indian Medical Association which has been existing for 10 years have not so far placed before the public or the profession any tentative schemes either for the benefit of the medical profession or the public relating to the subjects such as Rural Medical Relief Scheme, the National Health Insurance Scheme etc., and have been piously passing resolutions year after year without pressing their views in the form of a memorandum to be submitted to the Government. They have been merely requesting the Government to do even the initial work which ought to be done by this Association as is being done in other civilised countries. It is said that the Public Health Minister for United Provinces has recognised the Local Branch of the Indian Medical Association as an advisory body to be

consulted by the Government in all matters relating to Public Health both preventive as well as curative. It is a step in the right direction which should be taken advantage of especially at a time when eight out of eleven provinces are under the control of Indian National Congress. At the same time we warn the members of the Scientific Medical Profession in this country to be watchful and vigilant to guard the interests of the growth of a scientific medical profession and not a growth of an hybrid medical profession of the type envisaged by the Indian Medical Conference which though it may temporarily advance the political interests will surely in course of time dig the grave of the Scientific Medical Profession.

News and Comments

Pathology and Practice: "As is your pathology so is your practice". This is the oft quoted dictum of the late Sir William Osler. This giant in medicine of the modern times, must be an example for all of us. In this present day commercial world, success is interpreted in terms of gold, silver, or the number of digits in the bank account. A practitioner who always endeavours to fix his faith in the pathology of the diseases he treats, need not regret, even, if, at times he is not as successful as his brother who is superficial. The names of medical men who, rich in the worldly way, but poor in adding to the knowledge of the medical science are forgotten, the moment they depart from this earthly existence. But the names of truly scientific men in the practice of medicine, live as long as humanity is expected to exist. Man is a peculiar animal. A good number of ordinary ailments get all right with or without treatment. Suggestion plays an important part in the cure of so many

diseases, in the shape of treatment at the hands of a reputed physician, a bottle of medicine, a needle prick, psycho-therapy etc. Were it not for the fact that so many diseases are spontaneously cured, the reputation of a medical man, of a charlatan, of a naturopath, of a homoeopath, or of any one gratuitously offering medical treatment, would have suffered. Though patients may give us credit or discredit as scientific men we should never cease to consider the clinical manifestations of a disease in correlation with the pathogenesis and pathology or in other words structural and functional variations. Sir William Osler meant this and this only.

Modern medical science is the result of the age long application of observation of the living and the dead, illuminated and confirmed by a host of scientific tests. The body must be considered as a whole and the phenomena of life, disease and death must be considered as one process due to action, interaction and reaction of various forces. This study is pathology in its widest sense. We are elated to learn that this aspect was rightly emphasized by Rao Bahadur Dr. T. S. Tirumurti, in his illuminating address as President of the Medical and Veterinary Sections in the Indian Science Congress, held recently at Lahore.

Turning to Pathology, Dr. Tirumurti said: "Though originally 'Pathology' meant a study of disease in all its aspects, the meaning had become restricted to the study of the cause of disease and the attendant structural alterations and functional changes. It is a pity that, in most of the teaching institutions and hospitals, the pathologist should be denied the opportunity of being also a clinician. In most cases, the pathologist is a whole-time officer whose duties are confined only to the laboratory. In many instances, the departments of pathology, bacteriology and bio-chemistry are made to function as isolated departments under independent heads. The pathological, bacteriological and bio-chemical laboratories should, in my opinion, be under one unified control and that the persons, who are working in these laboratories, should have

a living interest in their subject by constant association with patients in the hospital wards".

An undergraduate student is bewildered at this heterogeneous conglomeration. The late Sir William Osler was as keen a physician as he was a pathologist. In his younger days, it is said that he never missed an autopsy of his cases or any other case in the Montreal Hospital, whether it was day or night. But unfortunately as Dr. Tirumurti has pointed out there is now a tendency for the members of the medical profession to forget this fundamental relation between practice and pathology and many are drifting and drifting, God knows, where. We hope and trust that Dr. Tirumurti, who as the head of a Medical College, will lay the foundations for interrelated medicine in complete fusion with pathology. To this end the pathology museums must be reorganised to give a composite picture of the diseased processes from the starting point in the clinical sense to the microscopic picture of the diseased organ or organs. Such a museum should also include serial clinical photographs and serial skiagrams also.

Physician and Patients :—Though India has not a sufficient quota of qualified medical practitioners in the proportion one sees in other civilised countries, the lot of practitioners is such that any advice as to how to build a successful medical practice will be quite welcome. Dr. Horace H. Rew, Director of Examinations, Royal College of Surgeons was recently in India in connection with the holding of primary F.R.C.S. examination and he delivered a lecture on 4-1-1939 at the K.E.M. Medical College, Lahore under the auspices of the Punjab Branch of the British Medical Association. Speaking on the subject, "The Medical Practitioner as seen by the Lay men", he gave some valuable tips as to how to earn the

gratitude and affection of his patients. The latter manifestations are the real foundation and a sound capital to build up private practice. The following quotation from his speech giving the description of three types of doctors is worth the serious consideration of the practitioners. If the advice which is clothed in this description is followed, many a struggling practitioner will feel his life less burdensome and more easy. Dr. Rew said that there were three types of doctors which might be generalised as good, bad and very bad.

"Firstly came the very cautious doctor who was quite safe but did not inspire confidence. He knew his job well, but spoilt it by adding uncertainty to the mind of the patient. A second type was the very modern and up-to-date doctor who oozed self-importance wrapped himself in tongue-twisting words, delighted in making mysteries and gave the patient a learned discourse upon some particular fad of his own. He, too, probably knew his job but did not manage to inspire confidence in the patient. The third type was the very human and sympathetic doctor who made the patient feel better the moment he entered the room. This man assumed that the patient had a certain amount of intelligence, discussed the symptoms with him and told you quite simply what he thought was the trouble. This was the man who earned the gratitude and affection of his patients. He had the "beside Manner."

Dr. Rew deplored the present tendency in doctors to depend entirely on purely mechanical processes, Pathology, Bacteriology, Electricity, X rays etc., in the matter of diagnosis of diseases instead of relying on physical signs and symptoms. He believed that the most successful practitioner was he who was able to read and interpret the physical signs and symptoms of the patient and who used what he called the mechanical processes as corroboration rather than as substitute for his own diagnosis.

Central Health Board: At the instance of the Government of India an All-India Advisory Body called the Central Health Board was constituted about a couple of years ago by the

India Government. The Board consists of representatives of the Governments of all provinces. There is representation for the Army and the Railway Departments. The Native States are also represented. There are a few non-officials not belonging to the medical profession. The chairman of the Board is the member of the Executive Council of the Viceroy, in charge of Education, Health and Lands, and the Secretary is the Public Health Commissioner to the Government of India. The aim of the Board is to have a uniform policy in matters of Public Health especially in the campaign for preventing diseases, for the control of epidemics and for maternity and child welfare work. To be in touch with all the provinces it is the intention of the Board to meet periodically at the Head Quarters of each province. The Madras Presidency was the first province to have its turn and the Central Health Board met in Madras for two days on the 9th and 10th of this month. Excepting Central Provinces and the Frontier Province all the rest of the Provinces were represented. The Public Health Ministers of the three major Provinces, Madras, Bombay and Bengal with the heads of the Public Health Departments were present and also the Ministers of two minor provinces, Assam and Orissa. The rest of the provinces were represented by the Directors of Public Health excepting the Bihar Government which was represented by the Secretary, Local Self Government.

The formation of a Central Board with the representatives of all Governments indicates that the Governments exist for the welfare of the people and that it is possible for all political parties to meet on a common platform to discuss about the problems of health and welfare without minding political differences. The public Health Minister of Madras demon-

strated this last December when he summoned a conference of all Public Health Ministers in Madras. So far so good. But we wish to point out to the Central Board that there signs in Madras Presidency which was certified by the Secretary of the Board to be far in advance to the other provinces in that it has a woman Asst. Director of Public Health and that the Local Bodies have been realising the necessity of having Maternity and Child Welfare Departments more than the Local Bodies in other provinces. To the extent of a larger advance in this direction of Public Health work the independent Medical Profession has been proportionately deprived of its legitimate responsibilities in the welfare of the public and signs are not wanting that the staff entertained in the Maternity and Child welfare work by the Government and Local Bodies are usurping the practice of general practitioners. The Madras Municipal Corporation is the worst sinner in this respect and the infection is spreading in the mofussil where the Local Bodies were made to work this scheme in the way the Madras Corporation does. Unlike other Public Health activities it is indeed very difficult to demonstrate preventive and curative functions in the Maternity and Child Welfare work. The Bradfield Committee says:

"Great care must be taken lest the welfare work, which is primarily preventive in nature develops mainly a curative character. The centre should not usurp the function of a hospital or dispensary....."

In spite of this warning it was not possible for the committee not to incorporate curative functions in the welfare work as could be seen in the sentence which follows the very warning referred to above.

".....but, if sound development of welfare work is to take place, facilities for the relief of suffering must be made available."

This means for India wide extension of rural dispensaries and rural medical officers."

The Brodfield Committee which consisted of officials in majority seem to have completely ignored the fact that apart from the medical staff in the Government Hospitals and Dispensaries there are general practitioners who do the largest bulk of curative work. It is the general practitioners more than the State paid practitioners, in hospitals and dispensaries who are usurped of their legitimate responsibilities. If schemes of welfare work instituted by Government do not mind this usurpation of the legitimate functions of the general practitioners, the Central Health Board will be doing positive harm to the people in its zeal to serve only a small minority coming under the care of the schemes initiated by the Board.

It is indeed very satisfactory that the Central Health Board realise that welfare work should extend to rural areas also. Taking into consideration every aspect of welfare work including the financial, the agents to do this work cannot but be the Subsidized Rural Medical Practitioners. We wish the Central Board will explore the possibilities of expecting the rural practitioners to do both Curative and Public Health work on a yearly subsidy of Rs. 500 not forgetting that the high paid medical officers of the Government Department could not cope up with the double functions and a separate Department was created with pay and emoluments higher than that paid to the medical officers of Curative Department.

Public Health Bill: We congratulate the Hon'ble Dr. T. S. S. Rajan on his success in getting the Public Health Bill passed by the Legislative Assembly on 20-1-1939. This Public Health measure more than any other activities of Dr. Rajan has justified

the selection of a medical man as one of the members of the cabinet to be in charge of Medical Portfolio. The Madras Government was the very first in India to introduce a piece of beneficial legislation compelling local bodies to carry out essential duties relating to Public Health for which purpose a statutory allotment of fund has been made. The Local authorities are to provide adequate health staff for executing the functions pertaining to them. Penal provision has also been made to punish those breaking the health laws. As expressed in these columns on a previous occasion the Madras Government showed exceptional conciliatory attitude during the passing state of the Bill and though the Minister-in-charge of the Bill was distinctly against the provision of exempting conscientious objectors from vaccination and inoculation the Government finally yielded to the agitation of a section of the public against vaccination. Provision has been made in the Bill to exempt conscientious objectors who should declare before a Magistrate specially empowered by the Government that he believes that vaccination or inoculation is injurious to his health or the health of his child. The successful working of the Public Health Act depends entirely on those who are entrusted with the executive duties to carry out the provisions of the Act. Persuasion and not threats will educate the ignorant masses and make them realise that obeying health laws is for their own good. The authorities should spare the rod of authority to a great extent or else they will spoil the purpose of this most beneficial measure.

Lady Minister Speaks Out: The Hon'ble Mrs. V. L. Pandit, United Provinces Minister of Health inaugurated the XVth All-India Medical Conference at Meerut on 27-12-1938.

While expressing her entire sympathy with the demands made from time to time by Medical Conferences she expressed her despair relating to the lengthy process of the working of the Government machinery and said it took sometimes years before any practical effects could be given to the demands of the people. Regarding Government Hospitals she said 'they were rapidly becoming a disgrace to the Province'. To make up for the want of co-operation between the people and hospital authorities she said that the Government had decided to form hospital committees to give the public a hand in the management of the hospitals. She admitted that medical aid in rural areas was practically non-existent. Yet in the few places that the hospitals and dispensaries existed these institutions were not popular. Regarding the re-organisation of the I. M. S. she resented the attitude of the Army Department that they should disregard the claims of the Indians in preference to Englishmen who are induced to serve in India when Indian doctors with the same or higher qualifications were available. She appealed to the Indian Medical Profession to take a wide view of the question of bringing foreign doctors into India (the Jewish doctors from Germany) as their lot deserved sympathy.

We wonder, if the Congress Government cannot make the wheels of Government machinery run faster who can? The 'disgrace' in State Hospitals cannot be remedied by Hospital Committees if Government cannot use the iron rod which is the only remedy to get out of disgrace. We could tell the Health Minister of U.P. that the Hospital Committees existing in the Hospitals run by the Madras Government have not been able to purify hospital administration. Mrs. Pandit's sympathy for the Jewish Doctors expelled from Germany would not move the members of the Indian Medical Asso-

ciation that gathered at Meerut and who heard Mrs. Pandit in person. The All-India Medical Conference which Mrs. Pandit addressed passed unanimously a resolution resenting the attitude of the Government on this subject.

Rural Public Health: The Madras Government is getting ready the corps of subsidized practitioners to work out the Public Health Act in rural areas. For this purpose the Subsidized Practitioners from various districts are to be deputed in convenient batches to undergo intensive sanitary training for a period of one month so that within a period of one year all Subsidized Practitioners undergo the training. The first batch of 30 Subsidized Practitioners began their course on 4-1-1939. They are to be engaged in demonstration work from 8 to 11 a. m. and lectures on Public Health given in the evening between 4 and 5 p. m. For 20 days they are to be at Poonamallee where they would get practical training in executive work at the Poonamallee Health Unit and lectures would be given on communicable diseases, soil, building, vital statistics, conservancy, water supply, maternity child welfare work. For three days after the course of the lectures they would attend the Tirumani Leper Settlement. For about a week they would go round the venereal wards of the Government General Hospital attend the Govt. Tuberculosis Hospital and would have a few special lectures at the office of the Director of Public Health.

As mentioned by us in these columns once before the Public Health Minister did give the Subsidised Practitioners hope when he told the members of the Interim Committee of Management at the time they waited on the Minister on deputation on 25-1-1938 that he (Minister) after the Public Health Bill was passed would consider their claims for a higher remuneration than the amount

of Rs. 15 which some of them doing Public Health work now get. Forced labour in Preventive Medicine through a discontented agency would not only make such work unpopular but would also not serve the purpose which the Government have in view for extending Public Health benefit to the masses in the villages. We would therefore repeat our suggestion to the Government that the Subsidized Practitioners should be given a compensatory allowance of at least Rs. 30 for doing Public Health work. Or else the Government would be taking undue advantage of the helplessness of subsidized practitioners.

Honorary Medical Service: We are glad that the Madras Government strictly adhered to the spirit of their order in regard to tenure of office of the honorary medical officers as could be judged from a recent notification in the Fort St. George Gazette. Dr. T. Satakopan, M.D., who was working as Hon. Physician for a period of 13 years has been displaced by Dr. K. Narayana Murthi, M.D., in the Government General Hospital. All the Asst. Medical Officers working in the General Hospital for over five years have been similarly displaced. There were all sorts of rumours in the medical circles that in case of Hon. Physicians and Surgeons in teaching hospitals five years rule would not be made applicable as it was said that the clinical teaching was likely to suffer. Those who held this view conveniently forgot that at the time the displaced Physicians and Surgeons were appointed for the first time in the General Hospital they had not to their credit any teaching experience which is now claimed for them. Moreover the Madras University which controls the medical education does not seem to have assigned any teaching work specially for honorary medical officers who have nothing to do in the teaching of the subjects in

the College. It is only a conventional understanding that the honoraries working in the wards of the General Hospitals should teach clinics to the students posted in their wards. The Honorary Medical Service in Government Hospitals is intended not for a few individuals but for the entire medical profession and every private practitioner who possesses the qualifications demanded for the honorary posts has a claim and must have his turn. It should be the aim of the Government to afford equal opportunities of service in State Hospitals to all the practitioners so that the general public and not the few inpatients only in Government institutions get the benefit of experience of medical practitioners who has had opportunities of gaining up-to-date knowledge of ever advancing medical science. We congratulate all the honoraries who have to take up their turn of service in State Hospital under the new rules especially Dr. K. Narayana Murthi, the newly appointed Honorary Physician of the Government General Hospital who though young in age has to his credit the experience of research in some of the most common tropical diseases and trust he and all the honoraries who enter the General Hospital acquit themselves in a manner that when they, after serving the period allotted to them, leave behind them traditions worthy of the noble profession for the younger generation to follow. We suggest to those who had their turn of service to form a team or teams and start private hospital or hospitals for the benefit of the public so that in course of time when the profession has supplied the needs of the public, the Government may be forced to close the State Hospitals for the well-to-do class. By so doing the members of the profession would serve themselves and the public and put to an end to the existing abuses in State Hospitals due to indiscrete admissions.

Correspondence, Reports, Etc.

THE MADRAS PROVINCIAL SUBSIDIZED RURAL MEDICAL PRACTITIONERS' ASSOCIATION.

PROVINCIAL COMMITTEE INAUGURATION DAY.

Saturday, the 31st December 1938 was indeed a red letter day in the annals of the history of the Madras Provincial Subsidized Rural Medical Practitioners' Association when the Provincial Committee was inaugurated by Mr. A. B. Shetty, Parliamentary Secretary to the Public Health Minister. Out of 24 Districts including the Nilgiris which has only one Subsidized Rural Medical Practitioner and where there is no need to have District Branch of the parent Association 19 Districts were represented. The actual ceremony of inauguration took place at 4 P.M.

From 10 A.M. to 8 P.M. the members of the Working Committee and of the Provincial Committee were busy having heart to heart discussions about the affairs of the Subsidized Rural Medical Relief Scheme. The General Secretary Dr. M. R. Bhat led the discussion by reading a paper wherein he took stock of the past and laid plans for the future exhorting his comrades to co-operate with the activities of the Association to do solid construction work of Rural Medical Service. He said that the representations made to the Government by the Association through the Interim Committee of Management relating to the resolutions passed by the conference which met in Madras and through the President in regard to the resolutions passed at Manachanalloor have not been in vain. The Association has succeeded to some extent at least to make the Subsidized Practitioners realise that the voice of the Association would not be in wilderness in future. The

Secretary assured his comrades that if by the constructive work of the Association they impressed the public that the ambition of the Association is service in villages, time would not be far when their Association would be treated by the authorities as a specialist consultant body regarding Rural Medical Relief. Basing upon the speech of the General Secretary and the advice of the President, 17 resolutions were drafted to be kept before the Provincial Committee for approval after it was formally inaugurated.

INAUGURATION CEREMONY.

Mr. A. B. Shetty arrived punctually at 3 P.M. He was received by the office-bearers of the Association and after light refreshments served by the Udipi Sri Krishna Bhavan Restaurant, the Chief guest and the President were garlanded and the members of the Working and Provincial Committees led them in a procession to the lawn of Woodlands where the inauguration ceremony was arranged.

Dr. V. Rama Kamath, the President of the Association while requesting Mr. A. B. Shetty to inaugurate the Provincial Committee paid a tribute to the work of Mr. Shetty in the reform of the administration of the Medical Department. He said that he was invited that day not so much because he was the Parliamentary Secretary but as one born and bred up as a villager, and being one who had intimate knowledge of the medical profession. The association thought that he was the fittest person to inaugurate the executive body of the Association.

As one belonging to the medical profession, the speaker was sure that any uplift work could be done efficiently by a medical man as there was no branch of science he did not know.

He said that it was a pity he had not been able to hear the name of a medical man being mentioned in connection with any uplift work. Members of the medical profession should form an important link in rural reconstruction but it was regrettable that the village medical practitioner was not recognised by the powers that be or by those interested in national uplift work.

The object and aim of their Association were service and service alone and though the Association had also to look after the legitimate grievances of the members, it was not and could not be run in a Trade Union spirit. The Government had a splendid opportunity to carry out their rural reconstruction work through a corps of over 400 rural medical practitioners scattered all over the presidency. If that band of medical men was encouraged not by extra subsidy (though it was welcome if given) but by its being recognised as members of a noble profession and by allowing them to exercise independent judgment in their public life and duties. The speaker had a vision that that a band of medical men which was accustomed to village life for about 10 or 12 years would serve the Government without proportionately large commitments and bring relief to the masses in rural areas.

Soon after the Congress accepted office and one of the members of the profession assumed charge of the Medical Portfolio their joy knew no bounds. Since then, they had been entertaining high hopes that the rural medical service and profession would be safe in his hands. He admired the Minister for Public Health for boldly tackling important questions of Public Health both in the curative and the preventive sides. But the details of some of his schemes (Minister's) made some of them anxious about the future of the profession. The rural practi-

tioner would in all earnestness co-operate with the Government if the Government would only encourage them to be independent not with regard to discipline, but in the exercise of their professional duties.

Mr. A. B. Shetty said he was glad to find that they had organised themselves into an Association and set about their work in a business-like fashion. He also congratulated them on having secured the services of Dr. Ramia Kamath as President. The journal edited by him had played a considerable part in shaping the policy of the Government. Mr. Shetty said the reforms suggested by them had found some response from the Government, though they might not be satisfied with what the Government had done so far. But he was confident that if the amendments that had now been made in their agreement forms were not found satisfactory, Government would consider with sympathy, any future representations they might make. He found from the memorandum of their Association that it did not merely confine itself to the protection of their interests and improvement of their status, but it had other objects also in view. He referred to the British Medical Association as a model for them to copy and pointed out how the Association and their journal had made their influence felt all over the British Empire and outside it. He was glad their Association had made valuable contribution and played a great part in shaping the Government policy and helping medical research. Their President had already told them how the Congress Government had in the forefront of their programme village uplift work. The removal of illiteracy, disease and poverty in villages was the anxious concern to all Congress Governments. He appealed to them to co-operate with the Government in their efforts.

BUSINESS MEETING.

After the inauguration of the Provincial Committee the Committee sat till 7-30 P. M. and passed the following resolutions unanimously.

1. The Provincial Committee endorses the opinions conveyed to the Government by the several District Branches of the Provincial Subsidized Rural Medical Practitioners' Association relating to the Memorandum No. 34730-1-D 2- P. H. dated 30th September 1938 informing the Government that the Subsidized Practitioners would not be able to serve in the villages on any one or all the terms proposed in the said memorandum and requests the Government not to give effect to any of the proposals mentioned in the memorandum.

2. The Provincial Committee agrees with the representation made to the Government by the District Branches that the Subsidized Practitioners deputed for Public Health training may be paid their monthly subsidies in addition to the honorarium of Rs. 25/- referred to in G. O. No. 2639 P. H. dated 21st July 1938 and be paid Rs. 30 a month for doing public health work after having undergone the Sanitary training.

3. It has come to the notice of the Provincial Committee that some of the District Boards have appointed quite junior subsidized practitioners to L. F. service on the plea that they are graduates and in some cases junior practitioners have been selected in preference to suitable seniors having to their credit good record of work. The Provincial Committee respectfully suggests that the Government might be pleased to instruct the District Boards to follow strictly the G. O. No. 3483 dated 1st October 1938.

4. As the Subsidized Practitioner is expected to treat only 30 necessitous poor a day the Provincial Committee respectfully requests the Government to modify para 3 A (1) in the G. O. 3510 dated 4th October 1938 so as to make provision for an attendant in subsidized dispensaries having an average attendance of 30 patients or more in a day.

5. The Provincial Committee wishes to bring to the kind notice of the Government that when the Government Medical Stores are not able to supply some of the items of the indent submitted by a Subsidized Practitioner within the official year and when the particular practitioner sends later a supplementary indent to make good the deficiency the same is not supplied on the plea that the official year has lapsed. The Provincial Committee therefore requests the Government to instruct the local bodies to permit the practitioner to include the drugs not supplied the previous year in the indent to be submitted in the course of the official year.

6. The Provincial Committee requests the Government to permit the Subsidized Practitioner to have his own nominee to run the dispensary during his absence for more than 15 days and

also during his absence when posted for Public Health training.

7. The Provincial Committee requests the Government to grade Subsidized Practitioners in class IX for all purposes, including their attendance in law courts.

8. The Provincial Committee requests the Government to include the practitioners subsidized entirely by the local bodies for Public Health training.

9. The Provincial Committee requests the District Boards to bring the subsidized dispensaries entirely maintained by them in par with Government Subsidized Dispensaries regarding equipment, supply of staff, etc.

10. For the harmonious working of the Subsidized Rural Medical Relief Scheme the Provincial Committee suggests to the Government the desirability of subsidising any existing dispensary run exclusively with the help of subsidy granted by local bodies before sanctioning additional subsidized dispensary in any particular District.

11. The Provincial Committee requests the individual representative of each District to do an intensive propaganda so that by the end of February 1939 almost all the subsidized practitioners are enrolled as members. The Committee having thankfully realised the importance of The Medical Practitioner, the Official Organ for doing active propaganda and service to the subsidized practitioners points out the necessity of each member enrolling himself as a subscriber of the Official Journal of the Association by paying an additional amount of Rs. 2/-.

12. The Provincial Committee suggests to all the District Branches that it will be conducive to the efficient working of the Association if the Secretary-Treasurer of the District Branch is also the District representative of the Provincial Committee and appeals to them that till the Association can command funds which it can if all the Subsidized Practitioners enroll themselves as members, the actual travelling expenditure incurred by the District Representative for attending the Provincial Committee meeting is met by the members of the District Branch by dividing the amount of expenditure equally amongst them.

13. The Provincial Committee advises the Subsidized Practitioners to refer any question of local injustice or grievance to the Association before taking any line of action.

14. The Provincial Committee while welcoming the lead given by the Trichinopoly District Branch in requesting the District Medical Officer to afford facilities to Subsidized Practitioners to attend the District Headquarters Hospital for gaining clinical experience which was followed by other District Branches such as Kistna, North Arcot, Coimbatore, Malabar, Salem, Nellore and S. Kanara advises rest of the District Branches to make similar request to the respective District Medical Officers.

15. The Provincial Committee suggests to the Subsidized Practitioners that they should send to The Medical Practitioner interesting case reports for publication and also reports of discussions of scientific interest. Exhibits of interest should be collected and made available for exhibition during the future Provincial Conferences.

16. The Provincial Committee resolves that when funds are available the Association should devise ways and methods to educate the lay public on the importance of preservation of health and bring into existence healthy understanding and relationship between the medical profession and the lay public.

17. Resolved that the President be requested to use his discretion to appoint a clerk to do the work of the Association meeting an expenditure not exceeding Rs. 30/- per month.

18. Resolved to request the President to draft a memorandum relating to the resolutions passed by the Provincial Committee at their meeting on 31st December 1938 to be submitted to the Government.

19. Resolved to request the President to consult the Surgeon-General and the Inspector-General of Police regarding the desirability of entrusting medico-legal work to the Subsidized Practitioners.

CHINGLEPUT DISTRICT BRANCH.

A Special Meeting of the Chingleput District Subsidized Rural Medical Practitioners' Association was held at Pallavaram Rural Dispensary premises on Sunday, 11-12-1938 at 3 P. M.

Dr. Vitaldas Pai, President of the Association presided. Suitable Bye-Laws were framed and adopted for the working of the District Branch and the following office-bearers were elected:—

President.—Dr. Vittaldas Pai; **Secretary & Treasurer.**—Dr. Eapen; **Committee Members.**—(1) Dr. B. K. Shenoy, (2) Ramaswami, (3) Sudarsanam.

The following resolutions were passed unanimously.---

1. This Association thanks the Government for having effected certain favourable changes in the new agreement as per suggestions made by the interim managing committee of the P. S. K. M. Ps' Association.

By resolutions 2, 3 and 4 the Association requested the Government not to give effect to the proposals contained in the Memorandum No. 34730-1-D. 2 P. H. dated 30-9-1938, to pay

the R. M. Ps their monthly subsidy while undergoing Sanitary training and after training be paid Rs. 30 for doing Public Health work.

5. Resolved to request the Government that a full time ward attendant may be granted in dispensaries where the attendance is 30 and above instead of 50 as stated in recent G. O. No. 3510 dated 4-10-38. in-as-much as the medicine supplied is sufficient to treat only 30 patients per day.

6. The clause No. 8 in the new agreement is completely derogatory to the interest of the practitioners as regards to fixity of tenure and hence request the Government to change the clause suitably so that on no account the practitioner or dispensary be transferred.

7. That the District Medical Officer, Chingleput be requested to give to the members of the Association facilities to attend the operations and study such clinical materials as available at bedside in Headquarters Hospital and arrange for post-graduate lectures on every penultimate Saturdays.

8. Resolved to thank the Chingleput District Board for sanctioning a uniform rate of Rs. 5 as dispensary rent and Rs. 2 as sweeper's allowance.

9. Resolved to request the President, Chingleput District Board to take the initiative to get suitable buildings in appropriate places in the villages for such rural dispensaries in the District where good buildings are not available, with public financial help.

10. Resolved to request the District Board President to grant a uniform extra subsidy of Rs. 20 per mensem from District funds to all R. M. P's as is being done in other districts to compensate for the meagre private practice available in the district.

11. Resolved to depute the following three members from the Association to represent local grievances to President, District Board, Chingleput, personally. (1) Dr. Vittaldas Pai, (2) Dr. Eapen, (3) Dr. Sudarsanam.

12. Resolved that Dr. Eapen, be elected as representative Member for the Chingleput District on the Provincial Committee of the P.S.R.M.P. Association.

VIZAGAPATAM DISTRICT BRANCH.

The Subsidized Rural Medical Practitioners of Vizagapatam District met at Jonnavalasa on 3-1-1939 at 9 a.m. in the Board El. School under the Presidentship of Sri P. L. Narasimharaju Garu, M.L.A., President, Dist. Board Vizagapatam.

The following resolutions were passed:—

1. Resolved to form an association called the Vizag. Dist. Subsidized Rural Medical Practitioners' Association.

2. The following were elected as office-bearers:—

(1) **President:** Dr. A. Rangarao; (2) **Secretary:** Dr. U. Narasingarao; (3) **Treasurer:** Dr. K. Butchi Raju.

3. Resolved that all the R. M. P's in the District should join as members of the P. S. R. M. P's Association.

4. Resolved that this association shall meet once in two months.

By resolutions 5, 6 and 7 the Association requested the Government not to give effect to the proposals contained in the Memorandum No. 34730-1-D. 2 P. H. dated 30-9-1938 to pay the R. M. Ps their monthly subsidy while undergoing Sanitary training and after training be paid Rs. 30 for doing Public Health work.

CHITTOOR DISTRICT BRANCH.

Chittoor District Branch of the Provincial Subsidized Rural Medical Practitioners' Association was inaugurated on 21-1-1939 at the Government Head Quarters Hospital, Chittoor, by Dr. D. Krishnaiya, the District Medical Officer.

Dr. V. Rama Kamath, President of the Association while requesting Dr. Krishnaiya to inaugurate the District Branch said that usually it was adversity and not prosperity that brought people together for any concerted action and believed that the Subsidized Practitioners in the Chittoor District might be specially lucky in not being subject to many hardships. He surmised that Dr. Krishnaiya in his capacity as the Head of the medical administration in the District must have been very kind in guarding the interests of the rural practitioners; so the practitioners did not find the need of having a District organisation for the same purpose. But, as in 19 out of 24 Districts in the province the Branches of the Association were formed, Dr. Kamath thought that the rural practitioners in Chittoor should not lag behind in demonstrating the spirit of comradeship and said that he sent a circular to all the practitioners to meet at the Govt. Hospital that day for the purpose of starting a Branch

of the parent association. He said he was glad that his circular had a response. Dr. Kamath expressed his gratitude to Dr. Krishnaiya for his sympathies towards the Subsidized Practitioners which prompted Dr. Krishnaiya to respond promptly to his request for opening the District Branch of the P.S.R.M.Ps' Association. Dr. Kamath told the rural practitioners that he was most happy that the inauguration of the Chittoor District Branch was to be done by Dr. Krishnaiya who was an ideal general practitioner to be in charge of a District Medical Administration as he possessed the combined talents of a physician, a surgeon and an obstetrician of high order. Such a combination was rare these days and he could not mention the name of another better ideal doctor whom the practitioners working in villages should emulate.

Dr. Krishnaiya thanked Dr. Kamath for giving him an opportunity of meeting the Subsidized Practitioners in such a large number. He had been wondering why the Subsidized Practitioners of Chittoor District did not so far form a Branch in that District and he was very glad that the President of the Association took the initiative. He said that joining an Association an individual strengthened himself. An aggrieved individual would not be able to ventilate his grievances as effectively as through an association. An individual was likely to get excited over his troubles and would not be able to express his grievances in unobjectionable language likely to move those to whom he appealed for redress. An association through its office-bearers could do this work more tactfully. So it was desirable that every Subsidized Practitioner should join the association and strengthen the same. The medical profession Dr. Krishnaiya said was considered by all

to be the noblest and any ignoble act of an individual member reflected on the good name of the profession. So it was desirable that every individual member of the Association should have the interests of the profession as a whole in his dealings with the public. Regarding the Subsidized Practitioners he said the term 'subsidized service' could not be made applicable to any other profession. He realised most painfully that the lot of the Subsidized Practitioners was as anamalous as it was pitiable. The authorities took every opportunity and declared them as independent practitioners though under the conditions of subsidised service it was impossible for them to be independent. At the same time he would tell the Subsidized Practitioners that there were private and really independent medical practitioner whose lot was more heartrending than those under subsidized service and this fact should console them. All the same he could say that they had opportunities of exercising their profession which many of their brethren had not, though in better circumstances. He mentioned to them the name of Sir John Mackenzie, the well-known cardiologist who revolutionised the conception of heart diseases and their treatment and this great man conducted research as a humble village practitioner. He added that he himself belonged to the non-specialist class of medical men. He underwent training as a medical man when the knowledge of mechanical process employed at present for diagnosing disease were so scanty yet he could tell them that he never found wanting to do the responsible professional work which he had been doing now. He advised the practitioners not to put on a melancholic face but keep themselves cheerful and smiling whatever vicissitude they might be subject to. Unless they did this they would not

be able to infuse faith in those whom they had to treat or inspire confidence in themselves. He pointed out that times were fast changing and the democratic Government they were now having should make them realise that they were the servants of the people and not one master as was the case during bureaucratic days. He said that the difficulties of the Subsidized Practitioners were real. There were no set of rules which governed the Subsidized Service and anything might happen to them at any time. It was therefore most necessary that they should be prepared to meet any future emergency and this they could do by strengthening their Association. It was always wise to control one's tongue retort would never pay even those in high position in life. All were now moving towards villages Sir. M. Venkatasubba Rao a distinguished retired Judge of the Madras High Court recently advised even the members of the legal profession to find out ways and methods to be useful to the village folk. So it was not their peculiar lot to settle in villages though it had to be said that the Subsidized Practitioners were pioneers in this direction. He concluded by saying that it gave him the greatest pleasure to formally open the District Branch of the Provincial Subsidized Rural Medical Practitioners' Association and he wished that under the leadership of Dr. V. Rama Kamath, their Association would function meritoriously.

BUSINESS MEETING.

Dr. D. Krishnaiya after inaugurating the District Branch left the meeting and the business meeting was conducted with Dr. V. Rama Kamath in the chair. There was a general discussion about the recent Government Memorandum No. 34730-1-D. 2, P. H. dated 30th September 1938, the new agreement form and the affairs of

the Subsidized Practitioners in the District. The following resolutions were then unanimously passed :—

1. Resolved to elect Dr. R. Doraiswami as the Secretary-Treasurer of the District Branch and also Member of the Provincial Committee of the Parent Association and Dr. W. Radhakrishnaiya be elected as a Joint Secretary and Treasurer to act for Dr. R. Doraiswami as Secretary-Treasurer and also Member of the Provincial Committee whenever for any reasons Dr. Doraiswami could not function in his capacity as Secretary-Treasurer and member of the Provincial Committee.
2. Resolved to approve the action taken by the individual Subsidized Practitioners in Chittoor District in expressing their inability to work as Rural Practitioners on any one or all the terms mentioned in the Government Memorandum No. 34730-1-D. 2, P. H. dated 30th September 1938.
3. The Chittoor District Branch expresses its regret that the District Board, Chittoor did not select the Subsidized Practitioners already doing Public Health work to undergo sanitary training though these two practitioners were recommended for the same by the District Health Officer and to request the Government that the Subsidized Practitioners now doing Public Health work should not be relieved of their duty till they two are selected for the sanitary training.
4. Resolved to inform the Government that the Subsidized Practitioners undergoing Public Health training should be paid their usual subsidy in addition to Rs. 25/- the allowance sanctioned by the Government to be paid to them during the period of sanitary training and that those who have undergone the special sanitary training be paid Rs. 30/- a month as compensation for doing Public Health work.
5. Resolved to request the District Medical Officer, Chittoor, to afford facilities for the Subsidized Practitioners to study diseases by the bed side and witness operations performed at the District Head Quarters Hospital on penultimate Saturdays.
6. Resolved to thank Dr. D. Krishnaiya, the District Medical Officer for permitting the Subsidized Practitioners to celebrate the inauguration ceremony of the Chittoor District Branch of the P. S. R. M. Ps' Association at the District Head Quarters Hospital and for making every arrangement to make the function a success.
7. Resolved to thank Dr. V. Rama Kamath, President of the Provincial Subsidized Rural Medical Practitioners Association for encouraging the Subsidized Practitioners to form the Chittoor District Branch of the P.S.R.M.Ps' Association.
8. The District Branch appeals to all the Subsidized Practitioners to enrol themselves as members of the P. S. R. M. Ps' Association and as subscribers to the official journal, The Medical Practitioner.

XVth ALL-INDIA MEDICAL CONFERENCE.

GIST OF RESOLUTIONS PASSED

1. The Conference protested against the action of General Medical Council in refusing to accord retrospective recognition of the medical degrees of the Calcutta University and requested the Government of India to amend the Indian Medical Council Act so as to enable the Medical Council of India to refuse recognition of medical qualifications granted by the Licensing Bodies in the United Kingdom.
2. This is a request to the Provincial Governments to formulate Nation Health Insurance Schemes.
3. The Provincial Governments are apprised by this resolution to keep in readiness all measures to prevent civil population from the horrors of war especially air-raids.
4. The Conference expressed its opinion that the Health Ministers or their Secretaries should be medical men.
5. This resolution requested the Provincial Governments to increase the scope of medical relief especially in villages.
6. The Conference made a request to Provincial Governments to amend the Local Self-Government Acts so as to empower the Local Bodies to provide representation to the members of the medical profession.
7. By this resolution the Conference requested the Provincial Governments to afford facilities for dental training and also for the training of nurses and compounders.
8. This resolution made a request to Provincial Governments to institute Post-Graduate training.
9. This resolution requested Provincial Governments to provide facilities for research in the teaching medical institutions.
10. This resolution protested against the employment of non-national medical men either in the Government service or in the service of Indian States and requested Government of India to prohibit the immigration of foreign doctors into India.
11. The Conference appreciated the efforts made by Government in some provinces for encouraging Indigenous Systems of Medicine and recommended that the Government should admit to this course only pupils who have passed the matriculation examination or any examination of equivalent status and such pupils should be given instructions in Chemistry, Physics, Biology, Physiology, Anatomy, and Pathology. The Conference also recommended that these pupils should be imparted elementary knowledge in Surgery, Obstetrics and Preventive Medicine.
12. The Conference welcomed the initiative taken by the Marchioness of Linlithgow in combat-

ing Tuberculosis and urged the Central and Provincial Governments to have a detailed programme for this purpose.

13. This resolution requested the Provincial Governments to exempt registered practitioners from renewing the Licenses issued to them for dispensing dangerous drugs.

14. The Conference endorsed the unanimous opinion arrived at by the Delhi Conference on medical education in India and called upon the Provincial Governments to take early steps to introduce an uniform University system of medical education.

15. The Conference requested the Central Government to amend the Indian Medical Council Act so as to provide for an elected majority of members in the Council and an all-India Medical Register in which should be included all practitioners registered in the Provincial Registers.

16. The Conference requested the Central and Provincial Governments to recognise the Indian Medical Association as an advisory and consultant body on all matters concerning medical and public health problems.

17. The resolution recommended to the Central and Provincial Governments to enact Public Health Acts on the model of such Acts in England and the United States of America.

18. The Conference desired that the Central and Provincial Governments should earmark 15 per cent of the total revenues for the purpose of Medical Relief and Public Health, the expenditure in rural and urban areas being proportionate to the strength of the population in these two areas.

19. The Conference requested the Central and Provincial Governments to control advertisements on patent and proprietary medicines.

20. The Conference congratulated the Government of Madras for abolishing L. M. P. course and for prohibition of advertisements of wines and liquors in the lay press and called upon other Governments to follow suit.

21. The Conference welcomed the National Industrial Planning Committee constituted by the Working Committee of the Congress and suggested that the manufacture of drugs and other medical appliances be included in the plan.

22. This resolution requested the Governments to stop quackery.

23. The Conference urged on the Government the necessity of penalising lay people assuming the title of 'Doctor'.

24. This resolution pointed to the Central and Provincial Governments the necessity of starting Analytic Laboratories.

25. The Conference expressed the indignation of the profession against the Punjab Minister of Education for making a reference to the independent medical profession in an undignified way

26. This resolution condemned the Government of India's Scheme of reorganisation of the Indian Medical Service and requested the Working Committee of the Congress that while inaugurating the new Federal Government all services including the medical should be brought under the control of the popular ministers.

27. This resolution demanded the abolition of the civil side of the I. M. S.

28. The Conference suggested to the Provincial Governments that State Hospitals should be open only to the poor.

29. This resolution pointed out that the activities of the Indian Research Fund Association had not been proportionate to the expenditure incurred and suggested the formation of a non-official Committee to enquire into the matter.

30. The Conference condemned the action of the Medical Council of India in recognising the medical qualifications granted in the British colonies which refused direct reciprocity with India.

Resolutions 31, 32, and 33 related to thanksgiving.

Review.

Administration Report of the King Edward VII Memorial Hospital and the Seth Gordhandas Sunderdas Medical College, Bombay For the Year 1937-38.

The Administration Report of these two institutions contain valuable information which is of educative value to the other institutions private or Government run for affording medical relief to the public and also for imparting medical education. Year after year the Dean has been attempting to add to the bulk and quality of medical relief at the King Edward Memorial Hospital and increase the educational facilities to the medical students under his charge and succeeding in pressing his views on the authorities governing both the institutions. It is very satisfactory to note that the scheme proposed by the Dean for extending the hospital in a period of three years has been approved by the Bombay Corporation at a cost of Rs.15,60,000 and the work is fast progressing. The nursing staff, sweepers and ward boys have been increased though not to the full satisfaction of the needs pointed out by the Dean in his previous report. The Dean is as anxious about the physical well being of the students as he is about their education and every attempt is made in popularising physical training.

During the year under report there seems to have been numerous changes in the staff mostly honorary due to retirement and a lady honorary in the person of Dr. (Miss) P. C. Daroovalab, M.D., was appointed as Hon. Obstetrician

to be in charge of teaching in the place of Dr. N. A. Purandare. It is the first time in the history of these two institutions or perhaps in the history of all the medical teaching institutions in India that a lady takes up teaching and that in an honorary capacity in an institution where men and women students are undergoing training. We wish the Madras Government knows about this and find their way to appoint one or two ladies that are now available in the medical department possessing the required qualifications and experience to be entrusted with teaching in a Medical College.

The activities of the Dean are not confined only to Medical students and staff. He has the

welfare of the menial staff at his heart and is doing his best to provide them social amenities including monetary help in the form of a co-operative Bank.

We have been repeatedly pressing the view that it would be a very sound policy even financially to have one person in charge of medical students in the College as well as in the hospitals and pointing out the good work turned out in Bombay by Dr. Jivaraj N. Mehta in such a capacity. We wonder if the Hon'ble Dr. T. S. S. Rajan has ever perused the Administration Report of these two institutions. We sincerely wish he does.

Statement of Receipts and Charges of the Madras Provincial Subsidized Rural Medical Practitioners' Association for the Month of December 1938.

RECEIPTS.	Rs. A. P.	CHARGES.	Rs. A. P.
Cash balance on 30-11-1938 ...	141 5 0	Postage and Telegrams ...	18 6 6
Subscription received from the members during the month ...	87 12 0	Remuneration paid to part-time clerk for November 38 ...	10 0 0
Entrance fees from 13 new members ...	3 4 0	Amount credited to The Medical Practitioner from the subscription received from 29 members ...	14 8 0
		Printing and stationery ...	27 7 0
		Expenses incurred for canvassing members to the Association ...	18 7 0
		Boarding and Lodging charges paid to 'Woodlands' in connection with Provincial Committee meeting held on 31-12-38 ...	40 0 0
		Cost of two lace garlands ...	3 0 0
			131 12 6
		Rs. A. P.	
		Balance with Savings Bank ...	94 2 0
		With Office ...	6 6 6
			100 8 6
	232 5 0		232 5 0

V. RAMA KAMATH,
President.

K. GOVINDAN,
Treasurer.

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Sod. Phosph.	'14 gm.	Xanthoxylin	'15 gm.
Kali. Phosph.	'30 gm.	Orange Juice	'2 gm.
Mag. Phosph.	'20 gm.	Apple Juice	'2 gm.
Lecithin 12 gm.			

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- (4) Chronic rheumatism, Myalgia, etc:—In these conditions it may be considered as a specific.
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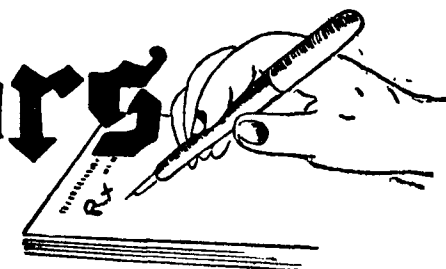
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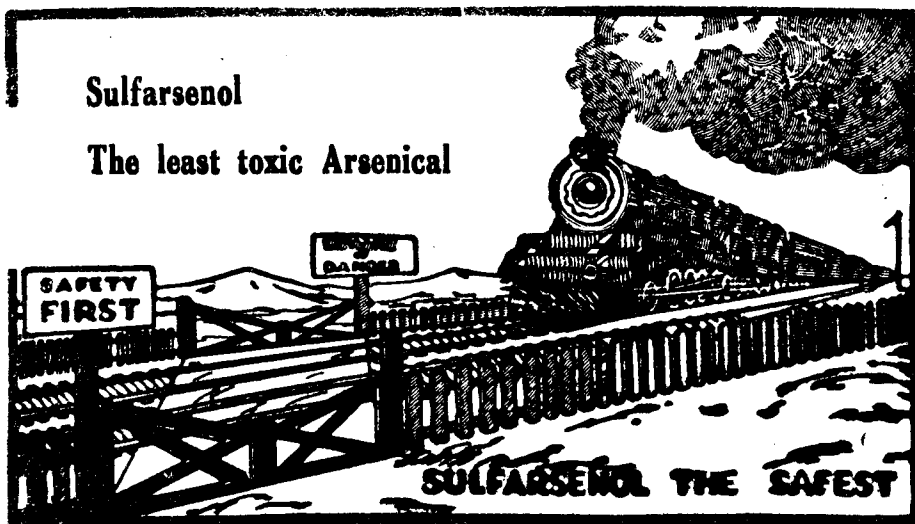
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ASSOCIATE EDITORS } Capt. E. S. Gopalan, M.B., M.S.; A.I.R.O., (Madras).
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Original Articles.

THE GENERAL PRACTITIONER AND COMMON EYE DISEASES IV.

By

G. J. G.

INJURIES OF THE EYE.

On account of the very delicate nature of its tissues, the eye is particularly vulnerable to injuries, even trivial ones. In spite of its safe position and natural means of protection, the eye is comparatively more endangered than any other organ of the body. The character and nature of eye wounds and injuries are manifold ranging from lodgement of a small dust particle on the cornea or under the lid to complete destruction of the eye by a bull gore or explosion. Next to acute conjunctivitis, the eye affection that a general practitioner meets with, is some form or other of eye injury—which is a source of worry to many because of the delicacy of the structures involved.

and most of it is from carelessness. Parents are not careful enough to see what their children are playing with. Sharp instruments and toys are not kept out of their reach. Occupational injuries are not uncommon, although our country is not sufficiently industrialised to draw our attention to their frequency. We should not forget the corneal ulcer, which is probably the foremost cause of blindness in adult life in the villages, starts almost always from trivial injury in the course of one's avocation in the fields. Injuries from accidents especially in Deepavali time or from sodawater bottle explosion are also common.

In spite of the frequency of injuries to this important organ, it is unfortunate people are not careful enough to have their eyes properly protected. Injury is responsible for a good amount of blindness in the world, not the least in India,

Whether an injury is a trivial or a serious one, it is the immediate treatment that influences very much the course of healing and very often saves the eye. Even trivial injuries have been the cause of loss of sight in many because of want of proper early attention. As the general

practitioner is the one who will meet with these cases quite early, he should be well versed in handling them properly.

FOREIGN BODIES.

The commonest accident which any body meets with, is a foreign body in the eye. Very few know what to do when a dust or coal particle gets into the eye. A doctor must know what preventive advice he should give to his patients.

When a foreign body gets into the eye, there is severe irritation which causes profuse lachrimation. That is nature's way to flush it out. But what everybody does is to rub the eye to allay the irritation. This rubbing is likely to embed the foreign body deeper into the tissues thus making it more difficult for the tears to flush it out. If one cannot resist the temptation to rub the eye, he would do well to rub the other eye!

If the tears do not get it out, probably the particle is stuck up in the groove on the inside of the upper lid. To dislodge it, take hold of the eye lashes of the upper lid, pull the lid down and forward and suddenly release it. When the lid gets back to its position, the cilia of the lower lid brush the inside of the upper lid and thus dislodge the foreign body that might be stuck up in the sulcus.

If the foreign body is still felt in the eye, it must then be on the cornea or embedded somewhere deeply. It is dangerous to ask a neighbour to try to take it out or go to a quack. In South India, there is a set of people who are reputed to be clever in removing foreign bodies from the eye. They use their tongue to swab the whole conjunctival sac and remove the foreign body. The popular notion is if you blow hard into the eye, the particle is forced out. The danger in these procedures is obvious.

When a patient comes to you with the history of a particle having got into the eye, it is almost always either on the cornea or on the inside of the upper lid. Usually, if it is anywhere else, it is washed out by the tears, unless the foreign body

is a sharp particle and has gone deep into the tissues. If you do not find it on the cornea or anywhere on the bulb or lower conjunctival sac in the first casual examination, evert the upper lid and you will usually find it embedded in the sulcus just next to the margin of the everted lid. It can be easily removed with a clean kerchief or a piece of wet cotton. No after-treatment is necessary.

If the foreign body is not found on the conjunctiva of the lid, examine the cornea again carefully with the aid of the magnifying loupe and with good illumination. Sometimes, the foreign body is so small that it escapes your naked eye especially if you are getting presbyopic. It is possible some people are not aware of any dust having gone into the eye. The irritation is attributed to sore eyes and if the eye is not examined properly the practitioner will go on treating the eye with silver nitrate solution, etc.

Removal of a foreign body from the cornea is on the whole easy, but sometimes, it has its difficulties, and I prefer to describe the technique in detail.

Put in a drop of Pantocaine 1 % solution. One drop is enough to produce sufficient anaesthesia. Pantocaine is safer than Cocaine. Place the patient on the table. A speculum is necessary if you do not have a steady hand and if the patient is nervous. It leaves your other hand free to fix the eye with a fixation forceps, so that the patient does not roll his eye up and down and make you scratch and cause injury to his cornea with your spud. Have always a good illumination. The torch I mentioned in an earlier paper is good for the purpose. Ordinary daylight is not always sufficient. It is better to have the magnifying loupe on.

For the removal of the foreign body, you may use the spud or an old cataract knife. If you are in an out of the way place, where you cannot get any instrument, you may make use of a new steel nib. Break off one half of the split tip and the remaining portion of the nib mounted on a pen holder is an excellent spud. Heat it over the flame before use.

If the foreign body is superficial and is of recent duration, it comes away easily. If it is embedded deeply, you have to proceed carefully. By carelessness or your anxiety not to injure too much of the corneal tissue, you are likely to push the foreign body deeper down, especially if it is sharp pointed. The safe way is to start a little away from one edge of the foreign body, say 1 or 2 mm. away, according to the steadiness of your hand, go a bit deep and towards the foreign body, elevate it from its side and thus gradually lift the whole piece out. The tip of a cataract knife is useful for lifting deeply embedded pieces. If you start too close to the foreign body, you are likely to push it down and possibly into the anterior chamber.

In all your manipulations, avoid scarifying the centre of the cornea, as even a very thin scar over the pupillary area causes considerable dazzling and disturbance of vision. The safe way is to direct the movements of your instrument from the centre to the periphery of the cornea and not the opposite way, so that even if the patient moves the eye or your hand is unsteady, you do not injure the central area.

If the foreign body is an iron piece and if it is lying there for some days, it is not enough the foreign body alone is taken out. You have to scrape out thoroughly the reddish brown deposit that you will always find in the area.

The treatment after the removal of a foreign body is usually nil, if it was not lying deep. In very superficial cases, no treatment at all is necessary. Where it has been even a bit deep you may apply any bland, emollient ointment, as zinc ointment (prescription in previous paper) and keep the eye bandaged just for a day. There is no need for bandage or any other treatment afterwards. Where there has been a rather deep injury of the corneal substance, apply on the first day Zinc ointment, and from the second day onwards Yellow Oxide of Mercury ointment 2 per cent till the wound heals. The eye should be kept in bandage till the epithelium covers over and eye is quiet.

If the foreign body on the cornea has not been removed for some days, it causes a local slough, which develops into an ulcer of the cornea. A heavy conjunctival discharge is also seen. In these cases you must wash the eye well with a mild antiseptic lotion, preferably Rivanol 1:2000 before and after removal of the foreign body. The slough on the cornea should be scraped out. The eye is then treated with Argyrol Solution and Yellow Oxide of Mercury ointment daily till the condition heals and all watering, irritation and photophobia stop. The patient should be under observation till the wound is well healed. If the corneal condition does not heal, it should be treated as a regular corneal ulcer (vide part V).

Sometimes in the villages, one might meet with cases of large pieces of foreign bodies in the conjunctival sac, of many days' duration. When a large piece or an insect gets in, owing to the blepharospasm, it is not able to get out. The eye is seen swollen and red, with heavy discharge. The history is not often definite and you should not try to treat the case as conjunctivitis, orbital cellulitis, etc. Examine the eye by separating the lids, and the foreign body is immediately seen. It is easily removed. The eye heals well without any after-treatment.

Foreign bodies which have penetrated into the eye ball must be tackled by the specialist only. The general practitioner must send such cases immediately to the nearest eye hospital, without interfering with the eye in any way.

SUPERFICIAL INJURIES.

Simple scratches on the cornea or bulbar conjunctiva are got in a number of ways. Mothers get such a scratch with the child's finger nails. If it is on the conjunctiva, there is a local redness from a small haemorrhage. Zinc and Boric drops for a day or two will do. If the scratch is on the cornea, it is painful. A drop of Argyrol solution and application of an emollient ointment as Zinc ointment once daily will help to heal the condition. If the pain is severe, the eye

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may be bandaged till the epithelium covers over the abrasion.

Peasants get scratches on the cornea from the slashing of twigs or tail of a cow or a sudden splash of mud in the field. If the case comes early and the eye is clean, the treatment suggested above for simple abrasion will be sufficient. If it is dirty and infected and comes late, it is safer to treat it as a regular corneal ulcer.

It is not unusual to get the lids torn or lacerated from a hanging wire or hook or the umbrella rod. Here, it is very important to see the tear is repaired with the utmost care to leave no ugly scar or eversion or inversion of the lid. The border of the lid especially should be in perfect line and apposition. If the bulb is not injured, no treatment for the eye itself is necessary. While preparing this paper, the writer saw a case of a torn lid, where a local doctor while suturing the tear, badly injured the cornea with the needle. Such accidents are easily averted if the doctor is careful.

BURNS.

Lime particles getting into the eye is a frequent complaint. It gets into the eye when driving a nail on the wall. Splash of lime water during whitewashing is also common. Burns are also produced by accidental dropping in of acid or irritant drugs or splashing of boiling water, etc. These cases are generally brought to the nearest doctor immediately after the accident. One should not wait to find the neutralising solution. Delay means further injury to the tissues. The eye should be freely washed immediately with any clean water that may be near by so that the irritating substance is cleared out of the eye. After the washing, white vaseline or an emollient ointment as zinc ointment may be applied and eye bandaged. In cases of severe burn of the conjunctiva, there is danger of adhesion of the mucous membrane of the lid with the bulbar conjunctiva and cornea. This is called symblepharon. Every day, this adhesion should be separated with a glass rod and the ointment applied till the whole condition heals.

In very severe burns, the cornea is clouded and white. It is advisable to send these cases immediately to the specialist with a drop of atropin 1% * to the eye, application zinc ointment and bandage.

BLUNT INJURIES.

An injury with a fist on the eye or a knock against a knob or protruding rafter or a blow with a tennis ball—all these are of frequent occurrence. The eye is bulged out, lids are swollen and black and the conjunctiva is also perhaps red and chemosed. In severe impacts, the pupil is dilated due to paresis of ciliary muscle or irregular on account of rupture of the sphincter. Haemorrhage in the anterior chamber is also seen. In milder cases, when there is no internal injury very little treatment is needed, even if the bulging eye looks threatening. Even if left to itself, it gets into a normal state very soon. The swelling in these cases is due to extravasation of blood in the loose soft tissues in which the eye is embedded and as soon as this is absorbed, the eye gets back to its original position. Cold application is indicated immediately after the injury to stop the bleeding, but later, if the swelling does not subside in a few days, hot fomentations help absorption.

In very light injuries on the eye ball itself, you will probably see only sub-conjunctival haemorrhage. This alarms the patient more than anything else. It is easily diagnosed by the extravasation of blood under the conjunctiva. It is of no consequence whatever, if there is no deeper injury. Deeper injury is excluded by a clear cornea and chamber and the pupil is normal, and well reacting to light. Just to satisfy the patient, Zinc and Boric drops may be prescribed. Sometimes, it takes a long time for the redness to clear. In that case, slight massage of the area over the lids twice a day makes the blood disappear a bit quicker.

The treatment is the same as for the sub-conjunctival haemorrhage that we

* NOTE: Be very careful in using atropin on patients over 40 years of age. In people with a tendency for raised tension in the eye there is the risk of a glaucoma. This shall be dealt with later.

see in children in whooping cough. Owing to the violence of the paroxysm, some capillary vessel bursts and there is an extravasation under the conjunctiva. This alarms the parents more than the cough, but there is nothing to fear.

When the injury is direct on the eye ball, there is a mild iritis. There is severe pain, watering and photophobia. The eye is red with circumcorneal congestion. Treatment: Keep the pupil dilated with a drop of atropin 1% sol. The eye should be at rest. Reading should not be allowed. Small doses of Aspirin will relieve the pain and quieten the inflamed condition of the eye. Dark glasses may be prescribed or the patient kept in a darkened room. Only when the redness and photophobia disappear, normal work may be allowed.

When there is a rupture of sphincter of the iris you see it by the dilated and irregular nature of the pupil; do not give atropin drops. Rest, bandage and Aspirin will do.

If there is blood in the anterior chamber, put in a drop of atropin, bandage the eye and send the case immediately to the specialist. There might be deeper injuries which it will be difficult to detect. If the patient cannot go, Atropin bandage, rest and Aspirin are indicated. Two or three days later, if the blood does not show signs of absorption, hot fomentations may be given. If there is no deeper injury, the eye will get normal in a few days. Only, the vision will be slightly hazy for some length of time. If there is deeper injury, the resultant changes can be tackled by a specialist only.

In very severe injuries, there is a rupture of the bulb. It is concentric in nature and is situated on the white of the eye near the limbus, which is the weakest spot. The lips of the wound are irregular and everted and tags of ciliary muscle and iris may be protruding out. The chamber will be full of blood. It will be difficult to find whether the lens is dislocated or not. In severe impacts, it is seen even protruding through the wound. These cases ought to be sent to the specialist

immediately with light antiseptic dressings. If the case cannot go and you are forced to treat it, tell the patient clearly that the prognosis is very bad regarding sight. Usually, enucleation is refused however bad the injury, and so, we have to do something to heal the condition and relieve the pain. There will be very little chance of getting any sight. Worse than that, there is the risk of sympathetic ophthalmia. The patient has to be warned as to all this.

What you can do is only to clean the wound and allow the eye to heal without infection. Drop in Pantocaine 1% drops four or five times at an interval of two minutes. Along with the last drop, instil a drop of Adrenalin solution 1:1000. Ask your assistant to gently pull the lids apart with retractors. There should be no pressure on the bulb. Slightest pressure on the the bulb will push out further contents of the eye ball. Wash the eye gently with Rivanol solution 1:1000. Cut off all pieces of iris prolapsed into the wound with sharp scissors. The iris should be pulled a bit forward and then cut. Then only, nothing will be left in the wound. When the wound is thus free from any of this dark uveal tissue, close the eye with atropin 1% solution one drop and Argyrol 20% solution and bandage the eye. Do not try to suture the wound. It is risky in the hands of one not accustomed to constant eye work. Intramuscular injection of Omnadin 2 c.c., or Milk 6-10 c. c. is good to raise the patient's resistance and prevent infection. The eye should be dressed daily with Argyrol and Atropin drops. Milk injections may be repeated if there is any sign of infection. Aspirin is good to relieve pain—but it should not be prescribed on days when milk injections are given. Hot fomentations may be tried after the fourth or fifth day, if there be much inflammation and pain. Otherwise it is unnecessary. The eye should be kept bandaged for about ten to fifteen days according to the healing of the wound. It takes about a month for the general inflammatory condition to settle down if everything goes on all right. In bad cases, a mild iridocyclitis is persis.

tent for a long time. It is characterised by a light pericorneal injection, a sort of a dull brow ache and watering. It subsides with aspirin and fomentation, but never disappears. If the pain recurs at frequent intervals and the eye ball is tender to touch, it is safer to enucleate the eye.

If the acute inflammatory condition does not subside in spite of treatment, insist on the patient going to an eye hospital.

Some serious blunt injuries might be associated with fractures of the orbital bones. They are recognised by the surgical emphysema under the lids, from air from the paranasal sinuses. The patient must be sent to the nearest hospital where there are facilities for x-ray examination and eye treatment.

PERFORATING INJURIES.

Though many of the perforating injuries to the eye are industrial accidents, yet, we meet with a good number of such cases even otherwise. Deepavali takes a big toll of many useful eyes. Children playing with sharp-pointed instruments as knife, scissors, etc., get perforating injuries. Small children have a tendency to watch birds with their face close to the cage. The bright cornea attracts the bird which pecks at it, causing perforating wound and prolapse of the iris. Most of the perforating injuries are through the cornea.

The seriousness of a perforating injury depends on its extent and depth. If only the cornea is cut, clean the eye with Rivanol solution, instil a drop of Atropin 1% and a drop of Argyrol and bandage the eye. Continue the Argyrol every morning till the epithelium well covers over the wound and then apply Yellow Oxide of Mercury ointment 2% every day. When the eye is quiet, the bandage may be discontinued. The yellow ointment may be continued even after all inflammation has subsided, as it helps to clear something at least of the corneal opacity left. If the scar is over the centre of the cornea, there is much obstruction to vision, but it can later be improved with

an iridectomy. If necessary, the opacity may be tattooed to give a better cosmetic appearance to the eye.

If the injury is deeper, there is prolapse of the iris. Excise the iris and free the wound according to details given earlier. Treatment: Atropin, Argyrol and bandage till the wound heals; milk injection to prevent infection; aspirin for pain; all details mentioned earlier under rupture of the bulb to be followed.

If the injury has gone deeper still, the lens is perforated or dislocated. There is no standard treatment when the lens and the deeper parts of the eye are injured. It all depends on the actual condition of the eye. Such cases must be tackled only by the specialist. In fact, it is safer to send away to specialist if possible every case of perforating injury, especially if the injury be deeper than the corneal substance. It is the perforating injury with the infection that it carries that is mainly responsible for the condition called sympathetic ophthalmia. Not only the injured eye but also the sound eye is lost. So, unless the patient himself definitely refuses or is unable to go to the specialist, the responsibility of the general practitioner is doublefold when he undertakes himself the treatment of a case of perforating injury of the eye. All that he has to do is to clean the eye, apply some mild antiseptic as Argyrol and bandage the eye and send the case to the specialist.

A thorough examination of the eye is necessary in cases of injury. I give below a table showing what all must be noted:

History.

General swelling and colour.
Crepitations under the lids.
Tear in the lids.
Scratch on the conjunctiva.
Subconjunctival haemorrhage.
Epithelial abrasions on the cornea.
Blood in anterior chamber.
Dilated or irregular pupil.
Rupture of the bulb.
Prolapse of the iris.
Cataract.
Dislocation of lens.
Eye soft or hard.

SYMPATHETIC OPHTHALMIA.

When one ear or limb is injured, no matter how serious the accident, no inflammation is excited in the corresponding ear or limb on the other side. But, if an eye is injured and gets inflamed, there is likely to arise a sympathetic inflammation in the other eye to such an extent as to completely destroy that eye. The cause of the condition is not definitely known yet. There are a number of theories. We can also say in which case there will be a sympathetic affection and in which case not. But, there is always the risk and fear in every case where there are chances of infection inside, through the wound, especially if the wound is over the region of the ciliary body. When even after the wound heals, there remains a low degree of inflammation and pain persisting, it is due to a chronic iridocyclitis which is just the type that has to be feared most. The village folk are always averse to the removal of an eye even if it is completely mutilated and useless. But, if an eye, even after some weeks after an injury, is soft and tender to the touch and is blind or almost blind, insist always on its immediate removal. If once the sympathetic inflammation sets in, we do not know when—it may be in a few weeks or it may be years after the injury—the sympathising eye will be almost lost. Practically nothing stops this course. So people have to be warned against the idea that the injured eye may be removed after the sympathetic inflammation starts in the other eye. Moreover, its onset is insidious. The first objective sign is only a light ciliary congestion which very few can recognise.

The course is so mild and without prominent symptoms, that you can never expect any patient to come to you at the very onset. Fortunately in India, sympathetic ophthalmia does not occur so commonly as in the west, but it is frequent enough to demand our attention.

PREVENTION.

It is time we realise the importance and the need for protecting such a precious organ of the body as the eye. Loss of the eye means not only personal loss to the individual but a loss to the whole family, especially if he is an earning member. Apart from accidental injuries, occupational injuries can most often be prevented by wearing protective glasses. But, in India, especially in the villages, people have a prejudice against glasses and until that prejudice is removed many an eye must pay its toll for negligence and carelessness.

Prohibition of the sale of crackers and explosives is a step which the Government should take as early as possible. Indeed it is gratifying to note that the Bombay Government at least has taken the right step in that direction.

Children furnish a very large share of accidents in the eye. The multiplicity of objects which can destroy their sight by careless and improper handling is appalling and no more valuable and humane message can be given by the general practitioner than the plea for rigid and unceasing care on the part of parents and those in charge of children that all pointed articles be removed from their reach.

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ACUTE SUPPURATIVE OTITIS MEDIA

By

DR. T. S. SHETTY, Z.L.O., D.O., VIENNA.

(Now at Lausanne, Switzerland)

The most common complaints of the ear for which a general practitioner is consulted even in the remotest villages are those relating to middle ear, acute or chronic suppuration. This article will deal with a few important points to be noted by the general practitioner in the treatment of Acute Suppurative Otitis Media.

The course and process of Otitis Media depends as in other diseases on the general resistance and vitality of the patient, on the virulence of the causative organism and on the power of the tympanic cavity and the surrounding structures to withstand the disease locally.

In the pus obtained by paracentesis before the pus discharges by natural process the common bacteria found in over 95 per cent. of the cases of middle ear lesion are streptococcus, diplococcus and streptococcus mucosus. In the group of cases examined after the bursting of pus on its own accord, the same bacteria are found combined with staphylococcus also. Pus secured from the mastoid cells in cases which required mastoid operation contained streptococci, diplococci and streptococci mucosus. Ruttin and Newman have demonstrated that streptococci, diplococci and streptococci mucosus are primarily responsible for starting infection in the middle ear and that staphylococci infection is secondary.

Clinically the course of the disease in the ordinary streptococci infection is different from the infection due to streptococcus mucosus.

STREPTOCOCCUS OTITIS: In uncomplicated cases the Otitis starts with pain and when the ear is examined we can see the following picture. Redness over the malleus, no maceration or bulging. The treatment when seen at this stage is the instillation of 3% warm carbolic gly-

cerin. Generally with this treatment the patient is relieved in 2-3 days without further trouble. If there is no relief within this period, we see quite another picture the whole membrane red and there is bulging and maceration. The malleus is no more visible. In the middle ear at this stage there is generally serous exudation. Paracentesis should not be done at this stage. Aluminium acetate solution may be instilled into the ear. The basic lead acetate and aluminium is sold as pastiles. This solution, however, must not be used for more than 3 days as it is likely to produce excoriation in the external meatus. In case the disease does not abate, we see in the next days the membrane still a little more macerated with yellow area shining through. This is a sign of pus inside the tympanic cavity. All these three aspects of the case are the serous exudative stages changing now to pus formation. At this stage, the best treatment is to incise the drum or as it is technically called to make a paracentesis. If not so treated the pus will burst out. Usually in uncomplicated cases, the disease abates. In this, the purulent stage, the patient has great relief of the pain soon after the pus has an exit either naturally or by means of paracentesis but he will have a feeling of pulsation. It is always better to incise the drum and not to wait till it bursts out as it facilitates quick healing. If the drum is incised well enough there will be free drainage of pus otherwise, the opening may be too small for satisfactory drainage. Generally this stage lasts for two weeks.

TREATMENT: There are two types of treatment. The dry and the wet method. Mostly the dry method is in vogue and I prefer this. But if the discharge is plenty, gentle irrigation with warm boric lotion is not harmful if properly done. Note that it must be warm. Indiscriminate

and forced syringing is to be discouraged. Lot of harm to many patients is done by allowing untrained assistants to do this routine syringing of ears in cases of ear disease with discharge. Where washing is indicated it is better to use a slow irrigation by a continuous stream from an irrigator held at not more than 2-3 feet from the patient's ear. The usual ear syringes should not be given to untrained assistants. The dry method does not require this washing but only gentle cleaning with sterile swabs. It is important not to wipe the meatus roughly while cleaning but to swab gently as in sponging. This is to be noted carefully as otherwise in acute as well as in chronic otitis the thin and delicate skin of the external meatus will be excoriated. It is not necessary to sterilise the swabs with a steam steriliser which is impracticable in all private dispensaries, but it is enough to show to a spirit flame each swab just when it is to be used. If unsterilised swabs are used as is so often seen in busy practice, secondary infection is added more and more and the period of treatment is naturally prolonged to the detriment of the patient. After cleaning sterile boric powder may be dusted. A dye preparation called Cehesol 3% in glycerine and dry hot poultices may be used if external otitis is also present. Otherwise ordinary dry sterile bits of gauze are used for the purpose of helping drainage without impregnating in it any drug. The patient may change the bits of gauze when necessary, and he should be instructed about strict asepsis. The practice of plugging the ear with cotton is very bad, and should be discouraged.

The next stage of the disease is the stage of mucopurulent exudate. The purulent exudate changes to mucopurulent. The sense of pulsation has gone, and in this stage politizerization is the best, without using the eustachian catheter. The easiest way to do it is to close one nostril with a finger and to keep the nozzle of the rubber bulb to the nostril of the affected side and to advise the patient to utter Ku Ku- loudly. As he does this the rubber bulb is pressed. This Ku-Ku phonation opens the eusta-

chian tube and allows air to enter the middle ear through the tube if the bulb is pressed at the proper time. Another way of doing it, is to give a mouthful of water to the patient and advising him not to swallow the same till you say "now" just when you are ready to press in air. The simultaneous drinking of the water and pressing the bulb will facilitate entrance of air. This procedure could be followed with advantage by any practitioner to the benefit of his patient. This stage lasts about two weeks.

The fourth stage of the ailment is catarrhal stage. After about two weeks of third stage the secretion generally stops. The drum membrane is greyish red. The details of the malleus are slightly visible. Patient has slightly diminished hearing and fullness in the ear. In this stage the air insufflation is continued once every second or third day. This stage generally lasts about six weeks.

In acute otitis, the tenderness in the mastoid region is not of much consequence. It is mostly not mastoiditis but what is called mastoidism which subsides in a few days. It is not possible to say how long this tenderness will last. If there is tenderness in the first or second stage of acute otitis it does not necessarily mean mastoiditis with pus in the cells. This tenderness of mastoid instead of decreasing in the second stage, may increase in about 6-7 days with perhaps still more severe pain in the ear. This generally means the acute otitis media has mastoid complications. Fever is not an essential symptom of acute otitis. Generally acute otitis is seldom primary. It is almost always secondary and therefore the fever in the first few days of acute otitis may be due to the primary disease. It must not however be forgotten that in children the fever may be as high as 103°-104°F. and may come on even with rigor and other unpleasant symptoms.

The second stage may be unusually prolonged without going to the mucous third stage but still remain purulent.

According to Prof. Ruttin, if in an adult after three weeks the exudate is still purulent, it is almost always a case fit for mastoid operation and one is entitled to operate on the mastoid even if there are no other symptoms nor even tenderness on the mastoid. Sinking and sagging of the posterior superior wall of the bony meatus is not absolutely a necessary sign indicating operation. If the signs and symptoms are present, well and good. Usually especially in India even a well marked mastoid lesion is either not diagnosed early or treated by quacks till cerebral complications set in.

OTITIS DUE TO STREPTOCOCCUS MUCOSUS: This starts with very little pain which is negligible. There are usually three stages in this type. The first stage with little or no pain in the ear; the second or the latent stage with no appreciable suffering and the third stage where mastoiditis sets in with a tendency to brain complication. If the ear is examined early, drum membrane looks greyish, the details of the drum and the malleus are still visible though not distinct and the drum membrane is not transparent. This stage passes into the second stage or latent stage with the same local picture. Hearing is markedly diminished and there are noises and very little improvement by air insufflation. This factor is important to note as it might be mistaken for catarrhal condition. If the condition is catarrhal, air insufflation will decrease dulness in hearing and even the noises if present will be very much less. But in the strepto mucosus infection this cannot happen. This second (latent) stage may last for weeks or months without any trouble until all of a sudden complications set in. This is the third stage.

The third stage is sudden and acute. Hence this type of otitis is dangerous as it is likely to be neglected by the patient and by the physician. It is important to know that the streptococcus mucosus type of otitis media is extremely grave when symptoms of meningitis set in. But if operated in the early stages of the disease before meningeal symptoms occur, 90% of the cases may be

cured. Unfortunately in these cases, there will be no discharge at all and it is so difficult to diagnose by even specialist, not to speak of general practitioners. The right time is about the fifth to the sixth week from the onset of symptoms. Before the fourth week it is unnecessary to operate as generally no complications occur before this period. The symptoms appear in the third stage and there are very few symptoms in the first two stages.

There are cases on record of primary mastoiditis. These are probably cases of streptococcus mucosus variety of infection and it has been proved that the so called primary mastoiditis is really a secondary one due to an undiagnosed otitis running the above mentioned course. If the disease is left alone generally it never heals.

When doubt exists as to diagnosis it is worthwhile to have recourse to paracentesis. This alone may give a tentative proof of the type of infection. The cut inside will have a feeling of scraping bacon or cheese whereas in ordinary type of streptococcal infection one has no such feeling but can enter the cavity easily. A word of warning is needed in incising the drum. Do not use unguarded bisturies but only special small tympanic bisturies so as not to disturb the ossicles and one has to know that the middle ear is only a few mms anteroposteriorly. The point of the knife must not go more than two-three mms from the drum surface.

TECHNIQUE OF PARACENTESIS: This process is not so difficult and dangerous as is written in some books or as is generally thought to be. Any general practitioner with a good knowledge of the anatomical relations will be able to do this. Asepsis is most important. Clean the external auditory meatus well. Instil a few drops of 10% cocaine solution and wait for 10 minutes. Clean the external meatus again with alcohol. During the incision the patient must be in a sitting position with the head straight and not in a slanting posture to one side as is generally done. This slanting posture of the head is more likely to produce partial dislocation of stapes but

this is avoided if the head is held straight. An ordinary fine bistury with its blade guarded with plaster or gauze except the 3-4 mms tip may be used if a special fine bistury is not available. It is necessary of course, as in all ear treatments, to have a good vision of the area by a reflected light with a head mirror and the doctor should use a good sized ear speculum so that he is able to see everything he does. An important principle that every doctor treating an ear case should know that he is not to do anything which he does not see directly including even cleaning with a swab. The eyes must guide the hand. It is best not to use the ordinary bistury but to use a special ear bistury that is quite handy because the ordinary bistury occupies more space in the narrow external auditory meatus and vision is difficult. Many special instruments with self guards are invented but they are not absolutely necessary. The incision must be done as low as possible. The dangers are generally nil if one observes the above details. The chances of injuring the jugular bulb are exceptionally rare. Incision of the promontorium does not do much harm though it must certainly be avoided.

The real danger is luxation of the stapes but few text books mention this important factor. If the feel during incision is uncertain, the best is to make three smears out of the fluid exuding during incision on three slides.

- (1) Stain the first slide with mythelene blue.
 - (2) „ second „ corbol-fuchsin.
 - (3) „ third „ theonin.
- The mythelene blue stains best the Streptococcus.
- The carbolfuchsin stains best the Diplococcus
- The theonin stains best the Streptococcus-mucosus.

If by this test streptococcus mucosus is diagnosed the best treatment is to operate on the mastoid.

The subject of acute otitis media in young children will be the subject-matter of another article in the next issue. Chronic suppuration of the middle ear is beyond the scope of this article.

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Abstracts.

THE PREVENTION AND CONTROL OF PUERPERAL SEPSIS, INCLUDING ITS MEDICO-LEGAL ASPECTS. *

By

R. W. JOHNSTONE, C.B.E., M.D., F.R.C.S.Ed., F.C.O.G.,

(Professor of Midwifery and Diseases of Women, University of Edinburgh).

There is no question that conditions in regard to puerperal infection have considerably improved during the present generation, but we are far from having reached any irreducible minimum in its incidence. What we have achieved is a fairly complete understanding of its causes. We know something about the conditions upon which the patient's resistance depends, and that toxæmia, hæmorrhage, exhaustion and malnutrition depress it. We know that trauma and hæmorrhage diminish the local resistance of the tissues. We know the common sources of the most dangerous organisms, and we have learned a good deal regarding the methods of preventing their access.

TYPES OF INFECTION ORGANISM.

To make my subsequent arguments clear let me say at the very outset that broadly speaking, there are two types of of infecting organism to be guarded against. There are, first, the organisms commonly found in the skin of and around the vulva, on the hands and clothes, and on unsterilized dressings and instruments—for the most part anaerobic and non-hæmolytic streptococci, staphylococci, and coliform organisms. These organisms most commonly give rise to infection after labours in which there has been considerable injury of the tissues. They cause a true wound infection, and against them our preventive methods are essentially the same as those adopted in surgery. Secondly, there is the hæmolytic streptococcus associated with scarlet

fever and erysipelas, but most commonly with tonsillitis, nasal infections, and morbid conditions of the upper air passages generally. The view that this organism is the cause of many puerperal infections and of the vast majority of the fatal cases seems to have been proved by the work of Smith (1927, 1931, 1933) Paine (1931, 1933), Leonard Colebrook (1933, 1938), Dora Colebrook (1935), King (1930), and others. Not only is this type of infection more deadly to the individual patient, but as often as not it attacks the woman who has had a normal spontaneous delivery, and among recently delivered women it appears to have a degree of contagiousness comparable only to that of small-pox. A great advance in recent years has been the clear demonstration that this organism is practically never present in the birth canal before labour, but is conveyed from without, and usually by droplet or spray infection from the nose or throat of one or more of those in attendance at the delivery or during the puerperium, not excluding the patient herself. The danger is greatest when any of those concerned is actually suffering, or has recently suffered, from some infection of the nose or throat. After recovery a small proportion, estimated at about 7 per cent. during seasons when colds and sore throats are rife, continue to be carriers of hæmolytic streptococci; but there seems to be evidence that in such circumstances the organisms are not so virulent and the risk of their infecting a patient, although by no means absent, appears to be definitely less serious (Murray, 1930). In medicine, as in warfare, each newly discovered method of attack is quickly countered by a new method of defence, and in this case the defence is twofold:

* Read in opening a discussion at a joint meeting of the section of Obstetrics and Gynaecology, and Public Health and Hygiene at the Annual Meeting of the British Medical Association, Plymouth, 1938.

first, the use of masks to cover the mouth and nose of all in attendance and secondly, the tracing of the cause of the infection by bacteriological examination of the throat and nose of each person who has been in close contact with the patient, and, if possible, the exclusion from obstetric work until after recovery of any person found to be a probable source of the puerperal infection.

One final preliminary statement is that in the last two years there have been two cases in England in which a patient who went into a small maternity hospital or home for her delivery and there contracted puerperal infection has successfully claimed damages from the hospital authorities or doctor concerned because of alleged lack of reasonable care against infection.

It is these recent advances in our knowledge of the nature of the attack and of the means of defence, together with the disturbing situation created by the legal actions mentioned, which make this subject so suitable for discussion at a time when the State is placing on local authorities an increasing responsibility in regard to midwifery.

VALUE OF ANTE-NATAL SUPERVISION

In trying to lay before you brief consideration of the points which obstetricians in general regard as important in the prevention and control of this disease, I would stress in the first place the value of ante-natal supervision. It must be interpreted in its widest sense, and its aim in this connexion must be to build up the patient's resistance. The general health of the patient should be assessed as early as possible during pregnancy, and treatment directed to any faults. I have had the opportunity of studying some hundreds of "maternal death schedules" through the courtesy of Dr. Charlotte Doughlas of the Department of Health for Scotland, and this has impressed upon me the lamentable number of cases of death from puerperal infection in which pregnancy should never have been allowed to occur, because coexistent conditions of disease and debility made these women

unfit to resist the infection which ultimately destroyed them. Here we impinge upon vast and complex economic and social problems, questions of self-control and birth-control, possibly even the vexed question of the law in regard to abortion, which I have no time to discuss.

DIET.

After this comes important question of diet. In general it is quality rather than quantity that is at fault, and the ultimate cure is education in the elements of dietetics. Vitamins are greatly in vogue at the present time, and there is probably no profession more susceptible to the dictates of fashion than our own. That vitamins, particularly A, B, C, D, and E, are essential may be accepted as an axiom, but in patients, who are on a reasonably good mixed diet it is probably unnecessary to administer supplementary vitamin preparations. If every pregnant woman would include fresh fruit in her daily diet, and add to the fruit fresh green vegetables, dairy produce, and fresh herrings, the needs of the situation would be fully met and incidentally some of our economic difficulties ameliorated. In addition to vitamins the mineral elements of the diet are of great importance, as of these substances, which must be supplied from the mother's diet if her own tissues are not to be depleted to an extent which may undermine her powers of resistance. But here again a reasonable mixed diet should suffice, and it is only in cases where a deficiency of, for example, iron is clinically detected that direct medication is desirable.

The more strictly obstetrical side of ante-natal care is preventive in an important degree. By foreseeing causes of danger and difficulty, steps can be taken to ensure a method of delivery calculated to minimize trauma and hæmorrhage, to control toxæmia, and to eliminate the risks inevitably associated with delivery in unsuitable surroundings.

THE PLACE OF DELIVERY.

This brings me to the question of the locus of the delivery where circumstances

offer a choice. I see no objection to delivery in the patient's own home provided it is suitable, and provided that the patient is in good general health and that no obstetrical operation of any gravity is likely to be required; but only medical considerations and not sentiment, should determine the choice. Unless the patient's own home is clean and airy, and she can have a bed and preferably a room to herself, it is not a suitable place for a confinement. For, too many women are still delivered in wholly unsuitable houses, and if there is no hospital accommodation for them then we must press for its provision. Other essentials are that sterile outfits of dressings etc., must be provided either by the patient or by the local authority. Furthermore, the danger of contact with members of the household newly returned from infectious diseases hospitals, or with running ears or infected throats or sores, must be kept clearly in mind, and the presence of any such risk should determine removal to hospital. Any comparison of the relative safety of delivery at home and in hospital or a maternity home involves the assumption that in the latter the conditions and the technique are good. This point was made by the judge in one of the legal cases mentioned. In the past most hospital reports have shown a lower general mortality rate in the outdoor cases than in the indoor cases; and the obvious explanation is that difficult and complicated cases naturally gravitate to the hospitals and so weigh their figures adversely. The comparison is therefore fallacious, as the two groups of cases are not strictly comparable. What more concerns us to-day is that evidence is accumulating that, so far as infection is concerned, the statistics of hospitals in which careful bacteriological control is exercised are beginning to show a lower incidence of infection in hospital than in district practice (L. Colebrook, 1938; Rose, 1937). I am therefore in favour of institutional midwifery except where the domiciliary conditions, regarded from the obstetrical standpoint, are really good; and, in my view fortunately, social trend in favour of institutional midwifery will probably continue despite any opinions to the contrary.

It, therefore, behoves us to see to it that all maternity hospitals and homes conform to the high standard in accommodation, personnel, and technique which their existence is now legally taken to imply. Overcrowding is too common even in some of our famous hospitals. Accommodation should be available for the complete separation from the very outset of clean and of "suspect" cases—that is, cases which have been examined or handled outside—and for the immediate segregation of all puerperae who present symptoms suggestive of infection. Recognized case of infection should be transferred at once to an entirely separate unit or a special hospital. In the design of new hospitals these points should be insisted upon as primary essentials.

MATERNITY INSTITUTIONS.

Maternity homes should be inspected more frequently and more searchingly than has often been the case hitherto by a responsible official of the local authority who has a real practical knowledge of midwifery. Much of the so called inspection at present is merely a formal compliance with the letter of the law.

In every maternity hospital and home one individual should be charged with the ultimate responsibility for distribution of patients to the various wards and the notification to doctors in charge of patients as well as to the local authority of all cases of puerperal pyrexia or infection. In the larger hospitals this should be the resident obstetrical officer; in the smaller hospitals and nursing homes the matron.

Another question arises in regard to the admission of cases of puerperal infection to maternity institutions. Unless a whole separate block is reserved for such cases this seems to me quite wrong. Again, if such cases are housed in a separate block, or in a hospital for infectious diseases, it seems desirable that they should be under the supervision of an obstetrician. This recommendation is not intended as a reflection on the competence of the staff of such hospitals but as a plea for increasing the experience of the

obstetrician in a particularly important type of case to which he is often called as a consultant. What of abortions, which are almost always "suspect"? Should they be sent to a maternity hospital, to a gynaecological ward, or to a special ward connected with a maternity hospital? The last seems to me the best plan; for again, and even more emphatically, these cases should always be under the care of an obstetrician.

INTRA-NATAL TECHNIQUE.

Intra-natal technique is the most important point of all, for it is during labour that the danger is at its maximum. The simple main requirements are a clean vulva, clean hands, clean dressings, clean instruments, and the prevention of the contamination of any of these desiderata means safety; anything short of it spells danger. A completely aseptic technique is even more unattainable in midwifery than in surgery, and there are those who, recognizing this, rely wholly upon the lavish use of antiseptics and produce fine results in support of their policy. But I think the better and more rational plan is to combine both methods—to render aseptic, by boiling, everything that can be boiled, and to apply adequate antiseptic methods to those that cannot. Thus gloves, gowns, sheets, dressings, and instruments can and should be sterilized; the skin of the hands and of the vulva can be rendered reasonably safe by thorough antiseptic treatment.

I cannot here enter upon the relative merits of the many antiseptics in use. For information upon that point, and indeed upon this whole subject, I would refer you to the invaluable work of Dr. Leonard Colebrook (1938). I would only emphasize that the strict routine observance of a careful technique is much more important than the particular antiseptic used. The one essential is that the antiseptic should be used in a strength sufficient to be really and rapidly germicidal. Let me rather give you an outline of the technique which we follow in the Royal Maternity Hospital, Edinburgh, and which I put forward not dogmatically but just as an example.

1. At the outset of labour the patient's whole body should be thoroughly washed if time and her general condition permit. In hospital this is done by a spray bath, with the woman sitting on a stool or lying on a slab, to prevent the possible entry of soiled water into the gaping vulva of a multipara. In the absence of such facilities a bed bath, or in an emergency a thorough washing of the lower abdomen, vulva, and thighs, must suffice.

2. The vulva, and pubes are shaved, again well washed with soap and water, and dried. Thereafter a soap and water enema is given unless the patient is bleeding or is advanced in labour, and, after the rectum has been evacuated, the whole area is treated with 5 per cent dettol as a lotion or in the form of 30 per cent. dettol cream.

3. Before any examination, and in any case always at the end of the second stage dettol lotion or cream is again applied. We more often use dettol blue—that is, dettol with an inert pigment—for the skin as it clearly shows the limits of the area treated.

4. Before examining or delivering, the obstetrician washes his hands thoroughly with warm running water and soap, rinses them in methylated spirit, dons a sterile cap, mask and long-sleeved gown and sterile gloves. Dettol cream is used as a lubricant for the finger and for such instruments as the forceps. If running water is not available, care must be taken that the basins used have been sterilized, and the water itself should be boiled wherever there is any dubiety about it.

5. The vagina is not treated except in the presence of leucorrhoeal discharge, in which case it is douched out with 5 per cent dettol solution immediately before delivery.

6. After delivery the vulva, buttocks, and thighs are swabbed clean with 5 per cent dettol and sterile gamgee pad applied.

Obviously such a technique is not applicable in detail in many of the houses

of the poor, but given the provision of a sterile outfit by the local authority, something closely approximating to it is usually possible. I would draw attention to L. Colebrook's (1938) evidence that dry hands or dry unsterilized gloves can be rendered sterile and even actively antiseptic by rubbing pure dettol or 30 per cent dettol cream into them until they are dry. In an emergency this is an invaluable hint.

I anticipate that the question of masks will arise in this discussion, but if the importance of spray or droplet infection from the mouth or nose of an infected attendant or even a healthy "carrier" upon hands, dressing, and instruments, or upon the vulva itself, is admitted, then it seems to me that the wearing of a mask is the obvious and inescapable common sense preventive measure. The only alternative to a mask is to conduct the labour in absolute silence, but an unexpected and irresistible cough or sneeze may betray even the most devout Trappist. Moreover, the mask to be adequate must consist of at least fourfolds of fine-meshed gauze and must itself have been sterilized. Many of the masks in use are more figuratively than literally of the nature of lip-service to the doctrine enunciated.

With this technique the further endeavour to prevent infection during labour lies in the observance of the principles of good midwifery in the conduct of the case, in particular in the avoidance of trauma, haemorrhage, and exhaustion. Unnecessary interference is certainly to be deprecated, but unnecessary delay is also undesirable, and the obstetrician who has conscientiously observed the precautions mentioned need not fear to undertake any minor intervention, such as a low forceps operation. Major forms of intervention, especially those involving the introduction of the hand into the uterus, must always remain more dangerous, and will always carry some toll of subsequent infection. Whenever possible they should be carried out in a hospital, where the surroundings, the facilities, and the number of assistants are more suitable.

THE PUERPERIUM.

In the early days of the puerperium similar precautions must be maintained, for there is abundant evidence that some women become infected a day or two after delivery. The main principle is again the prevention of infection from the hands, nose, and throat of the nurse or others attending the patient; and to this must now be added the prevention of contagion, air-borne or otherwise, from one patient to another. Before giving any attention to the genital area, the nurse must scrub her hands and forearms and should don a mask and sterile gloves. In hospitals and nursing homes each patient should as far as possible, have her own individual outfit equipment, and where this is impossible all articles should be sterilized before use. In particular does this apply to bed pans. The importance of fresh air and sunshine, and the promotion of drainage of the uterus by propping the patient into a sitting position at frequent interval after the first twenty-four hours, need only be mentioned.

The sphere of drugs in the prophylaxis of infection in the puerperium has received attention from time to time. Quinine, for example, has long had a vague but rather unsubstantiated reputation in this respect, and in combination with ergot is widely used. The recent introduction of sulphanilamide preparations and their striking success in the therapeutic treatment of streptococcal infections naturally raised the question whether their administration would be correspondingly successful in prophylaxis. To test this my colleagues and I in the Royal Maternity Hospital, Edinburgh (Johnstone, 1938), made a rough and ready clinical experiment on a large scale by giving a prophylactic course of these drugs to every patient delivered in the hospital during the year 1937. A comparison of the results of the year's working with those of the previous year showed a reduction in the number of puerperia which were morbid according to the B. M. A. standard from 3.06 per cent in 1936 to 1.9 per cent in 1937. In order to test the real significance of this apparent improvement

we are this year using all sulphanilamide drugs only as therapeutic agents in cases of pyrexia in which infection is suspected; and the further comparison of our 1938 figures with the two previous years may prove interesting. In the meantime I hesitate to make what may prove to be exaggerated claims for the prophylactic use of these drugs, although in our experience their administration was apparently beneficial and was seldom, if ever associated with any detriment.

CONTROL OF INFECTION.

I pass now to the question of the control of infection. In the first place a chart of the morning and evening temperature and pulse should be kept during every puerperium, and the nurse should make a daily note of the state of the lochia and of the any abnormal symptoms. Any rise of temperature to 100° F after the first twenty-four hours should be regarded with suspicion, and if it recurs within next twenty-four hours without some obvious extragenital reason the patient, if in a hospital or nursing home; should be removed forthwith to the segregation room or department. This is no counsel of perfection, but a most reasonable precaution. A high vaginal swab may be taken with advantage and sent to a competent bacteriologist, preferably one who has the means of grouping streptococci. Here I would interpolate that in our experience the ante-partum taking of vaginal swabs has not proved helpful, and the general conclusion is that such streptococci as may be found occasionally in the vagina before labour rarely cause serious infection after it. I do not deprecate the procedure, but I do not regard it as part of the essential technique which I am trying to keep down to its simple elements.

After segregation of the patient, the next step—and one of particular importance in hospitals and maternity homes, where infection is, for obvious reason, most apt to become epidemic—is the bacteriological investigation of the nose and throat in all contacts with the patient who has developed infection. The logical sequence to this is, when at all possible, the temporary exclusion from obstetrical work of

any persons found to be "carrying" haemolytic streptococci and the segregation of any other patients in the same ward who are harbouring these organisms. Here again I would make an interpolation. Where there are no symptoms referable to these organisms, the preliminary swabbing of the throat and nose of those about to engage in maternity work, as well as the routine swabbing of those already engaged in it, seems to me unnecessary provided a technique such as I have described is conscientiously observed. Admittedly the omission of this step falls short of the full and rigid application of our present bacteriological knowledge, but I submit that the full application of that knowledge might well lead us into positions so impracticable as almost to paralyse the work of our hospitals as well as of the single-handed country practitioner. Lyons (1936) of Boston has estimated that in winter, when infections of the air-passages are common, the exclusion of all carriers of haemolytic streptococci that is, of healthy carriers as well as those with recognizable infections, would reduce the staff of a hospital by 30 per cent. I believe that even the bacteriologist recognise the impracticability of this situation. Moreover, if routine test swabbing is to be done, how often is it to be done? If fortnightly, why not weekly? If weekly, why not daily?

It should, however, be a rule in every maternity hospital or home that any nurse or ward servant suffering from a sore throat or even from cold, should report that fact to the matron, who should arrange for the prompt taking of swabs for bacteriological examination and for relieving such a person from duty in the labour room or puerperal wards until she has recovered and has had two swabs negative to haemolytic streptococci. The same principles should be observed by all doctors engaged in midwifery. Where these precautions cannot be carried out without grave dislocation of the work to be done—as, for example, in hospitals with limited staffs or in single-handed practice in country districts—precautions against droplet infection should be intensified and rigidly observed.

AIR-BORNE INFECTION.

One last risk deserves consideration—namely, air-borne infection. A few years ago most of us would have belittled the serious suggestion of such a possibility, but recently the work of Cruickshank (1935), W. F. and M. W. Wells (1936), and Daryl Hart (1937) has shown us that the air in rooms occupied by infected patients contains multitudes of virulent organisms. This is possibly the explanation of some epidemic outbreaks of sepsis in small hospitals and maternity homes which have no adequate means of segregating infected cases, as well of some sporadic cases in domiciliary practice. Incidentally it may also possibly have been the explanation of the infection in the two recent cases in which the patients sued for and were awarded damages. In both of these instances a "clean" case was put into a ward in which there was another patient who had a high temperature and other symptoms which were strongly suggestive of puerperal infection, and who ought therefore to have been segregated. Personally I do not think we can escape the conclusion that such a procedure does constitute a lack of reasonable precautions in an important respect.

These two cases are profoundly important because they introduce an element of the fear of the law into ordinary midwifery practice, but we must not allow ourselves to exaggerate the position. No sane Judge would allow damages against a doctor or an institution simply because the plaintiff had contracted puerperal infection. He would require to be satisfied that in some essential point or points there had been a breach in the observance of reasonable precautions. At the same time one successful claim is apt to encourage others, and we must protect ourselves against vexatious actions. The doctor who signs a certificate of insanity or who treats a fracture without having recourse to radiographs does so nowadays at some risk to his peace of mind and his pocket. We must not allow any similar paralysing apprehension to enter the field of obstetric practice for lack of a clear statement as to what in the present state of our knowledge, are the simple and reasonable essentials of the proper conduct of a midwifery case. And if such a statement cannot be derived from a discussion such as this, then we may possibly have to look to the Ministry of Health or to some equally authoritative source to frame one. (B. M. J., August 6, 1938).

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TREATMENT OF VOMITING.

Vomiting is always a symptom of a disease and not a disease itself. So the treatment of vomiting is at times a very difficult problem and if the indications and rationale of treatment are not judiciously arrived at, the patient is likely to suffer more due to indiscrete drugging than by the symptom of vomiting.

The process of retching is quite different from that of vomiting, in the former, the cardiac sphincter is tightly closed and the stomach contents are prevented from getting into the gullet but during vomiting the cardiac sphincter is relaxed. Therefore it is the stage of retching that troubles and exhausts the patient more than the actual vomiting. This should be borne in mind in the treatment of vomiting and in the initial stage of vomiting when nausea and retching are more distressing than the vomiting as is generally evidenced by the fact that the patient is very much relieved after a good bout of vomiting. The physiology of vomiting should also be borne in mind in the treatment of vomiting. As mentioned above a free exit of the vomitus is facilitated by the relaxation of the cardiac sphincter at the same time the other end of the stomach is tightly contracted. The post nasal space is shut by the soft palate and the respiratory tract protected by inhibition of respiration, closure of the glottis and drawing forward of the larynx and the hyoid bone. The whole mechanism of vomiting is controlled by the vomiting centre in the medulla. Afferent impulses reach it from the cerebral centres, from cranial nerves and from stomach and other abdominal organs through the vagi and sympathetic nerves. The efferent paths are through the vagi and sympathetic nerves to the abdominal viscera, by the phrenic nerves to the diaphragm by the spinal nerves to the abdominal muscles and by the cranial nerves to the soft palate and the pharynx.

The sensation of vomiting varies in different people. A mere sight or smell may bring on vomiting in some, while others will be able to bear them with impunity. Basing on the physiological action vomiting may be divided into several types depending upon the impulses reaching the vomiting centre.

CENTRAL: Vomiting due to cerebral tumours and pressure due to concussion or contusion of the brain belong to this category so also the vomiting accompanying headaches. In all these cases the stimulation of the special senses is the primary cause. In sea-sickness the tossing of the steamer causes disturbance of the semicircular canals in the labyrinth; the train-sickness is due to the fatigue to the eyes due to seeing at things when the train is fast moving. So the best prevention is to advise the patients to lie down with the eyes closed and prevent the nausea which is the forerunner of vomiting. Car-sickness is probably due to vibrations and the prevention would be to wear a tight abdominal binder.

Sedative drugs which deaden the nerves are indicated in the treatment of this type of vomiting. Chlorotone is said to have sedative action not only on the brain but also on the stomach wall and may be prescribed in 5 grs doses. Luminol $\frac{1}{2}$ to 1 gr. first thing in the morning and at bed time has a good effect. Bromide in 15 to 20 grs. doses in combination with atropine will act marvellously at times. Bromide will soothe the brain and atropine paralyses the vagal nerve endings. Chloral Hydras is similar in action to Chlorotone. The vomiting of pregnancy comes under this head and has to be treated on the above lines bearing in mind the general condition of the patient and special indications for maintaining the nutrition and strength of the patient. Glucose and insulin therapy should be resorted to in these cases more than in any other type of vomiting and in the case of pregnant women the corpus leuteum hormone-therapy has to be resorted to.

VISCERAL OF REFLEX VOMITING: Gastric irritation due to bad food or undigested

food, and alcoholic excess are the most common causes of vomiting and in all these cases vomiting relieves the distressing nausea and retching, preceding the act of vomiting. The vomiting may be due to abdominal colic on account of disturbance of gastro-intestinal tract. Vomiting is also a prominent symptom in hepatic, renal and appendicular colic or in crises due to nervous diseases such as tabes dorsalis. It is a symptom in gastric ulcer when there is hæmorrhage in the early stages or after the ulcer heals resulting in hour glass contraction of the stomach. The other causes of reflex vomiting may be due to diseases of heart and lungs. The diagnosis of the causes of vomiting depend upon the recognition of the primary disease. Apart from visceral diseases reflex vomiting may be due to a number of poisons which are gastric irritants. These are usually salts of mercury, tartar emetic, ipecacuanha, arsenic, zinc, etc. Drugs like digitalis, morphine, Quinine, Salicylate produce gastric irritation.

A careful history of the case will usually guide the practitioner to chalk out the line of treatment. In all cases of gastric irritation the patient should be restricted to bed and given sips of water until the acute stage is passed. This may be followed by rice water, whey, peptonised or citrated milk diluted with rice water in the proportion of 3 to 1. Later depending upon improvement rusk, toast bread, biscuits may be allowed along with whole milk. Fruit juice better not be given in the early stage. At the commencement the quantity of fluid given should not be more than one ounce and it should be gradually increased depending upon severity of symptom.

The following prescription may be found useful:—

R/
 Bismuth Carb. grs. XV.
 Mucilage. Q. S.
 Soda Bicarb. grs. V.
 Acid Hydrocyanic dil. mms. V.
 Aqua add. oz. 1.
 A dose every four hours.

In cases where there is a history of constipation or gastrointestinal irritation, a mild laxative should be prescribed to begin with. For abdominal pain and discomfort hot applications to the abdomen give relief. At times Morphine may be required to relieve intense pain. Vomiting due to heart and lung diseases can only be controlled by judicious treatment of primary disease.

TOXIC VOMITING: Vomiting is a very severe symptom in uræmia acute or sub acute necrosis of the liver in Graves' disease and Addison's disease. It ushers the invasion of acute infection like small-pox, scarlet fever, influenza, and pneumonia malaria, septicaemia. The indications for combating vomiting in these cases is to lessen the toxic condition of the body remembering that in all such cases ketosis is an accompanying complication. In the early stages of these infections when the patient is sthenic 5 mms. doses of Tr. Aconite every two to four hours controls the vomiting and at the same time brings down the temperature. Tr. Iodine in 2 mms. doses has a very good effect. So also small doses of adrenalin by mouth. The writer of this article usually prescribes the following mixture:

R/
 Tr. Aconite mms. 25.
 Tr. Iodine mms. 20.
 Sol. Adrenalin mms. 20.
 Tr. Card Co., drs. 2.
 Glycerine. add. oz. 1.

1/8 part in an ounce of cold water every two to three hours till the vomiting is controlled.

Post-anaesthetic vomiting is at times most troublesome, may also be very serious. This may be prevented by taking care of the patient before anaesthetic is administered. An ounce of glucose a day for two or three days before the operation and a mild laxative before 24 hours of operation prevents post-anaesthetic vomiting. Strong purgatives which empty the bowels more than necessary should be avoided as if

the bowels are emptied of all residues there is a tendency for the accumulation of wind. A serious complication in surgery is acute dilation of stomach. In this condition washing out the stomach with the solution of Soda-bicarb one ounce to a pint is advised by many authors in text books and also syphoning of the stomach contents by suitable means. Continuous intravenous saline is also advocated giving a litre or more in 24 hours.

GENERAL TREATMENT: It is highly essential while treating vomiting the effect of such vomiting on the health and strength of the patient should be carefully watched. The very first effect or vomiting is the depletion from the body glycogen which leads to ketosis. The complication of vomiting is seen almost immediately in children. In these cases administration of glucose and soda bicarb is very effective. This treatment should be adopted in the vomiting of pregnancy; also. Judicial doses of Insulin must be had recourse to while administering large doses of glucose. In severe case of vomiting the loss of body fluid is a dangerous complication. Water is absorbed from the tissues and secreted into the stomach from where it is vomited out. So in severe case of vomiting as indicated by loss of weight, dry tongue, sunken nose and cheeks, a small frequent pulse, high coloured urine or at times suppression of urine, the lost fluid must be made good at once by salines given by rectum, skin or vein depending upon the severity of the case. The administration of saline helps also to make up the loss of chloride in the blood.

TREATMENT OF URGENT SYMPTOMS IN KIDNEY DISEASE.

The most important symptoms which usually baffle a practitioner while treating Kidney Disease are suppression of urine (Anuria) or passing of scanty urine (Oliguria), Dropsy, Acute heart failure and Uræmia.

Oliguria is either due to inability of the diseased kidney to secrete normal

quantity of urine or due to retention of fluid in the tissues of the body which occurs in patients having oedema. The onset of anuria is of serious import. The treatment in the case of oliguria due to total dysfunction of the kidney is different from the one to be adopted for the same condition due to accumulation of fluid in the tissues of the body. In the former case the patient should be encouraged to have fluids; in the latter case fluids are to be restricted, patient being allowed only a pint of orange juice a day. Treatment of dropsy will be dealt with separately. Rest in bed, hot fomentations to the loins should be employed and if vomiting is a troublesome complication, saline should be administered intravenously sending it in slowly. For Anuria coming across in Interstitial nephritis, decapsulation is the rational procedure mentioned in books. A marvellous case was reported to the writer of the article from the Government General Hospital where a patient who underwent decapsulation operation was given intravenous injection of sterile sea water as a last resource when everything failed and the patient began to pass urine.

DROPSY: Patients who are seen at an early stage with dropsy get well if they are put to bed and given fluids with restriction. Usually patients are seen when oedema is a distressing symptom. Such patients should be carefully observed. There is always a tendency for the fluid to accumulate in the pleura or the peritoneum. It is said that such patients are susceptible to secondary infections and suddenly develop pneumonia or peritonitis. The retention of fluids is due to diminished osmosis in the capillaries due to loss of plasma protein which is passed as albumin in the urine.

Patients should be kept warm confined to bed and given nourishing diet containing protein. Salt need not be restricted too much. It may be used in food but not given extra. Fluids should be restricted, not more than a pint being allowed for a day. If breathlessness is present the patient should be carefully examined and if there be effusion in the pleural cavity

it must be evacuated. Ascites need not be aspirated in the early stage as there seems to be a tendency for the peritoneal cavity to be infected.

If anæmia is present elegant preparation of iron should be given in large doses. The following prescription serves the purpose very well.

R/
Tint. Ferri dr. 2.
Liq. Ammon Acetas oz. 1.
Syr. Simplex oz. ½.
Aqua ad oz. 4.

Half an ounce 3 or 4 times a day after food.

For the direct relief of oedema suitable drastic purgatives, rest and restricted diet should be given a fair trial before adopting other heroic measures which are questionable at times. Soda sulph should be preferred to Mag. sulph as a saline purgative and should be given in concentrated solution. It is said that Mag sulph has a tendency to produce some chemical changes with the blood salts and favour uraemia. Pulvis Jalap Co. in 2 or 3 drs. doses has very good effect in Indian patients who are habitually constipated. If depletion of accumulated fluid could not be effected by the above measures, recourse should be had either to administration of urea by mouth or the use of organic mercury parenterally. Urea should not be used in patients who are having nitrogen retention. Though the toxic effects of heavy metals such as mercury is well known organic preparations of mercury are used as a routine by eminent physicians in continental hospitals and also in India.

Though mercury is contraindicated in kidney disease no untoward happenings are reported. Solitary cases are reported where a patient suddenly died either in the course of or immediately after the intravenous injection of mercury preparation. The preparation largely used is Salyrgan. It is safe to give it diluted in a large quantity of saline, the injection being given as slowly as possible. Salyrgan works more effectively if 20 to 30 grs. doses of Ammonium Chloride are given

to the patient thrice a day. It should be remembered that Ammonium Chloride upsets the stomach, it should therefore be given either in capsules or in combination with Ent. Glycyrrhiza Lig. 2 c. cm. Salyrgan once a week may be given for some months generally with no ill effects. Its use is contraindicated in cases with marked renal insufficiency.

ACUTE HEART FAILURE: Symptoms of heart failure of varying intensity are usually seen in patients suffering from kidney disease. It may be slight breathlessness or intense dyspnoea with all signs and symptoms of backward pressure in the heart attendant with pulmonary congestion and enlargement of liver. There is first failure of left ventricle which if neglected is followed by the failure of right ventricle.

Efficient and careful nursing should be ordered and the patient not allowed to do anything for himself. Food should be restricted as in oedema to one pint fluid a day. Morphia and digitalis are the only two drugs that have to be depended upon and used judiciously. The good old drug caffein citras in 2 to 3 grs. doses twice or thrice a day is indicated in cases of heart failure with a pulse below 80 per minute. It is a good diuretic also. The only drawback in this drug is that it produces insomnia and at times disturbance of brain in patients who have idiosyncrasy for it. It should not be administered after 3 P. M. The brain symptoms pass off easily when the drug is stopped. In patients with blood pressure above normal who have a pulse rate of 120 or above a prescription like the following is indicated:

R/
Pot. Citras grs. 15.
Tinct. Digitalis mms. 10.
Sol. Nitroglycerin (B. P.) mms. 2 to 3
Tr. Card Co., dr. ½
Spt. Ammon Aromat mms. 20
Syr. Simplex dr. 2
Aqua ad. oz. 1

one ounce thrice a day.

Venesection has saved the lives of many; 500 to 600 c. cm of blood may be removed in adults. But venesection is contraindicated if anaemia is present.

URÆMIA: This clinical manifestation is the terminal stage in renal disease. Though the term uraemia is to be strictly associated to the conditions where there is nitrogen retention in kidney disease this term is used rather loosely and in many of the manifestation of so called uraemia blood urea was not in the increase. The cerebral symptoms from a mild headache to local palsies, convulsions, maniac delirium etc., may come on without retention of nitrogen. All the brain symptoms are associated with a rise in blood pressure. There are also patients who complain of headaches especially in the mornings attendant usually with vomiting. They complain of dimness of vision, blood pressure is not increased nor blood urea. This symptom is attributed to cerebral pressure and not blood pressure. Paroxysmal attacks of dyspnoea are ascribed to acidosis and not so much to nitrogen retention. Continuous dyspnoea attendant with other signs and symptoms of heart failure are attributed more to hypertension than to excessive urea in blood.

A moderate rise in the blood pressure without symptoms need not require special treatment excepting preventive measures. In cases where symptoms are present they have to be treated rationally. Persistent giddiness is often relieved by nitroglycerin by mouth 2 to 3 minims of B. P. solution 3 or 4 times a day in combination with an aromatic such as Tint. Card Co. and a diffusible Stimulant, Spt. Ammon Aromat in 20 to 30 mins. doses. In severe brain symptoms attendant with hypertension lumbar puncture may first be tried and if no relief venesection should be had recourse to (in the absence of anaemia) followed by intravenous saline. Treatment of Cardiac failure and renal failure have been mentioned above.

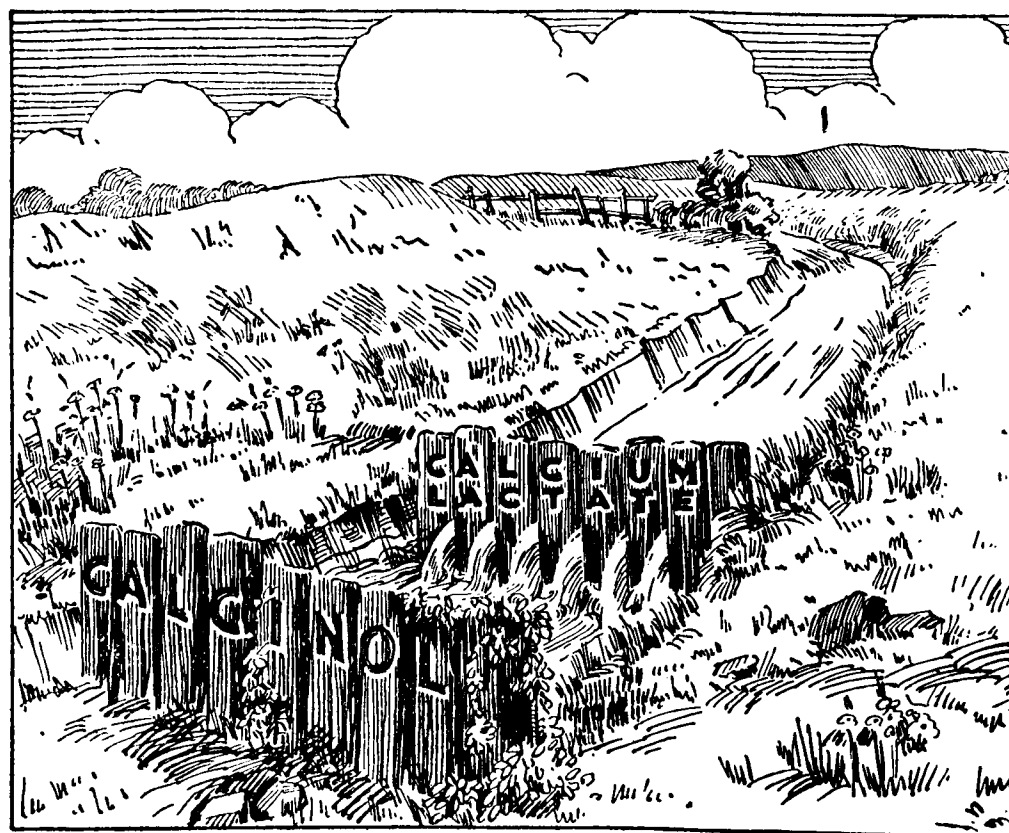
CHANGES IN BLOOD PRESSURE PRODUCED BY PROSTATIC MASSAGE.

Since some patients exhibit mild or marked vasomotor collapse after prostatic massage, which in a few instants terminates in syncope, H. J. Hammer and T. L. Schulte, Rochester, Minn. (*Journal A. M. A.*, July 23, 1938), attempted to determine what physiologic vasomotor changes were associated with prostatic massage and whether it could be correlated with any specific lesion. They used responses of blood pressure and pulse rate as a guide to measure these changes, noting also the effect of posture. Observations were made on a series of 378 unselected patients as they presented themselves for examination. Syncope occurred in four patients. It was characterized by marked vasomotor collapse following a latent period of from one to three minutes. The following conditions may be ruled out as factors affecting the vasomotor response to prostatic massage: prostatitis, hypersensitivity as measured according to appreciation of pain; hemorrhoids and anal fissure, and various types of nervous states. Change of posture, exclusive of the effect of massage, from the sitting to the lying or bent-over position, causes a slight rise in systolic and diastolic pressures in the majority of cases. The greatest responses of increase in blood pressure following prostatic massage were observed when the patient was in the lying position and responses of lesser degree among patients in the bent-over and sitting positions, respectively. The response of the blood pressure following prostatic massage parallels the results obtained from the cold pressor test among both the patients who had normal blood pressure and those who had essential hypertension. The considerable rise in blood pressure produced by prostatic massage among patients who had essential hypertension should be taken into consideration when such a procedure is undertaken.

(*The Journal of Medicine*, January, 1938.)

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MEDICAL SCHOOL EDUCATION.

At the instance of the Government of India, a conference to consider the desirability of raising the standard of education in medical schools, was convened in Delhi, which met on 7th and 8th November last year. The Conference has three representatives from each of the Provincial Medical Councils. The Madras Council was not represented, perhaps those responsible to run the conference thought there was no need for the representation of this council as there were no Medical Schools in Madras at present. We should say the conference lost an opportunity of having first hand knowledge to give to such of those entertaining the imaginary difficulties in effecting radical reforms in medical schools. The College of Physicians and Surgeons of Bombay was represented by two members. Excepting in the case of Bengal Medical Council which had representation for all the three sections appearing in the Bengal Medical Register, all the other Provincial Medical Councils had no representation for the Medical Licentiates. There was representation for the Medical Council of India. The All India Medical Licentiates' Association which has on its role about 3,000 members out of the total number of over 20,000 licentiates in India, was represented by two members. If the Government of India seriously thought that there should be representation to the Licentiates in the Conference they ought to have directed all the Provincial Medi-

cal Councils to send one member from each such Council. Such a representation would have been fair.

The conference had 41 members excluding the Secretary and two visitors belonging to the fair sex. Ten represented the interests of ten Indian States of whom one was not a medical man. There was also representation for Women Medical Service including the Missionary Service. Both the visitors were women, one a missionary and the other belonged to Government service. They took part in the proceedings. Perhaps had not the right of voting. Major-General E. W. C. Bradfield, Director General, Indian Medical Service presided. The agenda and resolutions finally approved by the conference are published in the Correspondence columns. Discussion centred round the most important first two items in the Agenda viz.,

1. To consider whether the maintenance of a medical qualification of a standard lower than that demanded by the Medical Council of India is necessary, and, if so, whether temporarily or permanently.

2. To consider whether a common standard of medical school education is (a) desirable and (b) practicable at the present time; and, if so, the means by which this might be attained.

The Chairman drew the attention of the conference to the Memorandum published by his predecessor Major-General Sir Cuthbert Sprawson and the review on the above memorandum by himself as published in the first issue of the Medical Review of India

and said the contents of those two publications would be of considerable help to the members of the conference to know the state of affairs of medical education in the Medical Schools in India. Rao Bahadur Dr. A. L. Mudaliyar who represented the Medical Council of India was given the honour of initiating the discussion which he did admirably. He relied on his personal official experience first as a lecturer in a medical school and later in the Madras Medical College of which he is now the Principal. The various stages of improvement effected in the education in the Medical School in the Madras Presidency which finally culminated in the abolition of the Medical Schools and the adding of one more college in the province were explained by Dr. Mudaliyar. He was of opinion that this transformation did not involve extraordinary expenditure to the Government nor would it cost more to the medical students excepting a bit towards the college fees. He felt that the public also had begun to appreciate higher standard of education in practitioners belonging to the scientific system of medicine as could be judged by the greater rush of patients in the hospitals. Regarding cheap doctors to supply the demand of medical relief in villages Dr. Mudaliyar said :

"One of the objections frequently voiced is that the State wants cheap doctors and the people cannot afford to pay much in the way of fees. 15 or 20 years ago that would have passed muster, but I think few people will deny that there is such chronic unemployment in the medical profession and it is becoming worse and worse, that the State in most provinces is able to dictate its own terms to the medical profession and even in regard to payment of fees the general public has the medical profession in its grip. I can speak with some inside knowledge so far as the Madras Presidency and the South Indian States are concerned and I am not exaggerating when I say that the medical profession is to-day at the mercy of the general public and the State. There are various reasons for this. The excessive number of doctors who have been trained in the allopathic system in some manner, together with the fact that in most

provinces the government have taken definite steps to train practitioners in other systems of medicine, is one reason, and there is no possibility of the Government changing its view point in this matter. In my own Presidency practitioners are trained in the Ayurvedic, Unani and Siddha systems of medicine, and a diploma is granted, which diploma enables them to practise these indigenous system. In the same way as the allopathic. I do not want to go into the question of the training they get, nor is it necessary for my purpose to do so. It is sufficient to state that these practitioners are taking the place of the so-called cheap doctors and are available in all parts of the Presidency for the rural as well as the urban population. I believe that similar steps are being adopted in most other provinces or are in contemplation; so that in no time will the Government be at a loss for cheap doctors, if that is their intention. The Medical Reorganization Committee appointed by the Government of Madras in 1929 after due deliberation came to the conclusion that what was wanted in the Madras Presidency and in other provinces also was not more doctors but better qualified doctors. It is in this direction that the trend of thought has been running all through, that what is wanted in every province in India is not a multiplicity of doctors but to have the best doctors possible in the circumstances."

He brushed aside the argument raised that practitioners with high standard of medical education were not likely to settle in villages and said that under the Scheme inaugurated by the Government of India on the lines of the Subsidized Rural Medical Relief Scheme now in vogue in the Madras presidency, qualified medical practitioners would not hesitate to settle in villages especially so when unemployment was keenly felt by the members of the medical profession. Dr. Mudaliyar did not omit any detail for clarifying his arguments in favour of higher standard of medical education in Schools and told his audience finally that the plea that there would be dearth of candidates with the higher general educational qualification demanded by the higher standard of medical education could not be substantiated by actual facts. For, in Madras on the last occasion for the selection for the three Medical Colleges there was no dearth of candidates both men and women. Having

said so much relating to the need of a higher standard of medical education and answered all the arguments against this reform, Dr. Mudaliyar took up the topic what the standard should be. Theoretically, he said there could not be any objection to have a Diploma standard under the control of medical faculties alongside with University degree but taking into consideration the Indian conditions especially relating to finance and existence of well organised Universities he would advocate the uniform University standard. Dr. Mudaliyar dealt with two most important items in the Agenda co-relating with each other and as an introduction to base our criticism we have given a gist of the speech of Dr. Mudaliyar, who talked sensibly not forgetting the interests of the profession, the State and the public also remembering the helplessness of the members of the Scientific Medical Profession to whom he said, "the State in most provinces is able to dictate its own terms.....and even in regard to payment of fees, the general public has the medical profession in its grip".

Dr. Mudaliyar is not only an educationist but also a person having very intimate knowledge of the current politics. He gave a correct picture of the position of the medical profession at present. Rao Bahadur Dr. B. N. Vyas representing the U. P. Medical Council entirely agreed with Dr. Mudaliyar and deprecated the idea that village folk should be satisfied with doctors with lower qualifications. Representatives from Bombay whole heartedly supported Dr. Mudaliyar. So also the delegates from Punjab and Assam; but the latter favoured the idea of Diploma course along with University Degrees. Bengal delegates were divided in their views, the Surgeon-General with the Government of

Bengal Major-General P. S. Mills said that medical men with lower standard were needed in a province like Bengal which was divided by large rivers and people had to depend upon rivers for communication unlike in other provinces where there were good roads for the purpose and therefore in Bengal people had to depend upon local doctors. He said that the practitioners of western system of medicine had to stand the competition with the practitioners of indigenous systems and also homoeopaths and the practitioners of lower standard of medical education could do it better than the graduates. So he justified the existence of medical schools which in his opinion are to be improved gradually and as slowly. Whereas the Surgeon-Generals colleague from Bengal Dr S. K. Muherjee declared that Bengal was not 'sleeping' and both the Medical Council and State Medical Faculty did revise the rules and regulations of licentiate course raising the standard to the requirements demanded by the Medical Council of India. He said that there was a great demand for medical education in Bengal as could be judged by the fact that there were nine recognised schools and six unrecognised ones and there was a tendency for more schools to sprout. Excepting the representative from Rajaputana all the rest representing the Indian States who took part in the proceedings were against the abolishing of the Licentiate standard, their plea was that people would be deprived of cheap medical service.

It is indeed a most unfortunate irony that when the Licentiate throughout India clamour for higher standard of medical education not lower than that of University standard, members of the medical profession who are not Licentiate should be

divided in their opinion. Bengal which is said to be advanced in all other respects has been always a stumbling block for the advance of medical education; years ago, there was even a serious attempt in that province to sponsor a bill to bring into existence medical men with two years training. The existence of a large number of schools in Bengal both recognised and unrecognised private or Government must have been serving a double purpose of unemployment, for the teacher and the taught. Vested interests more than anything else must have prevented the Government run by politicians and even some members of the medical profession to put a clog in the wheel of progress. Affairs in Madras were not better before the Hon'ble Dr. T.S.S. Rajan took charge of the medical portfolio when Congress sat on the saddle of the Government. Within six months Dr. Rajan took charge of his office he was able to abolish the two Government Medical Schools and convert them into a college. Dr. Rajan has to be admired the more when it is known that Madras was the first province to inaugurate prohibition with the resultant depletion of the Government finance. Dr. Rajan has amply demonstrated the maxim, "Where there is a will there is a way".

With due regard to the wishes of Government of India we should say that 1938 was too late to conceive an idea of a conference to suggest ways and means to improve the education in Medical Schools. Provincial autonomy has been established in India and in eight out of eleven provinces the Indian National Congress is ruling. Madras did not wait for an outside stimulus, Bombay has been showing signs of following Madras. In U.P. there seems to be trouble from some Licentiates who while agreeing to the

raising of standard to the requirement of the Medical Council of India have been agitating for the retention of Medical Schools though the two representatives of the All India Medical Licentiates' Association who took part in the proceedings of the Conference were vehement in their demand to abolish the Licentiate Course and have one standard, the University medical education. We should say that the destinies of the members belonging to the scientific medical profession lie to a great extent in their own hands. They should educate the public and impress them that higher standard of medical education means better health to them. The India Government ought to have shown their sincerity relating to the welfare of the people by bringing the medical Licentiates within the purview of the Medical Council of India. Yearly conferences of this kind consisting of representatives from all provincial councils was suggested by us in the place of the Medical Council of India when the All India Medical Council Bill was about to be introduced in the Central Assembly. We pointed out that there was no need for the Medical Council of India. If the Madras Government now expect that a Central Advisory body can control the Medical Education of licentiates why did not this idea strike the Government regarding the education of graduates also?

We have reliable information that the Indian Medical Association is getting ready a Bill to amend the Indian Medical Act to bring the Medical Licentiates within its purview. Though this attempt was rather belated we welcome it and hope the Association will persistently agitate till it succeeds. At the same time, we trust that the Central Government will not use the Delhi Confer-

ence as an excuse and turn the Bill down. The sincerity of the Government of India for the welfare of the people will be tested soon and we hope the Government will stand the test. We may inform the Government that the prestige of the General Medical Council of Great Britain cannot be lowered if the amending Bill is passed. The pious resolutions passed by the Conference cannot do the work of a statute especially now when the provinces enjoy autonomy.

The Government of India would have done better service to the people and to the growth of Scientific Medical Profession if they summoned a representative All-India Conference to discuss ways and means of encouraging the indigenous systems of medicine prevailing in this country as there is now a real danger of coming into existence of a hybrid medical profession which is sure to hamper the evolution of the scientific system of medicine.

News and Comments

Dr. Rajan's Fad and Confessions: It is usual with public men including the members of the Government to give expression to their thoughts for justifying their actions and public functions are taken advantage of for this purpose. Recently the Hon'ble Dr. T. S. S. Rajan, the Public Health Minister of Madras had to open the new building of the Child Welfare Centre of Red Cross Society at Palamcottah and to inaugurate the Public Health Laboratory started by the Madura Municipality and the Minister while expressing his joy that the Child Welfare Centre at Palamcottah was to be under a honorary woman medical officer said:

".....that he was a faddist in a way and his fad was honorary service in the medical field. It certainly ill-fitted with his career as a medical man, for it had been never given to him to render honorary service and he was reputed to have been a very exacting person.

It was painfully strange and might look as if he was now making amends for his past sins of having taken money for services rendered".

At Madura he made another confession:

".....the medical profession had not so far vocally accepted the Health Act. It was rather strange for him to say that but he expected that the whole profession would support him in that. He did that for the profession as also for the people and if the profession at all had been responsive, he should have expected a strong chorus of approval and not only approval but active promise of giving him the fullest co-operation. He regretted very much to have to say that responsible medical opinion had not yet been formed in this country, for while there was a clamour for loaves and fishes of office he had not found a corresponding response with regard to popular measures of public health. He made the remark in the view that it would stimulate thought among the members of the profession. While they might be angry with him for saying that, he hoped they would realise their responsibility to the public".

Dr. Rajan by temperament is frank, plain and as blunt at times. He has made a masterly study of the affairs of the medical profession which was only possible for him to do in such a short time being himself a practitioner of no mean order. The reforms advocated by him are as rational as they are radical. They have come in such a quick succession that all are baffled and vested interests make it appear that Dr. Rajan is a friend of nobody. Dr. Rajan knows that a homogenous medical profession does not exist in this province much less in this country and evidently he does not want to falter by consulting a heterogeneous medical profession. Nor does he find it useful to take the public in his confidence in matters medical as he knows he will be nowhere if he does it. This is why it was possible for him to march on with his reforms so speedily. Even his enemy has to admire him for his courage and excepting perhaps the details, nobody could say that all or any of the reforms introduced by him were fundamentally wrong. He did respond to the reasonable suggestions as in the case of medical licentiates, he brought them on an equal level with graduates in honorary service and in regard to re-organisation of nursing services he did yield to public criticisms. We could assure

the Public Health Minister that the heart of the medical profession is quite sound and all disinterested members of the medical profession are with him though they could not openly demonstrate their feelings of gratitude to the minister for his many-sided reforms. Dr. Rajan has sown the seeds for the healthy growth of the medical profession by introducing one uniform standard of medical education and in course of time there will be at least in this province an united medical profession. We wish Dr. Rajan not to misunderstand the medical profession if it could not vocally express their approbation to the Public Health Bill. Let him go on with his usual zeal and speed without minding a few who hold divergent views for good or bad reasons. Let him pity them in the interest of useful work for God and Country.

Dr. Mehta's Concern towards Bombay Practitioners: We refer the readers to the extracts published in the Correspondence Columns, of the speech delivered by Dr. Jivraj, N. Mehta, the eminent educationist and Dean, S. G. S. Medical College and K. E. M. Hospital, Bombay, at Ahmedabad on 5-2.1939 when he presided over the Diamond Jubilee celebration of B. J. Medical School. The news contained in his speech that Indian Medical Association is active in getting a suitable amendment to Indian Medical Council Act to bring the School Medical Education within its purview and that at the instance of Dr. Mehta the Faculty of Medicine of the Bombay University had recommended to the Senate to afford facilities to Medical Licentiates to appear for M. B. B. S. degree, would gladden the hearts of the Medical Licentiates throughout India. His announcement that the Bombay Public Health Minister was keen in raising the standard of Medical Education in the medical schools in Bombay is also welcome news to the medical profession though the methods to be adopted in this direction by the Minister could not be inferred from the speech. What interested us the most while going through Dr. Mehta address is his anxiety that after the introduction

of higher educational standard in Bombay Medical Schools, the practitioners in Bombay would have to compete with the practitioners of lower standard if the medical school education in other provinces was not simultaneously raised as Licentiates belonging to other provinces could get themselves registered in the Bombay Register and settled for practice in Bombay. To prevent unhealthy competition Dr. Mehta suggests that the Bombay Medical Registration Act should be amended so as to enable the Bombay Council not to extend reciprocity to the provinces still having lower standard of medical education. We are most happy indeed to appreciate the kind concern of Dr. Mehta towards the Bombay Medical Practitioners. We shall ask Dr. Mehta to consider seriously if there be much difference between the competition complained of by him and the unhealthy competition forced on the Bombay practitioners by the Bombay Government who have recognised all the existing practitioners belonging not only to the systems of Indigenous Medicine but also Homoeopaths who have passed out of Postal Universities if we could coin an expression to indicate the qualifications possessed by Homoeopaths. Dr. Mehta, we believe, will agree with us that the competition with the practitioners of the Hybrid system of medicine to be introduced by the Bombay Government will be not only unhealthy but destructive.

Madras School of Indian Medicine: The remarks of Dr. G. Srinivasamurthi Principal, Government School of Indian Medicine, Madras relating to the working of the School for 1937-38 are interesting. Nobody can doubt the need for only one system of medicine for India in which the fusion between all the so-called systems must be made on purely scientific considerations. The Allopaths must keep an open mind and must be prepared to accept proved facts, irrespective of the sources of the materials. If they have any respect for the historical sense, they must accept the claim that Ayurveda, Unani and Siddha systems, though they have not progressed during

the last one thousand years and more, were probably more scientific than the then contemporary systems of the world. That the Indian race stood the test of science a thousand years ago is further proof of the inherent qualities of these systems evolved by the then master minds. We need only be ashamed of the immediate past and not the distant past. But the present day bigots of the Indian systems must have the sense to understand that the modern scientific system, proud of its legacy, is based on proved scientific verities of rapid scientific advances of modern times. We have no quarrel with the legitimate patriotic sentiments, but we do object to pampering to these stunted systems on patriotic considerations alone, without regard to well established scientific truths. We are glad to note that Dr. Srinivasamurthi strikes a true note when he says:

"The question to be now considered is whether fourteen years is not high time to take steps to eliminate the double set of institutions which the Usman Committee characterised as unsatisfactory but allowed as an inevitable arrangement for the transitional period which they said, should be as short as possible and to provide for that single standard and that unified system, under which they hoped, that every future practitioner of India would be schooled and trained."

If we have to profit by this experiment of the Government School of Indian Medicine, we must face actual facts and must decide, once for all our objective. A unified system is wanted. On this we and Dr. Srinivasamurthi are agreed. But what is the next step towards such a realisation? One of the two things must be done. Either the present so-called Allopathic colleges must be made to do research and practice on the Indian systems with the scientific yardstick, or the school of Indian Medicine must be converted into a first class research institute for the Indian systems in which only graduates in medicine must undertake post-graduate studies. In other words either the M. B. B. S. degree-holders must study Ayurveda or the L. I. M. s must possess the qualification of an M. B. B. S. degree-holder. The most sensible and at the same time practical thing to do would be to abolish the L. I. M.

course altogether and to do either research work in the Indian systems in the so called allopathic colleges or to improve the School of Indian Medicine to the status of a high grade centre of research in Indian systems. We should prefer the latter course. There is absolutely no use of playing with these systems hereafter. If it is not done now, we will not be doing our duty to our children and our children's children.

A Private Cancer Hospital:—Dr. P. Rama Rau of Madras amply demonstrated on 2-2.1939 that a member of the medical profession can be adventurous and by his adventure serve the public, rich and poor with up-to-date skill and proficiency with the help of mechanical appliances for the diagnosis and treatment of diseases, which are wanting in almost all the biggest Hospitals in India run by the State with the exception of a few here and there. A well equipped eleven bed Cancer hospital was opened by the Hon'ble Mr. C. Rajagopalachariar, the Premier of Madras as an annexe to the existing Radiological Institute all of the value of nearly 3 lakhs. The ideal of service which Dr. Rama Rau has in view may be put in his own language:

"The services offered are of as high a technical and professional standard as it is possible for me to command, the merits of which, of course, I can only leave the medical colleagues to judge from the results the Institute yields. It is my ambition, and I say it not in idle boast, to make it possible for every patient that finds his way into the Institute to get the best of radiological service even as compared with the foremost radiological institutes in the world. I may be permitted to say that the cost of the building and equipment has run to approximately three lakhs of rupees.

"I claim only a beginning for radiological service. The fulfilment of my ambition depends upon the co-operation of the medical profession in this land and from my experience in the past of the support that was given by my colleagues which I most gratefully acknowledge the future as I envisage it will fully be justified. The willingness to serve and the ability to serve are not the same. The ability to serve can come to the Institution only with the help of the medical profession and the public at large."

The Prime Minister's views of such private institutions and the policy of his Government relating to them could

be judged by the readers from the following quotation from his speech :

"I am not fond of presiding at such functions", the Prime Minister continued. "Many are the adventures in these days, both commercial and benevolent, and one does not know to what ultimate use these institutes will be put. But I have no doubt in my mind with regard to an institute of this kind. It is not merely an adventure in competition; it belongs to the class of new things. Our people cannot support as many hospitals as our sick population needs. Our people cannot start as many schools as our illiterate people require. Our people cannot pay for building, equipping and maintaining institutions of this kind. Modern civilisation is measured by the manner of roads you have, the number of hospitals you have, the number of schools you maintain, the number of radiological institutes you have and so on. Our civilisation is very great. It has been great for some thousands of years. But unfortunately our people, our tax-payers have not the money to-day to build and maintain these externals of civilisation in such forms as you would like them to be maintained. We therefore want the energy and the resources of individuals like Dr. Rama Rau to come to our assistance. (Cheers). It is not like opening a new coffee hotel (laughter) or a new cloth shop or a furniture depot. But it is one of those rare and good things which add to the benefit and welfare of our poor people, who cannot have it otherwise altogether."

"The Government, the Premier continued, could not afford, the tax-payer could not afford to run radiological institutes like this in all places. The other day the Surgeon-General was telling him that a radiological section was an absolute necessity for a modern hospital. He (Premier) pleaded with him that forty-two years ago there were hospitals and men got ill and well again. There was nothing like radium or X-Ray therapy known then. He also told the Surgeon-General that then marvellous cures had been accomplished and the world was getting on all right. So why should he insist on radiological sections for all hospitals? The good Surgeon-General told him "that is all an old story. To-day you cannot have a hospital without a radiological section". He (Premier) said, "You cannot expect people to pay for all these. I hope some private people will be able to build up such institutes, which we may utilise". This was the gist of his conversation with the Surgeon-General and here they had a young man, a self-made man, who had put in to actual practice what he had seen and dreamt. Dr. Rama Rau was telling them that there were beds for the rich and the poor. Let the rich pay. While the rich man got cured himself, he also got a poor man cured along with him."

There are opportunities for service of the type which Dr. Rama Rau has been giving to the public. Dr. Rama Rau's

adventure is in the direction of one of the many mechanical processes. There are many more such lines which the medical profession is in need of. The policy of Government relating to medical relief seems to be either here or elsewhere to depend upon private adventures in future.

The opportunities for the application of X-ray and such and similar processes come in the course of treatment of diseases. Institutional treatment of diseases by private practitioners should therefore be encouraged by the Government. The first step to do this is to close the hospital gates against the rich.

We congratulate Dr. P. Rama Rau on his enterprise of useful service to the public and hold him as an example for other practitioners to follow.

House Appointments: In 1936 Dr. V. Rama Kamath moved a resolution in the Madras Medical Council making it compulsory on the part of newly passed medical students to undergo practical training in Medicine, Surgery and Midwifery before they could be registered. The object of Dr. Kamath in tabling this resolution was to give opportunities to all newly passed medics to get practical knowledge before they started practice either as private practitioners or State-paid practitioners, as at present only a few are selected for house appointments and even in such selection invidious distinctions are made by paying only a small number amongst the selected candidates for house appointments. The President of the Council (Surgeon-General) explained to the Council the practical difficulties in making provision for house appointments for all those who passed out of schools and colleges every year. A few members argued that students while qualifying had practical training in all the subjects and there was no need to force on them additional practical training which in their opinion would be a hardship. It is said that Dr. Kamath fearing that his object would be frustrated modified his original resolution requesting the Government to increase house appointments in all the hospitals

where there was sufficient clinical material. The modified resolution was subsequently passed by the council unanimously. The Government were pleased to accept the sense of the resolution and seem to have requested the Surgeon-General to provide house appointments in some of the mofussil hospitals in addition to those now existing in the City hospitals. The Government have constituted a new committee for the selection of graduates for house appointments. The Committee consists of the Surgeon-General (chairman) Superintendents of all the city hospitals, one Hon. Physician and one Hon. Surgeon of the Government General Hospital. The licentiates are to be chosen by the Surgeon-General. We are at a loss to understand why this distinction has been made by the Government in the matter of selection. Why should not the Surgeon-General select all from both the class of candidates? Why this invidiousness when the Government was magnanimous in entering licentiates and graduates on equal footing as Honorary Assistant Medical Officers? We have been repeatedly pointing out in these columns the unfair treatment accorded to House Surgeons and Physicians paying some and forcing others to do free service. Private practice has been rightly prohibited to those holding house appointments and we would suggest to the

Government that substantial efficient work can be turned out by House Surgeons and House Physicians if all are paid and made to reside within hospital compound. The Government must know that in Great Britain and other countries these are provided free lodging and boarding and in addition given some pocket money. At the most in future only 200 medics on an average will pass the final qualifying examination. All of them may be paid at the rate of Rs. 50/- a month. This will cost the Government yearly 10,000 rupees which amount the Government can afford to spend now when paid service is gradually substituted by the honorary service. Such an arrangement would lay the foundation for efficient medical service both within the hospital and outside. When the entire medical profession is willing to do honorary service in State Hospitals, the Government should not grudge to spend yearly Rs. 10,000 for a very good purpose.

ANNOUNCEMENT.

We are requested to announce that the next course of special classes in Leprosy will be held at Lady Willingdon Leper Settlement, Tirumani, Chingleput District from 4th to 18th April both days inclusive.

Correspondence, Reports, Etc.

Conference on Medical School Education.

Delhi. 7th and 8th November 1938.

AGENDA.

1. To consider whether the maintenance of a medical qualification of a standard lower than that demanded by the Medical Council of India is necessary, and, if so, whether temporarily or permanently.
2. To consider whether a common standard of medical school education is (a) desirable and (b) practicable at the present time; and, if so, the means by which this might be attained.
3. To consider the relations and responsibilities of the Medical Council of India and of Provincial Medical Councils in regard to Medical School Education.

4. To consider the standard of preliminary or general education required from students entering a medical school.

5. To consider the general principles, including the length and extent of curriculum, of the education to be imparted at medical schools.

6. To consider the training in midwifery which should be given in medical schools.

RESOLUTIONS ADOPTED BY THE CONFERENCE.

1. This Conference recommends that one uniform minimum standard of training and qualification for practitioners of modern scientific medicine should be established throughout India at an early date and that this standard should be such as shall satisfy the requirements laid down by the Medical Council of India.

2. In accordance with Resolution No. 1 this Conference recommends that the standards of equipment and training in medical schools should be raised to those required for recognition by the Medical Council of India.

3. Until the requirements of the Medical Council of India can be fully met this Conference recommends that improvements be effected in the existing Medical Schools on the lines laid down in Resolutions Nos. 4, 5, 6, 7 and 8.

4. This Conference recognises that in some cases difficulties will be experienced in raising schools to the standard required by the Medical Council of India and recommends that in such cases improvements should be introduced gradually, as circumstances permit, in the following stages of training:—

- i. General preliminary education qualifying for admission to medical schools.
- ii. Pre-clinical scientific subjects.
- iii. Clinical subjects.

5. This Conference is of opinion that, wherever it may be necessary to continue a medical qualification of the licentiate standard for some further period, steps should be taken to introduce the uniform minimum standard of general education laid down by the Medical Council of India as a preliminary qualification for entrance to medical schools.

6. This Conference recognising that provincial Medical Councils are the Bodies responsible for supervision of provincial medical education considers that full use should be made of their powers in order to standardize and improve education in medical schools.

7. This Conference recommends that no student should be allowed to begin the medical curriculum proper until he has attained the age of 17 years or will attain that age during the first term of the curriculum.

8. This Conference desires to emphasize the importance of a better training in the subjects of midwifery and diseases of women during the medical school curriculum. This training, in addition to courses of systematic instruction and clinical demonstration, should include practice and instruction at a pre-natal clinic and should provide for the conduction of at least ten cases of labour under the adequate supervision of a qualified medical officer.

Byramji Jeejeebhoy Medical School Ahmedabad.

DIAMOND JUBILEE CELEBRATION.

EXTRACTS OF THE SPEECH OF

DR. JIVRAJ N. MEHTA.

Dr. Jivraj N. Mehta presided over the Diamond Jubilee Celebration of Byramji Jeejeebhoy Medical School, Ahmedabad on Sunday, the 5th February. In the

course of his address he said that he gathered information after going round the School and the Hospital attached to it that admission of students in the olden days was very much restricted and sufficient facilities existed for the practical instructions. Since the first decade of the present century the scope of school had changed and instead of a handful of students trained specially for military purpose the school catered entirely for the civil population. The admissions consequently increased and the instructions instead of being either practical, as used to be before, or scientific as was to be expected in a modern medical institution had become relatively more theoretical. It was therefore quite natural that the students whose general standard of education was much higher than it was the case in the past naturally felt the poor provision for scientific training in subjects like Physiology, Pathology, etc., and also felt that the clinical training especially in out-door department was very defective.

Regarding the exclusion of the Licentiate from the purview of the Medical Council of India and the lack of provision for licentiate to appear to the University Medical Degree examinations, Dr. Mehta said that he had been persistently fighting against the exclusion of the licentiate from the purview of the Medical Council of India and said that the Indian Medical Association was preparing itself to put a strong fight and he hoped that an agreed amendment to the Indian Council Act would be soon tabled in the Central Assembly to enable the Medical Council of India to exercise control over Medical school Education in India. As regards the provision of facilities for the licentiate to appear for the University Medical Degree, he said he had moved in the matter and that the medical Faculty of the Bombay University had already passed a resolution approving his suggestion to afford facilities to licentiate to qualify themselves for the University Degrees and in future such of the licentiate whose general education was of the standard of Inter-Science would be able to appear for the M. B. B. S. degree.

He was entirely in agreement with the licentiate in the matter of abolishing the existing licentiate course and bringing into existence one uniform minimum standard of medical education. He was aware that the Bombay Minister of Health was taking steps in this direction. Once this higher standard of education was introduced in Bombay it would be necessary not to extend reciprocity to such of the provinces who failed to raise the standard of medical education. It was now possible for the licentiate of any province to get themselves registered in the Bombay Medical Register and settle in that province to do private practice. So in future it would be necessary to safeguard the interests of the medical practitioners in the Bombay Presidency by preventing the licentiate of low standard of medical education from settling in Bombay for medical practice. If this was not done the medical practitioners in Bombay would be at a disadvantage while competing with the practitioners of a lower standard of medical education.

He brought to the notice of the audience the hardship of the failed L. C. P. S. candidates who were debarred by the rules and regulations of the College of Physicians and Surgeons from appearing for the final examinations for not being able to keep terms after their having failed four times. He could not complain of the restriction which the authorities running the L. C. P. S. course had placed on students, as they did so to prevent overcrowding. He said that he tried to do something for the unfortunate failed students and wrote to the Superintendent of the Seth Vadilal Sarabhai General Hospital, Ahmedabad suggesting to him that he might apply to the College of Physicians and Surgeons to recognise that Hospital for giving clinical training to the L. C. P. S. students as the hospital had good clinical material and was also well staffed. But he was disappointed in not having any response from the Superintendent of the Hospital. He pointed out that it was the duty of the College of Physicians and Surgeons to do something for the unfortu-

nate students and had himself moved at the last meeting of the Council of the College to convene a conference of the representatives of the Government and College of Physicians and Surgeons to find a way out to enable the failed students to put in necessary course of training to enable them to appear for the final L. C. P. S. examination. He was glad to inform the audience that the Council of College of Physicians and Surgeons had approved of his suggestion and the Government had been approached already.

THE MADRAS PROVINCIAL SUBSIDIZED RURAL MEDICAL PRACTITIONERS' ASSOCIATION.

AN APPEAL.

Dear Comrades,

Every class, every interest, every nation is to-day busy organising itself in its struggle for existence, for self-preservation. This activity is evident not only among the oppressed classes of society but also among the rich and powerful interests. No class or interest is safe now-a-days without a powerful organisation of its own. Knowing this and seeing with our own eyes the successful working of various organisations, it is a pity that we who call ourselves educated, should helplessly drift along the current like pieces of log tossed hither and thither by the cruel waves. Our apathy can well be compared to that of the proverbial Nero who went on fiddling while Rome was burning. Or else how can we explain this lethargy even in the face of a crisis? For thirteen years we have been ploughing our lonely furrows in remote villages without a word of encouragement or appreciation from any quarter. Those villagers who were hitherto running up to towns for medical relief are now having it in their own homes at little or no expense. On a modest estimate about 25 lacs of villagers are being treated by us every year. And what is the return for all this selfless work? A miserable existence and now, a threat of total extinction. Grievances we have many. But silent submission is not the remedy. Many do not even know what they are. The fault is entirely ours:

Lack of organisation. We have now a Provincial Association with branches in almost every district. But the membership is not satisfactory and the attendance at meetings almost miserable not to speak of the meagre finances. I would therefore appeal to you, one and all of our comrades to lose no time in enlisting yourselves as members of our Association by paying up their subscription for the current year. This is not enough, important as it is. Every one of us must take lively interest in the day-to-day working of the Association and attend meetings and conferences in large numbers. Next annual Conference is going to be held at Samalkot, East Godavari District most probably during the Easter holidays. Will you please attend the Conference in large numbers and enrich the deliberations with your experience. I hope my appeal will not fall on deaf years. Arise, awake and stop not till the goal is reached.

I remain,
Yours sincerely,
S. SREERAMARAO, L.M.P.
Member, Provincial Committee,
Kistna District.

KISTNA DISTRICT BRANCH.

The meeting of the above branch was held at Masulipatam on 28-1-1939 at 3 p.m. Dr. A. V. Subba Rao presided. Dr. N. Rama Rao, Secretary-Treasurer read the minutes of the previous meeting and the same were adopted.

Dr. Sreerama Rao, member, Provincial Committee stressed the necessity of every subsidized practitioner being a member of the Association. He gave an account of the proceedings of the 1st meeting of the Provincial Committee which met at Madras on 31.12.1938. He deplored that the Government seemed to have entertained a false impression that the Subsidized Practitioners were well off and could afford to work in villages without the help of the subsidy. After preliminary discussion the following resolutions were passed unanimously.

1. By the first resolution the Kistna District Branch condemned a tendency

in Kistna District where some village Panchayats were attempting to make contributions to private medical practitioners in villages where there were subsidized dispensaries or in villages close by to villages having subsidized dispensaries and as an example wished to invite the attention of the Government that the Panchayat Boards of Thota Valluru paying a contribution to a practitioner of Indian Medicine though there was a subsidized dispensary at Vallam a village very near to Thota Valluru.

2. By this resolution the District Branch pointed to the Provincial Committee about the resolution passed by the Provincial Association on 29.2.1935 permitting the L. I. M's. to be admitted as the members of the P. S. R. M. Ps' Association and requested the General Secretary to place this matter before the next meeting of the General Body.

EAST GODAVARI DISTRICT BRANCH.

The members of the P. S. R. M. Ps' Association, East Godavari met at the Head Quarters Hospital on 21.1.1939 soon after the anniversary meeting of the East Godavari District Medical Association was over and passed the following resolutions:

1. Resolved to form East Godavari District Branch of the P. S. R. M. Ps' Association. Dr. J. Satyanarayanamurthi was elected as the President of the District Branch and Dr. B. S. S. Prasada Rao as the Secretary-Treasurer.

2. Dr. B. S. S. Prasada Rao was also elected as a member of the Provincial Committee of the P. S. R. M. Ps' Association.

3. A monthly subscription of Rs. 4 was fixed as the subscription for members to be paid to the District Branch.

4. Resolved that the annual Provincial Conference of the subsidized practitioners be convened this year at Samalkot during Easter Holidays.

The following appeal was also issued by the Secretary to all the R. M. Ps. of the District.

It is earnestly requested that those who have not yet been enrolled as members of the Provincial Subsidized Rural Medical Practitioners' Association should become members immediately. Further, it is highly desirable and quite necessary that every one of the members should

attend the next meeting of our District Medical Association without fail in order to discuss ways and means for making the ensuing Provincial Conference a grand success.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION.

The monthly meeting of the Tinnevely District Medical Association was held at the Government Hospital, Nanguneri on Saturday, the 28th of January 1939.

Lieut. Col., T. S. Shastri, presided.

It was decided to invite Madurai, Ramnad and Travancore Medical Associations to hold a joint meeting with us at the next monthly meeting at Palamcottah.

A resolution was unanimously passed congratulating the Hon. Dr. T. S. S. Rajan, L.R.C.P., M.R.C.S., etc., Public Health Minister of the Government of Madras, on the unanimous passing of the Public Health Bill by the Madras Legislature.

Resolved that the Indian Medical Association should be officially recognized by the Government of Madras and consulted on all important matters relating to the medical profession. After discussion on the important case reports of patients operated at the District Head Quarters Hospital, Tinnevely and demonstration by Lt. Col. Shastri at the Health Exhibition specially arranged by the Association at the Local High School, the meeting dispersed.

Treatment of Hiccough.

To
The Editor,
Sir.

I went through the interesting notes on the 'Treatment of Hiccough' published in the columns of The Medical Practitioner last month. I have had very good success with Benzyl Benzoate as one of the useful drugs in the treatment of Hiccough.

M. K. HARIHARA IYER.

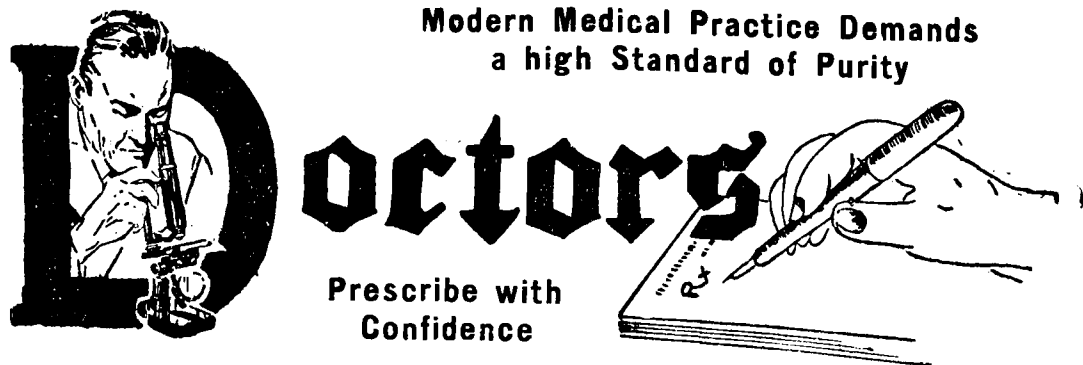
Statement of Receipts and Charges of the Madras Provincial Subsidized Rural Medical Practitioners' Association for the Month of January 1939.

RECEIPTS.	Rs. A. P.	CHARGES.	Rs. A. P.
Cash balance on 31-12-1938 ...	100 8 6	Postage ...	4 3 3
Subscription received from the members during the month ...	68 4 0	Remuneration paid to part-time clerk for December 38 ...	10 0 0
Entrance fees from 11 new members ...	2 12 0	Amount credited to The Medical Practitioner from the subscription received from 22 members ...	11 0 0
		Stationery ...	3 6 9
		Contribution paid to the District Branch, Bellary ...	8 0 0
		Expenses incurred for canvassing members to the Association ...	8 0 0
		Amount with the Treasurer collected from 2 members ...	6 8 0
		Rs. A. P.	51 1 9
		Balance with Savings Bank ...	94 2 0
		With Office to meet the Estt., postage etc. for February ...	26 4 9
			120 6 9
	171 8 6		171 8 6

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Mag. Phosph.	'20 gm.	Apple Juice	'12 gm.
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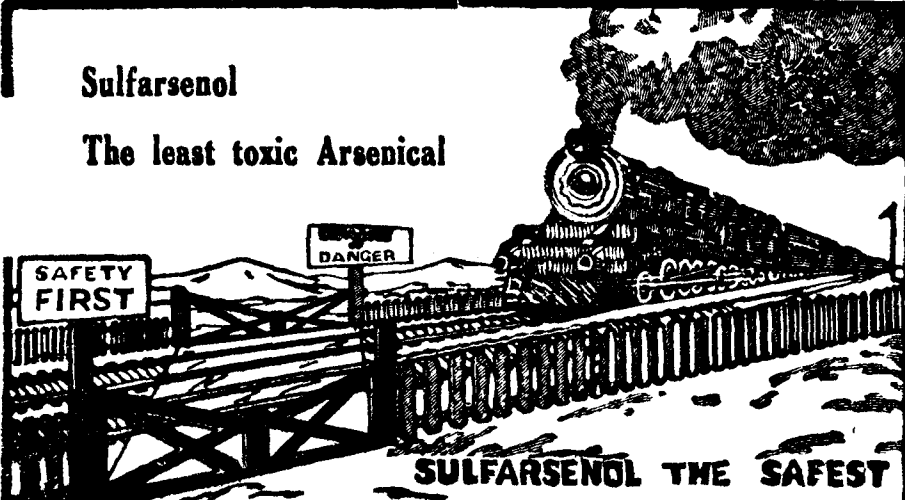
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A Monthly Medical Journal

EDITED BY

Dr. V. Rama Kamath,

Member, Madras Medical Council.

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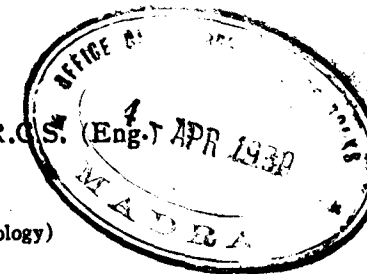
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THE Medical Practitioner

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Vol. X]

MARCH, 1939

[No. 6

Original Articles.

* TREATMENT OF ANTERIOR POLIOMYELITIS

By

DR. N. S. NARASIMHA AYYAR, F.R.C.S. (ENG. & I.)

Orthopaedic Surgeon, Government General Hospital, Madras.

If there is any systemic disease where the physician and surgeon have to work hand in hand to avoid or alleviate "the greatest of all physical disorders that can happen to a healthy child", it is Anterior Poliomyelitis. The care and attention that have to be devoted on children who suffered from an attack of this disease may be conceived from the statement made by Mr. W. H. Ozilvie in the Guy's Hospital Gazette, (11.2.1939) which runs as follows:

"In New York I went with.....to his new 150 bed hospital that they started on 48 hours notice as a discharge hospital for poliomyelitis. The Government pays for patients to be there for three weeks, and this period is used to bridge the gap between the hospital and home. The child is taught to live with his splints; discipline, meals, timetable, reading if old enough, if not cut out, and other games for bed. In the last week the mothers are brought along and spend all day in hospital with their child, learning his routine, how to wash and feed him, how to cook special things, care of bowels, attention to splints, and so on. She watches the masseuse, and then takes over, first with good limb while the masseuse does the bad one, then on the masseuse's arm to see that the pressure is right, then on the bad limb. She gets a book of instructions. Finally she takes the child home, and will be visited there from time to time by some after-care person."

Practitioners must be familiar with the aetiology, the onset, the course of the disease as described in the text books in medicine. But I should mention that the disease is fairly common in the Madras Presidency and in the City of Madras though, so far no outbreak is reported in the form of an epidemic as is the case in some parts of the continent. I wish to mention a few points regarding prognosis to give an idea of the scope of treatment to lessen the misery of the children suffering from this disease.

A considerable number of cases recover completely before a diagnosis has been made. There is no case, however apparently uncompromising which cannot considerably be benefited by one or many of the procedures.

The recovery under proper treatment exceeds all anticipation.

In any given case it is impossible to foretell the extent to which recovery will take place.

In order to obtain the maximum amount of recovery in an affected muscle, relax it to its fullest extent and massage it.

* Lecture delivered under the Dr. Elizabeth Mathai Endowment, in the University of Madras, 1938-39.

Usually the more severe the attack and the more persistent the tenderness, the worse is the outlook in respect to paralysis.

Muscles that remain entirely inactive at the end of six months have a poor chance for usefulness.

The easier and quicker the muscle shows return of strength, the better its prospects for recovery.

I have based the treatment adopted by me in a series of 118 cases seen by me during the last twelve months in Government General Hospital, Madras. The regions affected in this series were :

Both lower limbs	...	20
Left do	...	27
Left do with gluteal	...	3
Right lower limbs	...	28
do with gluteal	...	3
Right leg with filarial foot	...	2
Left leg	...	3
Both legs	...	3
Right calf	...	2
Whole right upper extremities	...	6
Whole left upper extremities	...	4
Left arm only	...	2
Bilateral neck muscles	...	2
Erbs with sternomastoid right	...	1
Right leg and wrist drop	...	1
Left wrist drop only	...	2
Both lower limbs abdominal and back muscles	...	1
Both lower limbs, abdominal back muscles and left forearm and hand	...	1
Both lower limbs and scoliosis	...	1
Both lower limbs, left upper abdominal and right back	...	1
Both lower limbs and anterior abdominal muscles	...	1
Both lower limbs and left abdominal	...	1
Dislocation Hip	...	2
Right lower extremity muscles with fracture of shaft of femur upper 3rd	...	1

Three types of onset are described :

(a) The first where paralysis is the earliest symptom. This is rare and was seen in 11 out of 118 in the series.

(b) The second type is that in which there is a period of remission in the development of the disease. There is a stage with definite symptoms and fever. After a few days there is a remission during which the patient seems to be quite well.

A few days later the systemic symptoms recur together with signs of an invasion

of the central nervous system, often accompanied by paralysis. In the Danish epidemic 10 per cent showed this diphasic course. No case of this type is noted in this series.

(c) The third and the most common type is that in which there is a rapid progress of systemic symptoms, passing uninterruptedly into those indicating involvement of the central nervous system. 66 out of 118 had this mode of onset.

The disease exhibits exceptional symptoms which show that the casual agent is capable of producing widespread disturbance in the nervous system.

Paralysis of the face, symptoms of acute peripheral neuritis, involvement of cranial nerves, cerebral lesion with paralysis of the 6th nerve have been recorded in many American epidemics. Cerebral and neuritic symptoms are exceptional symptoms noted only in the epidemic forms. But in this series there are three cases involving the neck sterno-mastoid and upper extremity muscles.

Speech may be lost, the sphincters may be involved.

In this series a male child of 6 was suddenly affected after a short pyrexia with paralysis of the muscles and loss of speech; the peripheral paralysis rapidly recovered; the speech is coming back.

In the epidemic cases the disease showed a distinct tendency to spread centrally to the brain, and peripherally to the spinal nerves. Thus there are two main types of the disease the purely spinal and sporadic and the cerebrospinal type which is often epidemic.

Hyperaesthesia is often described an early symptom; there is no diminution of sensation. Pain is said to be almost a constant symptom; it varies in intensity and is usually of a short duration.

In Madras this hyperaesthesia is seldom noticed although I have seen the cases the day of the onset of the paralysis; in only one or two instances this tenderness has

been noticed. In one case admitted into the medical ward for fever rapidly followed by paralysis, there was no hyperaesthesia or pain.

No lumbar puncture was done in this series. It is known that a preparalytic diagnosis is made during epidemics by signs of meningeal irritation and lumbar puncture and symptoms. Such a diagnosis is not possible in the sporadic cases. During epidemics it is found that a large number of cases are mild or abortive and do not result in paralysis. No observation could be made regarding the incubation period from this series. There was no opportunity for post-mortem examination in this series as no case proved fatal.

The characteristic feature of the paralysis is its almost invariable want of a symmetry; any groups of muscles may be attacked and any muscle may be picked out of a group leaving the others normal. The great characteristic of the loss of muscular power is its selective tendency.

Charcot (1870) pointed out the cells in the anterior cornua are primarily affected.

The ganglion celis in the anterior cornua have got trophic as well as motor function. So in addition to paralysis there is impeded circulation and arrest of growth of limbs.

The bones show rarefaction, become thinner than normal, the medulla is diminished in size and the bone is shorter than the fellow of the opposite side.

Shortening of leg was noticed in one child of 5 by $3\frac{1}{2}$ inches, and in two cases a shortening of one inch; lengthening of the affected limb was not noticed in this series (Tubby records two instances).

X-ray examination of bones in this series shows thinness of cortex and no *coxa valga* changes.

The degree of shortening has no relationship necessarily to the severity of the motor affections; the bone near the affected group of muscles is more affected than the more remote ones.

Regarding the distribution of the paralysis in addition to the statement given above, I might add the following :

Inferior Extremity	91
Bilateral	23
Unilateral	68 right 35 left 33
Inferior extremity with paralysis of glutei	4 cases.
Footdrop	18
Flail foot	10

Upper extremity :—

Deltoid 2 with paralysis of extensors of forearm and hand.

Radial nerve distribution alone 1.

Three cases had paralysis of both arms and legs. In the leg the peronei are most frequently affected, then the extensors of the toes, then the quadriceps, then the tibials. The hamstrings and the calf muscles are about equally affected and the muscles which most frequently escape are the Sartorius, Psoas and Iliacus. In the arm the Deltoid is most frequently affected; then the shoulder group, consisting of the Deltoid, supra and infraspinatus; the biceps and supinators are paralysed together; the flexors of the hand are rarely affected.

The causes of the deformity in A. P. M. case are :—

- (a) unantagonised action of muscles.
- (b) effect of gravity.
- (c) body pressure and superincumbent body weight.

TREATMENT.

Though it is not definitely established that this disease may be transmitted from one child to the other, it will be safer to protect against such a possibility and isolate the child as soon as the symptoms begin. I have no experience about Serum Treatment but it is said that this treatment was adopted with satisfactory results in Australia and America when A. P. M. raged as an epidemic. Serum used was from convalescent patients or from immune horses.

Before commencing surgical treatment, "make a muscle chart before starting

treatment"; in such a chart the more important muscles of the body are marked and graded in such a way that the records can be used for comparative purposes by independent examiners throughout the course of the disease.

It is of very great value in collecting cases of poliomyelitis at an early stage of the disease into the wards of a hospital in which they can be subjected to intensive treatment by a team in which medical, surgical, nursing and physiotherapeutic services are included.

All cases of infantile paralysis must be treated in clinics having facilities for prolonged hospital treatment for patients requiring it and on an efficient follow-up system.

The so-called orthodox treatment may be summed up under the following headings:

- (1) Prolonged recumbency which helps rapid recovery.
- (2) Warmth of the affected area. (Hunter advised it).
- (3) Prevention of deformity and of stretching of the paralysed muscles for at least two years.
- (4) Massage of the paralysed muscles when tenderness had disappeared.
- (5) Muscle re-education. Hunter preached the principles of minimal load.
- (6) Support for residual paralysis when walking is permitted. Mackenzie practised this from Hunter's teaching.

Operative procedures should not be undertaken in less than 3 years after the onset of the disease. Correction can be accomplished even in adult life.

LOCAL TREATMENT DURING THE ACUTE STAGE:

- (1) Complete rest of the paralysed muscles.
- (2) Prevention of deformity.

Rest should be continuous and uninterrupted until all signs of tenderness have

disappeared from the paralysed muscles, and in all except those of the very slightest severity recumbency should extend over a period of at least six months. In the more severe type in which a wide area has been involved, this period of rest should be extended to 12 or 18 months.

Where the upper limbs only are involved walking may be allowed in six months if the paralysed muscles can be effectively protected from strain. With involvement of the lower limbs, or of the abdominal or spinal muscles, recumbency should be continued for at least 12 to 18 months. Recovery is more rapid and more certain when efficient physical treatment is given to a child in the recumbent position.

From 3rd to 6th week, a warm bath 98° to 100° F may be given daily. If splints are removable, child may lie in water and lightly exercise the muscles which are returning to life. Do not tire out a weak muscle; the limb should not hang unsupported; it may be stroked and massaged while in water.

In certain instances treatment by splinting and other methods of fixation has tended to become too stereotyped; this has meant that treatment by muscular re-education has been too long delayed or used with insufficient attention to detail.

The conclusions of Mr. Mills. (1938) (British Medical Journal P. 414-1937 Vol. 2; P. 168-1938—Vol. 1) are too optimistic.

The orthodox methods, particularly the use of splints and of surgical appliances are not to be condemned.

The claim that all patients treated from an early stage have recovered in 12 months completely is untenable.

In the early stages pain and muscular rigidity are often prominent symptoms. These have usually been ascribed to irritation in the spinal cord and treated by complete rest. Dr. Mills claims that they are vascular in origin and due to venous engorgement. He states that if the

venous engorgement is allowed to persist it may result in trophic changes, but that it can be overcome in a few days by the use of fomentations, hydrotherapy and passive movements. This view is not confirmed.

Fomentations and hydrotherapy are of value; in some cases the pain has persisted for weeks and even months: Real progress in motility is made only when the pain has disappeared.

Some are advising in recent days finely graded system of re-education; it must be started as early as possible, usually within the first week. This is not based on correct observation. These very early movements are considered harmless but their value is unproved.

It is not possible to do without the use of splints and appliances in treatment; but they are employed unscientifically for a long period, with a consequent neglect of movements and re-education.

Physical treatment such as massage and hydrotherapy is of the greatest help in the treatment of paralysis but should not be started before the complete disappearance of pain and tenderness from the paralysed muscles. If massage is given in the acute painful stage it usually prevents the disappearance of these signs, which may consequently remain for many months. The affected limbs should be warmly covered and protected from cold.

The object of massage is simply the improvement in the circulation of the paralysed muscles, so that on a recovery of function of the affected nerve cells and fibres the muscles may be in such a condition that they are able to respond to the stimuli which are sent to them.

"ELECTRICITY HAS NO PLACE IN THE TREATMENT OF A.P.M." (OBER):—

Electricity is used for diagnosis only. Electrical stimulation of the paralysed muscles—which is only possible at first by the galvanic current may easily do more harm than good if employed too long or

too vigorously. The only advantage of electrical stimulation is the improvement of circulation, and an over-vigorous stimulation results in overstrain of weak muscle fibres and in delay of recovery. Considerable improvement can be effected by a well regulated scheme of muscle training in the stage of recovery. The patient is taught to concentrate his energy and efforts on to one particular movement, which is carried out at first without, and later with resistance.

"The power to recover function—the function of joints and muscles was a property of the patient's will and brain; without the patient's active assistance the Surgeon's best efforts are in vain" (John Hunter).

We may review the treatment at home given in this province by the grandmother. The bonesetter does not know the principles of supporting the paralysed muscle. The great harm done to the limbs without supports can only be appreciated by us working here.

From the beginning warm congee douches are given by the grandmother irrespective of the condition of the patient and the legs are buried in the sand with the idea to make the muscles function as early as possible. Later massage is carried out by special oils.

The majority of the patients are poor. They cannot afford to pay for the splints which can all be made locally; the percentage of patients who got splints while undergoing treatment at the General Hospital in the course of one year is only 8. The cost for a crab splint for the leg is about Rs. 6; for an abduction frame for a child about Rs. 12 and for an adult Rs. 25 and for a spinal frame Rs. 25.

Majority of the mothers, grandmothers, and I regret to say even some of members of the medical profession including electrotherapists are fond of electrical treatment. Electrical treatment is not only not required but is also not beneficial. Even an ignorant mother

can be taught the simple and the most useful art of hand massage.

The money spent for conveyance, costly electric treatment and medicated oils and such nostrums may be beneficially spent in buying special supporting splints and walking apparatus.

With great difficulty plaster casts with wire supports are made and supplied to every case treated at the General Hospital. The hospital administration can even engage a blacksmith and supply splints at cost price.

For the purpose of treatment the cases can be grouped under two main divisions :

A. Cases seen in the early stages.

B. Late cases when deformity has set in with profound atrophic changes in muscle fibres. Much of the possible recovery in the remaining unaffected fibres has been discounted by overstretching for months or years.

Recovery under proper treatment exceeds all anticipation.

Treatment should be commenced as soon as possible after the attack. In the earliest stages minimise the effect of the damaged or destroyed cells by massage and warmth. Rub the skin for two or three minutes and for about 10 minutes the muscles should be roughly grasped and pinched between thumb and fingers, almost to the point of being painful. This increases the vascular supply of the muscles and ministers to the nutrition of the limb. Wrap the limb in flannel. No circular compression ought to be used :—

"We cannot speak highly of electricity either in the early or later stages of the disease; a combination of voluntary movements on the part of the patient and massage is invariably more effective"—(Tubby 1903).

As soon as it is possible to separate, electrically or clinically the affected from the sound muscles, a more special line of treatment must be adopted. Massage should be directed to strengthening the

affected muscles and the limb should be kept in a position opposed to the deforming tendency. Exercises are required to bring under control any muscular tissue not completely paralysed. There is much more value in these movements than in massage. As soon as the patient is anxious to walk, he should be allowed to do so, care being taken that the limb is so protected that the body weight does not produce or increase the deformity.

Braces should not be applied to a deformed limb. To attempt to correct deformities by braces is usually disappointing.

MECHANICAL TREATMENT OF INFANTILE PALSY :—

Distinguish between the loss of power caused by the destruction of motor cells from that due to muscular contracture.

By a proper appreciation of the available therapeutic and mechanical agencies, we need rarely if ever, encounter any paralytic deformity; Tubby rarely saw paralysis without deformity. There is no time limit after which treatment is of no avail. Even cases of over 20 years standing can be treated. The element which has to be combated is the secondary change in the contracted stronger group of muscles.

THE CLINICAL TESTS OF THE RECOVERABILITY OF A CASE OF WRIST DROP :—

(a) If spasmodic movements occur on a voluntary attempt at opening the fingers, mechanical methods will only partially succeed.

(b) If when a patient is asked to extend the fingers he can only do so by simultaneously moving the fingers of the other hand, the case is hopeless.

(c) If a patient on being asked to move his fingers responds by the faintest quiver, the surgeon, still further contracting his hand, should ask him to repeat the effort. If fingers are at once moved back to the point from which the surgeon started them, such a case, should it have lasted one year or thirty, will almost recover.—(H. O. Thomas).

It is clear, granted the recovery of the nerve lesion, contracted opponents can be lengthened and the long ones shortened (Cock up splint) in 6 to 18 months. The extensor muscles must be beaten with an India-rubber "muscle beater".

The principle is important, it really underlies the mechanical treatment of all disabled muscles. Contractures must be overcome before opposing muscles can properly act, and elongated muscles are earliest restored to function by maintaining them in a slackened posture.

The objects of the mechanical treatment of paralysis are :

- (1) the prevention of the deformity.
- (2) the correction of deformity.
- (3) aids to locomotion.
- (4) restoration of muscular equilibrium.

In the case of complete paralysis of the lower extremity including the glutei and the ilio psoas group, walking can be assured by an apparatus which need not be higher than the groin.

In the flapping of a foot from a recovered peroneal paralysis, the application of a leather strip to the outside of the sole of the foot will correct the tendency.

The fundamental principle which should govern us in employing a splint is that it should be so designed that the deformity is moulded to the splint, and not the splint to the deformity.

For dropped wrist form Infantile paralysis, give a doisi-extension splint.

Dropped wrist with paralysis of deltoid muscle : Most cases of paralytic dropped wrist are recoverable. The severity of the contractions and duration of the disease do not contraindicate a favourable prognosis. Rest the limb on an abduction frame.

PARTICULAR GROUPS :

(1) *Complete paralysis of the upper extremity* : This is rare : No treatment is possible; the elbow and forearm lie flail.

(2) *Paralysis of the Deltoid, Supra and infra spinatus, Biceps and the Supinators*. (Upper arm type of Erb) : In this condition power may often be restored to the biceps muscle. The wrist is kept hyperextended. The arm is kept in a sling at an angle of flexion somewhat less than 90°. The object of this is to keep the elbow flexed. The biceps should be constantly kneaded. During treatment, do not allow extension of the arm. 18 months or 2 years of active treatment are at least needed. The clinical test of the recovery of the biceps is the power of voluntary movement of the arm from its flexion angle to a point nearer the chin. This can be tested without removing the sling. If the biceps and the hand recover, no apparatus need be applied to the shoulder, as he swings his arm into useful postures with little inconvenience. If the biceps does not recover it may be necessary to keep the elbow flexed so that the recovered hand may be in a position of advantage.

(3) *Paralysis of the extensors, the supinators escaping* : Treat on the same lines as dropped wrist.

(4) *Paralysis of all the muscles governing the elbow, while the muscles of the hand have escaped* : Such an arm is very useless to the patient, as the shoulder muscles often participate in the affection. It hangs loosely on the patient's side and is of no use for feeding purposes, being generally lifted by the opposite arm. Fixation must be obtained at an angle. This can be obtained by an arthrodesis or by an excision of skin in front of the elbow involving the upper third of the forearm and lower third of the arm and by stitching the upper angle to the lower angle, we aim at producing a condition of the elbow similar to contracture after burns.

(5) *In paralysis of the shoulder girdle* : Affecting all the muscles controlling the humerus and the scapula, operative interference is useless. In those cases where the paralysis is less general, arthrodesis may with advantage be performed. If the scapular movement is retained and if the power in all the muscles of the upper arm is lost, then an arthrodesis is indicated to

improve the usefulness of the arm by making its movement dependant upon scapular motion. One case of arthrodesis of the shoulder was done during the year. The operation of arthrodesis of the shoulder can be only really useful when the conditions around the elbow are such as to enable the hand to be used about the neck and mouth, i.e., where there is power in the hand or elbow or in conjunction with operation for flail elbow.

(6) *Lateral curvature of the spine from paralysis and Hemiplegia*: However slight the paralysis of erector spinae may be, the balance of spine is so delicate that the upright line is lost. The primary cure is always to the affected side, and it rapidly assumes extensive proportions, and alterations in the shape of the chest and outline of the trunk soon appear. The child must be treated in a Robert Jones Abduction frame with support to the head. It is a very intractable form when once it is established. In all instances of paralysis of an arm and a leg on the same side particular attention should be paid to the spine from the first, and massage and other muscular stimuli be used daily. Residual paralysis often remains in the back and if untreated it results in depressing deformity. Such a deformity may come on some time after the patient is apparently cured and therefore it calls for special observation and examination. Prevention of the deformity is therefore essential. When the deformity is well established it is essential for the patient to wear a form of spinal support. It is sometimes necessary to continue the support from the lower extremity right up to the axilla, to counteract the tendency of the trunk to fall towards the paralysed side. Bone grafts to stabilise the spine at the age of 15 to 18 are very effective.

(7) *Paralysis of Lower Limbs*: Preventive Treatment is essential. The limb is placed on Thomas's splint with foot-piece. Twice or thrice a day the splint must be removed and massage and rubbing diligently performed.

When it is evident that no more recovery is to be expected in the paralysed

muscles the child should be allowed to walk only when provided with suitable retentive apparatus.

The operation of Tendon Transplantation has been abandoned now, except in the case of the forearm for musculospiral paralysis.

(A) *TALIPES EQUINUS AND EQUINO-VARUS*:—This is a disability which seriously impedes movements of the patient. In recent cases the foot can be placed in correct position otherwise tendon lengthening of Tendo-achilis is required. Then investigate the condition of the stretched extensors. If the toes extend on plantar flexing the ankle, the prognosis is good in proportion as the power of extension is good. During the day the following appliance is worn—an iron rod which reaches from just below the popliteal space, into the back of the heel of the boot, and extends thence through the sole as far as the instep. The patient will then be able to walk without either flexing or extending the ankle. At night time a rectangular club foot shoe must be applied. The extensors must be well massaged till the patient is able to hold his foot at right angles. As a precautionary measure, before permitting him to use his ankle joint freely, remove the iron and also the heel from the boot, and place a bar under the sole.

Talipes Equinus with contraction of plantar Fascia:—Fasciotomy and stretching of the sole of the foot to get a normal shape of the foot is done with a wrench before tenotomy of Tendo Achilis.

(B) *EQUINO VALGUS AND VARUS*:—The inversion or eversion must be rectified. In the case of Valgus—Iron upright to the calf is applied outside, strap and T. Valgus wedge on inside of sole and heel. This inverts the foot.

In the case of Varus—the iron upright is applied on the inside to calf and the T strap on the outside. This everts the foot.

Tenotomy should not be done if there is shortening of leg; it is a compensation mechanism. In nearly all cases of firmly

contracted Tendo-Achilis, even if accompanied by some degree of Varus, on dividing the tendon and bringing the foot to a right angle, a valgoid deformity follows. This is not due to paralysis and can be mechanically corrected.

(C) *TALIPES CALCANEUS*:—This is one of the most difficult forms of paralysis to treat mechanically.

Prevention:—Early mechanical treatment, so devised as to enable the patient to tread equally upon the anterior portion of the foot and of the heel is essential. Shortening tendocalcaneus is of no use.

Mechanical treatment:—Apply Boot with posterior upright and high heel as the ankle cannot be dorsi-flexed during walking, and the foot is maintained in extension.

(D) *TALIPES VARUS IN RECOVERED CASES*:

(1) Massage.

(2) a small rim of leather or iron on the outside of the foot.

For more advanced cases: Wrenching; inside iron support; rim on the outside of the foot.

(E) *TALIPES VALGUS*:—The rim of leather is placed on inside of sole of foot. The foot is crooked and raised on the inner-side. The ankle is bandaged to an iron fixed to the outside of the foot.

(F) *COMPLETE PARALYSIS OF THE MUSCLES AROUND THE ANKLE JOINT*:—Call invariably for arthrodesis.

(G) *PARALYSIS OF THE MUSCLES CONTROLLING THE KNEE*:—Before the knee can be effectively treated it is essential to have the ankle under such control that the sole of the foot falls flat upon the ground, for any lateral deviation of the foot prevents a successful mechanical result. When there is much shortening of the limb, and a complete paresis of the dorsiflexors of the ankle, it may be advisable to make up the deficiency by a foot so constructed as to keep the toes near the ground. But even then the sole of the

foot should fall fairly on the ground; when the ankle is secured in good position direct your attention to the knee.

If the ilio-psoas muscle is intact, however hopeless the patient may be, progression can be made easy for him.

The Principles of Treatment of the Paralytic condition of the Knee are as follows:

(1) Rectify any deformity of the knee such as lateral deviation or flexion.

(2) Stimulate the muscles to renewed contractility if any active tissue remains.

(3) Supply a simple and inexpensive apparatus which will bear the body weight during the locomotion under the control of the Psoas and Iliacus muscle. A *Thomas's Calliper splint* is good provided the ring be made of the proper shape and at the proper angle. It is more effective than apparatus requiring pelvic girdles or shoulder straps. No joint should be placed at the knee, so that the quadriceps muscle should not be stretched. The terminals of the calliper should be so placed in the heel of the boot as to give aid in maintaining the rectified position of the foot.

I. *THE PARALYSIS OF THE QUADRICEPS WITHOUT CONTRACTION*: Muscle grafting was being done and has fallen into disuse now. Sometimes there is subluxation of the patella both inwards and outwards. There is frequently genu recurvatum; this is due to the fact that when the leg swings forwards under the action of the ilio-psoas, the weight comes down on the heel, and so a firmer base of support is secured for incumbent body-weight. The lax tissues around the joint in consequence allow of hyperextension.

Modern osteotomy in the supra-condyloid region displacing the lower fragment backwards really helps to steady the knee; the forward angulation tilts the articular surface backwards: the same change as is produced by genu recurvatum takes place. Three cases were treated by me two boys aged 9 and a girl aged about 10; they are able to walk satisfactorily.

II. PARALYSIS OF THE EXTENSORS, WITH CONTRACTION: In order to overcome flexion by mechanical means, place the limb in a Thomas's bed splint and fix it by extension; straps and pressure pads are applied to the thigh and leg. In obstinate cases an anaesthetic may be given but the extension must be done gradually.

N. B.—*Paralysis of the common peroneal nerve*:—A boot with a toe spring can be supplied; this has to be applied for at least two years. In poor people a triple arthrodesis of the foot is effective.

Tenotomy of the Hamstrings should not be done.

A slight degree of genu valgum can be treated by making the inner iron of the calliper bowed, and bandaging the limb to the outer bar, or by the use of an upright on the inner side extending to the inner condyle of the femur. When the knee has been straightened a calliper is to be worn.

If there are bony deformities and obstruction in the joint, then an arthrodesis or osteotomy is required. An arthrodesis of the knee is not good in an A. P. M. case as the long lower limb is liable to be fractured; modern supracondylar osteotomy is good and efficient. If an arthrodesis is decided it should be done after the age of 14. I have a patient on whom arthrodesis was attempted by another surgeon 14 years ago when the child was 7, and knee is still not ankylosed.

III. PARALYSIS OF ALL THE MUSCLES OF THE KNEE, WITHOUT CONTRACTION OR FLAIL LIKE KNEE: This is a very serious disability, but provided the ilio-psoas is intact and the contractions of the hip can be remedied, means can be devised by which he will be able to walk in security.

The simplest method is the calliper splint applied from the boot to above the knee. Arthrodesis has been practised but it is difficult to secure bony ankylosis; and even if we do, the result is a long

shaft of bone, which is liable to be snapped by an accident.

IV. PARALYSIS OF ALL THE MUSCLES, WITH CONTRACTION OF THE FLEXORS.

Reduce the contraction and then fix the joint either by mechanical means or by arthrodesis. In those cases where both knees are affected the methods of treatment are the same.

Crutches help locomotion at first, but should be discarded for sticks as soon as possible.

V. PARALYSIS ABOUT THE HIP:—is very disastrous to the walking ability of the leg. The most important point to ascertain is whether iliopsoas has escaped or not. If the iliopsoas is intact, patient will be enabled to walk even with complete paralysis of the hip.

In cases of paraplegia, so long as the iliopsoas remains intact on one side, he can walk since he is enabled to bring the other limb forwards by a swinging action of the pelvis.

All the patients coming with paralysis about the Hip joint show contraction on the flexor side of the joint and this contracture must first be dealt with.

This flexion deformity can be removed by:—

(a) Recumbent position and stretching upon Thomas's splint.

(b) Fasciotomy of Tensor Fasciae Femoris (Soutter's).

By these means provided there be no dislocation, complete reduction can be obtained.

When the patient begins to get about, a calliper splint or a simple appliance with a pelvic band is very useful.

VI. PARALYTIC DISLOCATION OF THE HIP JOINT:—This may be either partial complete. In complete cases marked lordosis is a complication. The condition is a very difficult one to treat, because if

complete reduction is effected, so soon as the weight is borne upon the limb, the head slips out. Then mechanical support is worn.

Excision of the head of the femur is of no use.

The after-treatment of these paralytic lesions should be assiduous and thorough, and it must not be abandoned too early, if rapid recurrence of the deformity is to be avoided. This is more specially applicable to hip, because of the great difficulty in completely reducing flexion there. The conditions which give rise to the deformity will remain, even after reduction is complete. The patient, should therefore, sleep on a double frame for months and even later during the night, the limbs should be tied to the foot of the bed, which should be elevated from 12 to 18 inches.

OPERATIVE TREATMENT:—Paralysed limbs tolerate operative interference.

In performing bone operations on articular surfaces it is advisable to delay operation until the patient has reached adolescence, in order that bony union may result and that the operation may not interfere with the growth of the limb. Do not operate upon the very young except in the case of the ankle joint.

Arthrodesis is the best method of treating flail joints amongst the poor.

Practically the loss of growth on account of arthrodesis is certainly slight and does not markedly increase the shortening which is inseparable from the paralysis. I have watched one case for 15 years and I know the shortening from arthrodesis is negligible.

INDICATIONS FOR ARTHRODESIS:—

(a) Complete paralysis of all the muscles resulting in flail limb.

(b) Complete paralysis of all muscles about a joint resulting in flail joint.

(c) Partially paralysed joint resulting in fixed deformity.

(d) Paralysis of certain groups of muscles, where the mobile joint is deformed the moment pressure is put upon it.

For knee consult the patient's wishes; if he can afford supports it is better not to arthrodesis. Ankle was being arthrodesised in olden days—now Dunn's operation of subastragaloid arthrodesis is practised. Arthrodesis of both knee and ankle joints may be safely carried out at any age up to 25 years. Pain after arthrodesis in adults is comparatively common, but it usually disappears in a few weeks or months. Tubby has not found it necessary to operate upon the hip joint in order to stiffen it; Pretermobility at the hip is not so serious a disadvantage.

Arthrodesis is practised in the knee for cases of ill-nourished limb with flexed knee with external rotation of the tibia.

It is necessary in all cases to prolong for a period the use of apparatus, as it takes a considerable time for the joints to become so securely fixed as to bear the body weight and the leverage strain at the ankle. The knee calliper splint must be worn for six months.

In the case of equino-valgus or calcaneo-valgus, the inner portion of the foot should be raised, and an iron support fixed between the heel and the knee on the outer side.

In calcaneo and equino-varus, the padding should be fixed on the outside and the support on the inside. These supports can be discarded as soon as the surgeon finds that there is limited but free movement in the ankle, which is shortly and firmly checked in front and behind.

For knock knee and tibial rotation so often associated with severe poliomyelitis, arthrodesis must never be done. Better do a femoral osteotomy to correct the lateral deviation.

ASTRAGALECTOMY: When the foot has no muscles at all or when the heel cord is paralysed, then astragalectomy

indicated. Talus is similar mechanically to ball bearing. Removal of it allows as much up and down motion as an artificial foot, but it eliminates lateral motion. The foot becomes, therefore, well stabilised when there are no active muscles.

RECENT OPERATIONS ON FOOT:

Dunn's triple arthrodesis of the foot is the standard operation practised by me to stabilise the flail foot. The following is the list of cases done during the year, 1938.

DUNN'S TRIPLE ARTHRODESIS FOOT.

1. B. 7 M.C. M. Right side (Dunn's for flail foot right).
2. M. 9 M.C. H. Admission 10-2-1933 Opt. 18-2-1938. and supra condyloid osteotomy 18-4-1938.
3. R. 5 M.C. H. 23-2-1933 Triple arthrodesis with Soutter's fasciotomy.
4. R. 8 F.C. H. Ad. 10-3-1938 Operation 14-3-1938.
5. J. 15 F.H. Left, for foot drop.
6. T. 8 M. H. Both feet for A. P. M. 29-8-1938 Supra condyloid osteotomy both femur.
7. E. 19 M. H.
8. H. 30 M. H.

9. P. 12 M. M. For Bilateral T.E.V.
10. K. 40 M. M. For foot drop popliteal paralysis 22-8-1938.
11. K. 12 F. H. For foot drop A.P.M.
12. A. 6 F. H. For A.P.M. Left foot.
13. S. 13 M. H. Soutter's operation 6-6-1938
14. J. 12 F. H. A.P.M. Right foot previously stabilised 7-10-1938 Supra condyloid osteotomy discharged 4-1-39.

Two cases done in 1933 and one of 1935 are under observation: the two patients are satisfied with their foot and are able to get about without any apparatus.

Paralysis of the spinal muscles lead to curvature of the spine. Prevention and treatment resolve themselves into resisting the force of gravity. Plaster of paris jackets are most efficient because of their convenience of application and their firm fixation. Braces may be worn. Metal braces do not hold correction of the spine as well as plaster of paris jackets. When the child is 15 years old—grafting operations are to be done.

I am indebted to the Superintendent General Hospital for permitting me to publish these notes.

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ACUTE SUPPURATIVE OTITIS MEDIA IN CHILDREN BELOW 6 YEARS

By

DR. T. S. SHETTY, Z.L.O., D.O., VIENNA.

(Now at Lausanne, Switzerland)

Acute suppuration from the middle ear of children is in many points different from that occurring in adults due to complete difference in the anatomical structure from the adult ear. According to "Whittmaack" the development of the middle ear and the mastoid cells have their real beginning after birth. In the last months of fetal life, a pouch or slit lined with cubic epithelium is pushed towards the drum membrane from the eustachian tube. As time goes on, the embryonic tissue is absorbed from the tympanic area and the slit or pouch pushes its way farther inwards occupying the epitympanic and tympanic recesses. While the child is about a year old, the myxomatous tissue has disappeared and a thin layer of mucoperiosteum lines the tympanic and epitympanic recesses. The middle ear is still spongy. By the second year, of development, by erosion of the bony bridges, loose subepithelial tissue enters from the middle ear displacing the bone-marrow of the mastoid. The connective tissue begins to shrink, the epithelial cells make their inroad and the bony mastoid is changed into a highly pneumatised one. The pneumatisation is practically finished by the time the child is 5 years, though in the periphery of the mastoid, the process goes on throughout life. In this normal process of pneumatisation, the retracting myxomatous tissue of the tympanic cavity may produce disturbances in young children very easily. Generally it is not a serious disturbance but a latent process without much clinical symptoms.

Ashoff's researches showed this latent process of disease in about 90 per cent of postmortems in young children dying of some other disease. Possibly the cause of this lesion may be due to ent.

rance of meconium, or maternal fluids into the short, almost horizontal eustachian tube of the baby during birth. Should such an ear be the victim to an invasion of bacteria due to any cause general or local, a lighting up of the trouble in the divitalised area is the outcome.

The eustachian tube in babies, is more open and shorter than in adults. Hence, when they vomit, some particles of the vomit enter the middle ear easily specially because the babies have mostly a horizontal position and the soft palate is not able to close so well as in the adult. The eustachian tube is also a natural drainage of the middle ear in babies. As a result of this, intestinal and bronchial troubles are common in children secondary to middle ear lesion. Because of this natural drainage of pus through this line, the perforation of the drum occurs very late in babies and the middle ear lesion may be long undetected and the mother may give a misleading history.

The drum in babies is much thicker as a result of which, we cannot apply the term of it being a mirror of the middle ear as in adults and so the drum picture in a baby may not be always valuable. Because the drum is thicker than in adults, it easily produces granulations. As mentioned above the middle ear is filled more or less by connective tissue in babies. Minute abscesses are formed in otitis media of babies. These coalesce and form pus. Unlike in adults the epitympanum is generally separated from the mesotympanum in children by connective tissue. This predisposes to inflammation of the epitympanum easily producing epitympanal otitis.

The facial nerve in children lies more or less free in the middle ear and hence

facial paresis is not uncommon though prognostically it is not bad.

Due to improper ossification the sutures are more or less open specially the petrosquamous suture and tegmen tympany. In babies in this suture lies the petrosquamous which is one of the connections between the sigmoid and cavernous sinuses. In adults this sinus is obliterated.

Due to this anatomical relation collateral hyperaemia of the dura and meninges may be produced and an acute otitis may therefore be accompanied by all symptoms of meningitis with high fever (104. 105) chills, delirium, episthotosis, photophobia etc. This is not real meningitis but meningism due to irritation and hyperaemia of the meninges and passes off if proper treatment of the otitis is undertaken. These symptoms are absent in adults.

The antrum is relatively larger and has a narrower communication with the middle ear in babies than in adults and more or less closed against the middle ear.

Diagnosis of acute otitis is difficult in babies up to four months as the process is generally latent in a large percentage of cases in this age. After four months it is easier, as the child puts the hand to the ear and it likes to lie mostly on the affected side if there is no external otitis at the same time and the child also likes to feed on one breast.

In every child with unaccountable fever do not fail to examine the ear. Drum is generally never typical of the disease but slightly pinkish and there will be recognisable difference between the membranes on the two sides if only one side is effected.

The meningeal symptoms are really confusing. But careful examination will show that in meningism Kernig's sign is negative spinal fluid is normal.

When possible to find, the fundus of the eye will show normal eyeground in

meningism as against abnormal in meningitis if due to ear trouble.

Paracentesis clears up all the unpleasant symptoms, of (meningism) resembling meningitis but has no effect on meningitis.

If with a good drainage of pus from the ear, there occurs meningeal symptoms, the case is dangerous. Meningism therefore only occurs in children with acute otitis media without external drainage and seldom in cases where exit of pus has begun. If during the process of drainage of pus there also occurs irregular unaccountable rise of temperature in a child take it as a warning for further troubles and be guarded in prognosis. Best to send the case to a specialist.

If paracentesis is done in a baby with high fever the fever will go down by lysis if due to ordinary acute otitis. If it goes down with crisis, be careful to exclude meningeal trouble.

Though the anatomical structure of the middle ear and surroundings may lead one to think, the danger of meningitis, to be very great, and common it is not necessarily so. The real danger is the turn it takes to a chronic complaint. The luxuriant granulations are generally bad as they are often combined with rickets, tuberculosis, and other general diseases.

As regards treatment, paracentesis in proper time, will avoid lot of future trouble. After this the treatment is the same as in adults (as described in my previous article). One important factor however is, that in children the treatment is not complete, unless the general condition is attended to, simultaneously with the local treatment. Ultra-violet therapy is given with advantage. Operative treatment is done only in such cases which refuse to heal in spite of the best treatment for eight-nine weeks. The common throat conditions that may cause or influence the middle ear disease in children should be adequately dealt with.

A type of otitis called epitympanic otitis, is sometimes produced mostly in children in whom an anatomical separation between the epi and the mesotympanum may exist. Clinically, the inflammation starts and stays in the epi and not in the mesotympanum. It produces very often nipples. The drum in babies is anatomically more or less horizontal mostly so in the posterior superior quadrant. The pus generally lies above the drum and so it presses the drum mostly the horizontal part and causes the nipples producing thereby secondary changes in the area.

The mucous membrane layer and the connective tissues will be eroded and granulations will also be changed and pus comes out from the tip. But this small hole is not sufficient to drain it. Sometimes it gets closed by (1) overgrowth of granulations, (2) by pushing in of mucous membrane remnants.

The nipple is never a sufficient drainage and produces a disposition for retention in the antrum, hence the presence of these nipples is suspicious of mastoid infection.

The epitympanic otitis is prognostically worse than common otitis, since the danger of mastoiditis, lesion of the facial nerve and involvement of the middle fossa are much greater. The treatment is also slightly different as regards

paracentesis. The straight incision as made in common otitis is of no use in this type of lesion. The incision should be done crosswise and must be free and long enough to produce free drainage. The trocar or automatic pistol perforator (Brunner) type is not useful in this lesion. Should mastoid symptoms or facial nerve affection be present, immediate operation should be advised.

A general practitioner is well advised to take the assistance of a specialist in all cases of acute otitis in children or adults in whom there may be

(1) Persistent purulent discharge for over four weeks (not changing to mucus) in spite of the best attempts to heal.

(2) Where there is persistent headache mostly on the side of the lesion with nausea, slow pulse, dullness, apathy, etc.

(3) Where there is sudden high rise of temperature unaccountable perhaps with rigor.

(4) Where there is meningeal symptoms with stiffness of the neck episthotosis etc.

Complications of otitis media will be the subject-matter of another article.

NOTICE.

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Abstracts.

HISTORICAL APPROACH IN MEDICINE

By

RAO BAHADUR DR. T. S. TIRUMURTI, B.A., M.B.C.M., D.T.M. & H., F.N.I.

Principal, Stanley Medical College, Madras.

"History is the essence of innumerable biographies" (Thomas Carlyle).

We have taken the liberty of recasting the caption of the Presidential Address delivered by Rao Bahadur Dr. T. S. Tirumurti, Principal, Stanley Medical College at the 26th Indian Science Congress Lahore, Medical and Veterinary Research Section naming it, "Historical Approach in Medicine" instead of retaining the original caption, "A Brief Account of the History of Pathology". This we did to indicate the real conception of the learned address.

A study of the history of human endeavours, culminating in the present, is fascinating indeed. History is not merely the dry dates and the bloody descriptions of intrahuman warfare. It is an attempt at the delineation of the struggles of man in the conquest of various forces of nature and the various forces created and nurtured by himself. If we want to profit by history, we, as far as it lies in our power, must avoid the very pitfalls, which brought calamitous consequences in the past. If the modern man refuses to bow to the lessons of history and wants to create new history, he will do so, at a very great cost, which might even annihilate him.

Has the history of medicine any lessons for the medical student and the practitioner? The answer is emphatically 'yes'. Even a cursory perusal of the address of Dr. Tirumurti at the Lahore Session of the Indian Science Congress, 1939 shows, that medical men should not blindly worship the heroes of the past without regard to the principles they propounded. Blind idolatry has been the bane to the progress of medicine and sciences in the dark middle ages of Europe and India. There is absolutely no harm in cherishing the memories of our progenitors but it is suicidal to limit our imagination and experimentation to the creases marked by them. The following extracts from the eloquent address of Dr. Tirumurti demonstrate our views as expressed above—*Editor*.

"Fortunately, a study of the 'History of Medicine' is no longer merely a diversion for the ordinary historian, the philologist or the student of the classics as it was until the close of the last century. The Medical profession, since then, have begun to realise the cultural

value of the scientific study and interpretation of the 'Evolution of Modern Medicine' from the earliest times. Apart from its general cultural value to all persons, to the practising clinician a historic perspective of the subject is useful towards his attempts to solve many problems of disease and its processes. The 'History of Medicine' is not a mere category of dates and names. It attempts to describe in a scientific manner from the earliest recorded times to the present day, how man reacted to his environments and their unfavourable conditions, how he got over them and in what way his wounds were healed and sufferings relieved and diseases cured or prevented. Separate chairs for "the History of Medicine" have been instituted in all progressive countries, in the Universities and Colleges. The International Society for the study of the 'History of Medicine' has its headquarters in Paris. The Charaka Club flourishes in America and not where Charaka was born. In India there has been an utter neglect of the study of this important subject. The History of Indian Medicine, including the Indigenous Systems of Medicine, is yet to be written. The theories and descriptions of diseases in the Vedas, folk medicine in Jatakas, ancient Classics, Medicine of Aboriginal Tribes, Nature and Naga Worship, Yoga Shastras, Tantras, Puranas, Kavyas, legends, writing of other ancient historians about India, etc., will afford fruitful material for study.

ORIGIN OF THE HEALING ART: The primitive man sought medical aid only for external injuries, wounds inflicted mostly by the weapons and the blows of his enemies and the bites of wild ani-

mals, burns and bruises, fractures and contusions. It is from the instinct of self-preservation that the noble art of healing has sprung. But about internal diseases he knew very little in the pre-historic days.

PRIMITIVE MEDICINE AND SUPERNATURAL CONCEPT OF DISEASE: Disease was a mystery and super-natural agencies were called to account for the origin of disease. The religious belief, in such super-natural agencies as malicious gods or malevolent demons or evil enemies made these primitive people to resort to their priests of witch doctors, to the use of charms or totems, or to the performance of ceremonies or sacrifices, with the object of appeasing the wrath of these supernatural agencies. Such were the early professional mendicants, quacks and charlatans, who offered to cure disease by magic, charms, amulets and incantations. To the same category belonged the 'Medicine Men' of the Red Indians, the Wise Women of the ancient Germans and the Priest-Doctors of Babylon, Egypt and other countries. During Homeric times, Medicine does not appear to have been dominated by Religion. Asclepius (or Aesculapius) plays the role of a king and not a God. But later Asclepius was deified and a temple was built to the 'God of Healing'. Subsequently, the temple structure and the image remained, but the Spirit of the Science of Healing, Enquiry and Research, had departed. The Humoral Theory appears to have been prevalent in the old Greek empire, the Roman empire and even during the medieval period. It persisted practically till the establishment of the 'Cellular Theory' of the nineteenth century. The Humoral theory though of great antiquity, should be regarded as the most important of the early pathological concepts of disease.

With the establishment of Universities, where Natural Sciences, and Medicine were taught along with the Humanistic Sciences, Scientific Medicine branched off from Folk Medicine and even opposed the latter, exposing all its superstitions and unfounded beliefs. Surgery developed

along with Internal Medicine, until the two merged together to form the modern Scientific Medicine. Scientific Medicine is barely 400 years old and to-day Surgery claims first rank.

As early as the Gupta times, India had attained to high industrial development. The chemical industries of dyeing, tanning, soap-making etc., had then reached a high degree of perfection. Even in the 6th century, the Hindus had known the various chemical processes of distillation, sublimation, calcination, etc. From India the Science of Chemistry spread to the Persians and from them to the Arabs, who later were instrumental in spreading that knowledge into Europe.

Atreya (500 B.C.) held that the parental seed is independent of the parental body and contains in itself, in miniature, the whole parental organism. The development of the foetus was described with much accuracy. It was noted that the sex of the foetus remains undetermined for sometime.

The earliest records of Hindu Medicine are in the Atharva Veda. Medicine arose as an adjunct to Magic. That Medicine and Magic have had a common ancestry is the popular belief but it is not true. The History of Medicine, reveals that Medicine, though it may have had its early origins in Magic, was always the Enemy of Magic. The oldest system of Hindu Medicine is the Ayurveda (the science of longevity), which is a part of the Atharva Veda.

HIGH STANDARD OF HINDU MEDICINE IN ANCIENT TIMES: The great teachers of Hindu Medicine were Susruta, who lived in the 5th century B. C., and Charaka in the 2nd century A.D. Susruta was the Professor of Medicine in the then existing famous Benares University. He is stated, according to mythology, to have learnt from Dhanvantri, the Physician of the Gods. His works were in Sanskrit. Charaka composed an Encyclopaedia of Medicine, known as Charaka Samhita, which is still extant. Later, came Vagbhata (625 A.D.) and Bhava-misra (1550 A. D.). The latter produced a

voluminous work on Anatomy, Physiology and Medicine. He is said to have described the circulation of the blood a hundred years before Harvey. Despite Brahminical prohibitions, Susruta advocated the dissection of dead bodies as indispensable for the training of a surgeon. Vaccination, unknown to Europe before the 18th century, was known in India as early as 550 A. D. The Science of Hypnotism and Hypnotic Therapy appears to have originated among the Hindus. This knowledge spread to Egypt and Greece later.

INDEBTEDNESS OF GREECE TO INDIA: It is, however, generally held that the Hindu Ayurveda was of earlier antiquity and influenced the Greek concept of disease. Hippocrates is stated to have lived between 460-370 B. C. and to have propounded the Humoral Theory, but Ayurveda, as the name suggests, may be as old as the Vedas themselves, and the Vedas have been admitted by European scholars to be the oldest books in the world. Opinion is, therefore, overwhelmingly in favour of the theory that the Medicine of the Greeks was largely borrowed from India.

According to Hindu physiologists, man is divisible into his physical body, plus his mental body, plus his Athma. The Hindus conceived that both Mind and Body are equally 'matter.' Prof. Sherrington has stated that the physical and mental processes are very much alike. To him, the Mind is as material as the Body. The view of Prof. Sherrington was the accepted view of all Schools of Hindu thought. 'The Cellular Theory' of Virchow has tolled the knell of the Greek Humoral Theory, but the Tri-Dhathu Physiology of Ayurveda is stated to go beyond the 'Cellular Theory'. At present, the 'Tri-Dhatu Theory' of Ayurvedic physiology cannot be compared with the existing ideas of Western Physiology.

BABYLONIAN MEDICINE: Babylon in Mesopotamia was the cradle of culture in 300 B. C. We have evidences that the Art of Healing was far advanced even then.

EGYPTIAN MEDICINE: The cultures of both ancient Babylon and Egypt appear to be closely allied in many respects. For the History of Medicine, Egypt is very important, because it was in Egypt that the 'Papyrus Ebers,' which is considered the greatest book on the Medicine of the age was discovered by the famous German—Egyptologist Ebers. The old Egyptians appear to have had advanced views on Hygiene and Sanitation. The Prophet Moses had drawn up the Sanitary Code for the Hebrews, but Moses wisely incorporated this Code into their religion. As among the Hindus, so among the Jews, personal Hygiene and Sanitation were made part of the religious observances.

THE AGE OF HIPPOCRATES—THE FATHER OF MEDICINE: The greatness of the Greek civilization is seen in the real scientific approach to the study of medicine. They did not worship Aesculapius as a God of Healing, but based their system of Medicine on experiment, observation and reason. The first complete separation of Medicine from Religion was effected by the ancient Greeks. Hippocrates taught that knowledge could be acquired only by observation of the phenomena of 'Nature' and by deduction from the observed and ascertained facts and data. The School of Hippocrates was inspired by the true spirit of medical research. But the Science of Pathology did not make any progress among the Greeks, because the post-mortem study of disease was prohibited. The Humoral Theory, reigned supreme for 2,000 years, until it had to give place to Virchow's 'Cellular Pathology'. 300 years after Hippocrates, Corinth was destroyed and Greek Medicine was transplanted into Rome.

After the decline of Greek Medicine, Alexandria in Egypt was destined to inherit it. By the conquest of Alexander the Great, Greek medicine established itself in the School of Alexandria. Alexander made Alexandria a centre of culture and established the famous library, which is said to have comprised of almost a million volumes. The fame of Alexandria rests largely on the fact that it was in

this town that the prejudice against the dissection of the human corpse was broken. As a result, Alexandrian medicine was much advanced in its knowledge of Anatomy and Physiology. But the Alexandrian doctors preached the Hippocratic Theory of disease but forgot that the substance of the Hippocratic teaching was his method. Higher value was attached to the Hippocratic Theory than to his method of observation, rational thinking and inference.

The slaves of Greece played an important part in the transport of the Greek knowledge of Medicine to Rome. We learn from history that, in Rome, Eye-specialists, Otologists and Obstetricians practised their respective specialities. The outstanding names in Roman medicine are Celsus and Dioscorides, during the 1st century A. D. and Galen during the 2nd century A. D.

THE THEORY OF METHODISM: The medicine of Rome, as has already been stated, descended from the Greek and Alexandrian Medicines. There, a new theory of disease was evolved, known as "Theory of Methodism". According to this theory, all diseases were due to disorders in the natural arrangement of those atoms, of which the body was supposed to be composed.

CLAUDIUS GALENUS: (A.D. 103—200)

He was an authority on Medicine and a Dictator to his colleagues in the profession. He was the doctor of the famous Philosopher—Emperor, Marcus Aurelius, (A.D. 120 to 180). Galen's influence continued for nearly 1,500 years after him. 400 of his medical treatises have been handed down to posterity. Like Hippocrates, Galen was a prolific writer and his works, therefore, are of great historical interest. His works served as the Doctor's Bible for many centuries. It has been said of Galen that he was not only the summit but also the terminus of the medical science of antiquity.

With the fall of the Roman Empire, the Catholic Church rose to power and

the Moslem power led to the creation of the Mahomedan Empire. The rise of the Church created the "Age of Faith" and the Spirit of the age was against Science. The Church taught that disease was an expression of Divine displeasure, and that it could be cured, ameliorated or prevented, only through the intermediation of priests. Attempts were made to suppress scientific ideas in Medicine.

ARABIAN MEDICINE: Schools of Medicine arose in many cities of Arabia. There, Hippocratic and Galenic medicine were taught. The Baghdad School became famous, because there the culture of the East, especially from India, mingled with the culture of the West, of the Greeks and the Romans. The Arabian Medicine is characterised by its contributions to Materia Medica. The rapid conquest of Europe by the Arabs contributed to the spread of their Medicine as far as Spain. The spread of the Arab Medicine gave Europe access once more to Greek culture.

The 'Galenic concept of disease' held away for over a thousand five hundred years. Like Hippocrates, Galen was the most important figure of medical history. The dark and middle ages were bereft of scientific progress and medical thought. The authority of Galen suppressed everything, which did not conform to his theory. Fracastorius, (1478-1583), should be considered as the 'Father of Modern Pathology'. He entertained remarkable views on contagion. He compared the virus of transmissible disease to the fermentation of wine. He anticipated Pasteur in the conception of the microbic origin of infectious disease.

THE THEORY OF 'ARCHUS': Paracelsus, (1493 to 1541) was the first openly to oppose Galen. He furthered the use of chemicals in therapy, but he did not further the concept of disease.

FRANCISCUS SYLVIVS, (1614-1172) OF LEYDEN: He was a staunch supporter of the iatro-Chemical School. He propounded chemical theories of body function and recognised the importance of the blood in health and disease. Sylvius

contributed to advance in the Science of Anatomy and in our knowledge of Tuberculosis, as he had many opportunities to perform autopsies.

THOMAS Willis, (1621-1172). He advanced our knowledge of Anatomy and also of the Pathology of the Nervous System. He was the first to observe that the urine in diabetes was sweetish.

The sixteenth century laid the foundation of the Science of Anatomy. Those were the days of 'Universalism' and not 'Specialisation'. The same men contributed to different branches of Medicine, Medicinal Surgery, Obstetrics, Pathology, etc. By the seventeenth century, the anatomical concept of disease and the study of diseased organs was fairly well advanced.

TISSUE CONCEPT OF BICHAT: It was Bichat, who gave a new concept to Morbid Anatomy by his presentation of the various tissues as units, hence the word, 'Histology', (histos, a tissue). 'Histology' gradually acquired the connotation of 'Microscopic Anatomy'. Bichat's work was done without the aid of the microscope. After the French revolution, French medicine led the world. The French school of Medicine was dominant, until superseded by the German school of Pathologists and Bacteriologists. Richard Bright, (1789-1858), who is well remembered in the disease, to which his name has been given, 'Bright's Disease', was also among the pioneers in England to correlate bedside observation with autopsy findings, without the aid of the microscope. It is of interest to know that Bright understood the importance of determining blood urea in conditions of uraemia, long before the birth of the new Science of Bio-Chemistry. Claude Bernard discovered the glycogenic function of the liver. Both Addison and Claude Bernard may be considered as the 'Founders of the Science of Endocrinology'. Theodore Billroth, (1829-94) contributed to Pathology and general pathological principles to the Surgeon. He based surgical procedures on proper pathologic knowledge. It is a curious fact that, though

the microscope was invented over a century earlier to its use for the study of Biology and Botany, it was not, until well in the 19th century, that it was so used. M. J. Schleiden, (1804-87) demonstrated that plants are made up of cells, in which the nuclei are important structures. Theodore Schwann, (1810-82) established the "Doctrine of the Cell Structure of Animal Tissue". He showed the similarity of animal and plant tissues and the basic importance of cells in structure and function. Rudolph Ludwig-Karl Virchow, (1821-1905), has been regarded as "the Greatest Pathologist of all time". He founded the "Archives of Pathological Anatomy and Physiology and of clinical medicine," which has continued ever since as the leading pathological journal. He did not confine pathology, to pure morphology but emphasised the proper understanding of Pathological Physiology and the relation of Pathology to Clinical Medicine. He believed in 'Metaplasia', but he was wrong in his concept of 'Metastasis'. He did not accept the migration of leucocytes from capillaries in inflammation. He denied Darwin's "Theory of Evolution" and was impervious to the discoveries in Bacteriology and Immunology. In spite of the above facts, it must be said that it was Virchow's genius which established the principles of 'Cellular Pathology' which is the greatest advance, which scientific medicine has made since its beginning." It is to him that we owe the establishment of Pathology as a Basic Science, on which the Science of Medicine should be built upon. But the attention which was successively and profitably focussed on diseased organs, diseased tissues and diseased cells should in future be bestowed on the still mysterious ferments, fluids, colloidal emulsion etc., present within the cell itself. The future of Pathology lies in the advance of Bio-chemistry.

PATHOLOGY IN GENERAL: The wider definition of Pathology is not bounded by any circumscribed limits, because it means the study of the nature of disease in its functional as well as structural changes. The scientific

Clinician is almost identical with the Pathologist. The Student of disease has to learn at the Bedside, the Mortuary, by the application of Physical and Chemical methods, by the Mathematical or Statistical method and also by the Experimental method.

THE HISTORY OF BACTERIOLOGY, COMPARED TO THE HISTORY OF PATHOLOGY: The 'History of Bacteriology' and 'Preventive Medicine' is merely one of yesterday. In the olden times, surgery was attended by great risks and plagues and pestilences swept over every part of the world in periodic succession. The first person to lift this veil of mystery was Louis Pasteur. He was requested by the manufacturers of beet-root alcohol to help them in their difficulties in its manufacture. This led him to the study of 'Alcoholic Fermentation.' In 1857 he published his great discovery that fermentation is the result of growth of an organic life, and not due to any action of inorganic matters. Pasteur concluded that 'fermentation is a phenomenon of life'. After discovering the bacillus, which is the cause of Anthrax, Pasteur observed that his cultures of the Anthrax germ, if kept exposed to the air, lost their virulence. He seized on this knowledge, prepared a vaccine, and injected healthy sheep and oxen and found that these vaccinated animals became immune to the disease. This was the beginning of the 'History of Preventive Medicine'. Pasteur should therefore, be considered as not only the 'Father of Bacteriology' but also of 'Preventive Medicine'. Pasteur saved France also from loss of wool industry by the Preventive Inoculation against anthrax.

In the mean time Jenner has discovered the effect of vaccination as protection against the attack of small-pox. Joseph Lister, professor of surgery at the Glasgow University, wondered what the cause might be for wounds, becoming septic and for blood-poisoning. By an accident, he read an article of Pasteur in a journal and began to wonder what possible connection could exist between wine and wound. He wondered why

ordinarily a simple fracture healed up, without septic complication whereas the average compound fracture invariably became septic often resulting in the death of the patient. He started using carbolic acid spray for killing germs. This was the birth of the 'Antiseptic Surgery'. Pasteur's discoveries helped Lister to effect a complete 'Conquest of wound Fever.' Antisepsis was later superseded by the Aseptic method in surgery. Surgery has, therefore, now become bold and fearless in its methods. The discovery of many of the most important pathogenic bacteria was made by Koch. He was the discoverer of the Tubercle Bacillus and the cholera Vibrio. This enlarged the foundations of Modern Bacteriology.

BIOCHEMICAL THEORY OF DISEASE: The works of Erlich have changed the direction of Modern Medicine from the Bacterial to the Biochemical Theory of Disease. Erlich's discovery of Salvarsan obscured for a time the importance of the mechanism of bodily reaction in disease. It was vaunted that Salvarsan could kill the spirochaete, without inflicting any injury upon or causing any distress to the patient. 'Nature' was thought to be a mere spectator to the rout of the spirochaetes by the drug. The truth has now become clear that the drug acts, in the first instance, not on the spirochaete but on the body itself. The discovery of Manson and Low of the 'Mosquito Transmission of Filariæ' was the 'Foundation stone of the Edifice of Tropical Medicine'. The importance of their work lay in the demonstration, that 'Insects act as Carriers of Disease.' The proof of the mosquito malarial theory by Sir Ronald Ross is one of the most inspiring records of human endeavour. The discovery of the particular species of mosquito as the carrier of Malaria laid the foundation for the whole subsequent development of Tropical Hygiene.

NOGUCHI: Hideo Noguchi was the most brilliant Japanese research worker of this century. His researches on original lines were enormous. He made many serological studies. He was the first to culture the organism of syphilis.

The Researches into Immunity Reactions began from the discoveries of Pasteur, Koch, Ehrlich and Mechnikoff. The Chemical and Physico-chemical Reactions in the Immunological processes were studied by Ehrlich, Bordet, Mad. sen, Arrhenius and others. The practical application of these studies is seen in the employment for diagnostic purposes of the Widal Test, Wassermann Test etc.

THE NEED FOR HISTORICAL APPROACH TO THE STUDY OF MEDICINE: Having been a teacher of Pathology for some years, I have become increasingly convinced that a historical approach to the handling of the subject is very necessary, and that every teacher should know the History of Medicine and also the History of his special Branch of Medicine.

It is literally true that man controls his own destiny. Medical science can progress only so long as the scientific spirit survives. The test of civilization may well be standard of its scientific spirit. 'Research' is the watchword of Modern Medicine. 'Empiricism' is the refuge of 'Ignorance'. 'Medicine and Civilization advance and progress together. The conditions essential for advance are intellectual courage and a true love for humanity. It is as true to-day, as it has been in the past, that further advance or even the holding of what has been won depends upon the extent, to which intellectual courage and humanity prevail against bigotry and obscurantism.

VIIth Andhra Medical Conference.

ELLORE.

The VIIth Andhra Medical Conference was held in Ellore in the Mirzapur Bangalow on the 4th and 5th March. The conference was opened by the Hon'ble Dr. T. S. S. Rajan, Minister for Public Health on the 4th morning. Nearly 200 doctors from all over Andhradesa attended. Dr. D. S. Ramachandra Rao presided and Dr. P. Kutumbayya was the Chairman of the Scientific Section of the conference.

WELCOME ADDRESS

By

DR. RANGAYYA, L.M. & S.,
Chairman, Reception Committee.

Dr. Rangayya said in the course of his address:

"We are all gathered here on a momentous occasion, momentous in the sense that the whole world is facing a big revolution in all aspects of life. With the advent of the Congress Governments in most of the Provinces in India, several dynamic changes have been effected in the administration and the medical field has its own share. We are not concerned with other political problems which have been engaging the most serious attention of our leaders, as ours is a Conference of purely medical people intended to tackle subjects pertaining to our profession. It may be that I will be treading a stereotyped course in touching upon some problems and needs of our profession on the ground that they are the one and the same group discussed at every conference but judging from their urgency and importance I cannot but dilate upon them on this occasion as a conference of this nature is the best fitted to discuss them and find a solution for the disabilities which the profession is subject to".

Regarding the Subsidized Rural Medical Relief Scheme Dr. Rangayya said that the Scheme while carrying medical relief to the door of the villager it had incidentally relieved unemployment in the medical profession at the same time lessened the overcrowding of the practitioner in cities and towns. Relating to the hardships of the Subsidized Practitioners in the villages, the chairman said that they are at the mercy of the different parties in the villages and had to depend upon entirely on the Government subsidy. Knowing the economic depression in the villages it was too much to ask them to do honorary work; especially so when they are expected to do sanitary work as well. He sympathised with the hard lot of the Subsidised Practitioners and said "They have no proper leave facilities; they are subject to a dual control, the rules and regulations of

regular Government servants do not apply to them and their services can be dispensed with at the shortest possible notice but all the same they do not stand to be gracefully treated by the State. They are treated more or less as outcastes of the profession for the mere fact that they have chosen to dedicate their lives to rural service". He appealed to the Government to give up the idea of introducing honorary system of medical relief in the villages, to remove the disabilities of the village practitioners were subject to and to treat them as respectable professional men.

Regarding honorary medical service he said that in addition to the paid staff more honorary doctors were posted to the hospitals than were actually necessary. He also pointed out the desirability of encouraging local talent and selecting deserving local practitioners to serve in headquarters hospital. He pointed out the necessity of equipping all the headquarters hospitals with up-to-date clinical laboratories permitting the independent practitioners to utilise the same free of charge.

Affairs of the Vizagapatam Medical College was the next item dealt by the Chairman of the Reception Committee. He said that in spite of persistent agitation in the press on the platform and personal representations to the Government nothing turned out to get recognition to the College by the Medical Council of India though the College was in existence for 16 years and produced graduates who could stand the test of competition with graduates of any other University in India. He added "there is a lurking suspicion in the minds of the Andhra Public that step-motherly treatment is being meted out to the Medical College at Vizagapatam. We believe it is not true. But the creation of the Stanley Medical College in the City of Madras which can boast legitimately of having already the best Medical College in the whole of India with a standing of more than a century feeds that suspicion of step-motherly treatment created in the same Province and financed by the same Government, when that very Govern-

ment pleads inability to find funds for improving the Vizagapatam College. I do not suggest that fresh facilities for the extension of medical education by starting new Colleges should not be provided. The Andhra Province contributes a large share of funds to the Government and therefore the Vizagapatam College has a special claim to obtain the necessary funds for its recognition. We hope, the Government would find means and methods to meet this legitimate and simple demand of the Andhra Medical College".

He deplored the policy of the Government in not valuing the certificates issued by the independent Registered Medical Practitioners to the extent they did with the certificates issued by Government Medical officers and appealed to the Public Health Minister who was himself a member of the independent medical profession to stop this invidious distinction between private practitioners and state-paid practitioners and stamp out the inferiority complex in the independent medical profession.

DR. RAJAN'S ADDRESS.

Dr. Rajan declaring the conference open said. "I consider it a great honour to be here in your midst and I feel fortunate that I should be asked to associate myself with what I consider to be an entirely professional medical men's conference. I am just returning from an assembly where I met a lot of Ayurvedic practitioners, who have been of late advocating their claims vehemently. In professional matters particularly relating to medicine, it is rather regrettable to find claims of competing systems put forward before the public, as if it is that advocacy that counts for popularity of medical systems".

VIZAG MEDICAL COLLEGE.

Regarding the non-recognition of the Vizag Medical College he said that the College existed 12 years and more before he took charge of the medical portfolio and soon after he became the Minister his attention was drawn by some of the students of the College to the disabilities they suffered on account of the non-recognition. Though he was convinced

that the medical course was exceptionally good, the causes that made the Medical Council of India to pass a verdict of inferiority were (1) want of laboratory equipment, particularly for Anatomy; (2) lack of instructors and sufficient number of demonstrators in the various branches; (3) lack of accommodation for some of the special departments like X-ray; (4) lack of proper buildings, particularly for the out-patient department of the King George Hospital. Majority of items demanded by the Medical Council were attended to; the out-patient department for which the Government sanctioned 3½ lakhs of Rupees was expected to be ready next year. Arrangements were being made for training the students at the X-ray Institute attached to the Government General Hospital which they could conveniently do when they were attending for three months the Government Maternity Hospital. He therefore suggested the agitation regarding the Vizag Medical College should cease. Regarding the recognition of the Degrees of those who have already passed out of the college he said that he did not believe that the recognition of the qualifications by the Medical Council of India was by itself did not constitute a test of their knowledge. Yet he was doing his best to get them recognised though he could not tell them at that stage how far he would succeed.

RURAL MEDICAL PRACTITIONERS.

As regards rural medical practitioners, Dr. Rajan said that when the Ramnad District Board raised the question of appointing honorary medical practitioners for the villages the Government invited the opinions of other District Boards on the subject. They wanted to find out how many rural medical practitioners were prepared to work honorarily and how many on half-grants. If he had found a large number of doctors willing to serve on the new terms, he would have been certainly right in accepting the proposal raised by one of the District Boards. What he found as a result of the enquiry was that there were about four medical men who were prepared to work hono-

rarily, another four who were prepared to accept half-grants and the rest were entirely against it. Therefore, there was no need to get frightened over it at all. There was no reason for anybody to think that all the rural medical practitioners would be done away with. "It is an unwarranted fear. In fact I have made it definitely clear to the deputations that waited on me this morning. I asked the rural practitioners that to the extent that they were capable of standing on their own legs without the subsidy of the Government, they must come forward to do so. I am certainly capable of getting more such practitioners and I am getting more. The Government, after hearing the representations of the rural medical practitioners, have met all the demands which Dr. Rangayya has raised in his address—permanency of tenure, decent positions, leave vacancies, facilities for training and protection against dismissal. We have also redrafted the terms of agreement regarding rural medical practitioners on new lines, which we think are just and proper. We have permitted the practitioners to stand for elections to local bodies and the legislature and to take part in politics. The Government subsidy is meant to encourage such practitioners to go to villages. We have given them all privileges, all possible facilities for enriching their knowledge. The rural medical practitioners who have been sent to the village for the past 12 years have certainly no cause to complain if they understand all that has been done to them during the course of this year.

HONORARY SYSTEM.

"Then the question, which I have very often spoken upon, has been referred to by Dr. Rangayya. He spoke about the honorary assistants. Unfortunately I am a bit touchy about it. Rightly or wrongly, I believe and I still continue to believe that I have done my best for the profession. The aim of the system is not to get free doctors. That is what I want to make clear. Our aim is not to take bread out of their mouths. It is hospital practice and service in hospitals that has put a terrible premium on those that are in Government service. The medical pro-

fession of to-day following the western system of medicine numbers about 6,000. Only about four or five hundred people are service people. Should not the large majority of practitioners get the opportunity which is now confined to a small group of people? Once the doors of hospitals are thrown open, what is the result? The fundamental consequence is that the State hospitals will not be the property of a department, but become the property of the whole profession. That is really the aim of the honorary system. All these 6,000 practitioners, if they have got a desire and an inclination to study and improve their knowledge, can utilise the tax-payers' hospitals to their own advantage. That is the real aim of the honorary system. Incidentally the State gets a small benefit. It is trivial. If all the paid men are sent out and replaced by honorary men, the Government will have a saving of only 14 lakhs of rupees. To create one District Hospital, 14 lakhs of rupees are required. I want crores of rupees to build hospitals. If I have given this chance of honorary service it is on the fundamental basis that the ailing people are the property of medical men and every medical man must have chances to consider to what extent he could offer relief to the ratepayers."

CO-OPERATIVE HEALTH UNITS

Dr. Rajan justified his speed in rushing through new schemes which he said he had to introduce to justify his position so that there could be one qualified medical man for every 1,000 unit of population. With this purpose in view he was about to launch a scheme for co-operative medical relief in rural areas. He then proceeded to explain his new scheme:

"A number of villages are grouped together into one health centre and those who are willing may become members of the health co-operative unit of that place. The fee for membership will be 2 annas, which may be paid in kind, or coin. If it is paid in kind, the Co-operative Society will convert it into money. A qualified medical man will be maintained by the unit for the benefit of all the members. There will be a midwife.

Medicines will be supplied to them at cost price. The doctor will be provided with a cycle at our expense. When the doctor visits a person at his house the latter will pay four annas or five annas to the Co-operative Society. We will not prevent the doctor from getting more if he is lucky. But we put the visiting fees at 4 annas, which should go to the funds of the Co-operative Health Unit. The doctor will be provided with good free quarters, one attendant and will be given Rs. 50 per mensem. That is the proposal. We propose to make a beginning with three centres in the Andhra Districts and three in Tamil Districts. If this proves a success, it will be extended. As regards capital expenditure, we propose to utilise some of the common good fund accumulations with co-operative societies. The Government is bearing a great burden and wants to multiply the number of health units. The doctor will be given training in public health before he takes charge, and in fact, he will be a medical man and a sanitary officer under the employ of the co-operative unit, discharging his duties under the control and supervision of two members, one an officer of the Co-operative Societies and the other a Government medical officer." Dr. Rajan invited criticisms and suggestions from medical men and the public on the scheme.

Dr. Rajan disclosed that annual reports on the work done by the honorary medical officers were submitted by the Government Medical Officers to the Government. No honorary medical man could be dismissed by the District Surgeon or the head of the hospital unless the charges against him were stated and he was given a full opportunity to repudiate them.

Regarding clinical laboratories he said that though he was conscious that many of the Head Quarters Hospitals were not well equipped he was also painfully aware of the lack of enthusiasm among the medical men to utilise clinical methods satisfactorily. He exhorted the audience to take keen interest in the campaign against Leprosy and Tuberculosis and relating to the problems of nutrition and

incidentally mentioned about the value of butter-milk as a staple diet.

Turning to Public Health Act he asked every medical man to become a propagandist as every detail of human welfare such as clothing, barber, dhoby were comprised in that useful legislation.

As regards recognition of medical certificates issued by private practitioners, Dr. Rajan said: "The Government have theoretically conceded the position that any certificate given by a practitioner is good. Therefore the law is quite correct. You and I know very well that all certificates are not genuine. The statutory rules of service lay down that if an officer does not believe in a certificate, he may send a requisition to the District Medical Officer. The rule is there. I may say this. If the (private practitioner's) certificate is not accepted, you can challenge the Government. Pursue the matter, if you find your certificate is genuine. Therefore, the law is not defective. You must use your discretion in granting certificates."

PRESIDENTIAL ADDRESS

By

DR. D. S. RAMACHANDRA RAO.

Dr. Ramachandra Rao said: "I am glad that the Hon. Dr. T. S. S. Rajan is here with us. He is an old friend of mine and a staunch and loyal Congressman. I am sure his professional achievement will be an inspiration to us all. Perhaps, this is the first time a medical man is in charge of the portfolio of Public Health. He is one of us and knows how we feel and why. He has been introducing salutary reforms in dealing with health and disease in this Presidency with courage and determination. By the stroke of a pen he removed the inferiority complex of L. M. Ps. and raised their status to that of those possessing a University degree. The future generation of medical students will no doubt be very grateful to him for this far-reaching reform. I dare say later on he will be able to look into the matter of the actual teaching in the Medical Colleges and get reforms introduced so

that the training given in this country with the vast clinical material at our disposal, will be equal to the best that is given anywhere in the world. A high standard of proficiency both in theory and in practice should be made obligatory on those who undertake to teach medical subjects and such a result could only be achieved by persons who have thoroughly studied their subjects and worked for years at them with whole-hearted devotion. The merit and capacity and scientific attainment of the individual should be the criterion in making appointments to a chair at the University Colleges rather than the rank of the person in service."

HELP TO INDEPENDENT PRACTITIONERS

Dealing with the conditions of private medical practitioners, the President said: "The average independent medical practitioner scarcely makes Rs. 100 net per month. I welcome the measure of the Government to restrict the outside practice of men in service to consulting practice. Increasing the supply of medical graduates without providing adequate opportunities for the exercise of their profession will only add to the number of educated unemployed in the country. Efforts should also be made by the State to protect the independent medical practitioners as well as the public from the brazen-faced effrontery of the quack. I may here draw the attention of the Government to the possibility of introducing in the municipal and industrial areas the system of panel as is in vogue in Britain and in Germany. Qualified medical men and women might be remunerated by the State for the number of patients on their panel, the recipients of the medical aid being part-contributors to the remuneration paid by the State to the doctors. Some method must be devised by which the young independent medical practitioner after years of strenuous labour and ambition is saved from despair and starvation. It must be owned that to this day the average man and more so, the average woman, in this country has no faith in the modern allopathic system of treat-

ment. Even educated people patronise the indigenous system in the first instance. There seems to be no way out of the wood except that the infant profession should be directly or indirectly protected by the State for the time being.

"The independent medical profession is thankful for the opportunities being given to its members now-a-days to become attached to hospitals in an honorary capacity, I trust such opportunities will increase in future and that before long most of the hospitals will be run by members of the independent medical profession, with a certain amount of State help commensurate with the arduous duties they have got to discharge."

Dr. Ramachandra Rao welcomed the Government's measures for recognising the nursing service.

RURAL PRACTITIONERS' DEMANDS.

Turning to the demands of the rural medical practitioner, the President paid a tribute to the late Raja of Panagal as the first to realise the needs of rural areas for medical aid and to send a qualified man to a group of villages to meet the need. Perhaps it was not then realised that the young practitioner who settled down in a village was unconsciously drawn into one of the two or more factions that inevitably existed in it. His position was often unenviable. There ought to be, he said, circulating libraries of books and periodicals for the rural practitioners. The rural practitioner needed at least a fortnight's holiday once a year. No serious attempt seemed to have been made as yet to settle women practitioners in rural areas. An attempt should be made to induce them to settle down there even if it meant paying them more.

"COLOSSAL IGNORANCE"

Pleading for more intensive propaganda about sanitation and public health, the President observed: "The ignorance of the laws of health and sanitation that prevails both in urban and rural areas is

simply colossal! The people have got to be educated to the standards of decency. Even the standards of educated people in matters sanitary are deplorably and disgustingly low. Propaganda work and educative work should be done for the next decade or so. The State might make use of the material now available, and ask the rural practitioners to do the pioneering work for a small consideration. Antenatal clinics, physical development lectures and exhibitions, magic lantern lectures, and cinema films dealing with disease, destruction and death may be made weekly or fortnightly features in rural areas. The spare time of the medical practitioners may be harnessed to the service of the village and the town. Unless the State solves the sanitation problems of the rural areas courageously, it cannot deal with the economic problem satisfactorily.

"In urban areas, too, the problem is not less serious. Along with dissemination of scientific knowledge on preventable diseases and public health, the local sanitary authorities must be armed with adequate power to deal with the insanitary conditions that obtain in the area within their jurisdiction. If the new Public Health Act succeeds in arming the local public health administrators and their subordinates with adequate powers to deal with the situation themselves, I am sure that sanitary reform could be effected more satisfactorily than in the past."

Dealing with insanitation on the railways the President urged that it was time that the State bestirred itself and made the railway do its duty to the travelling public. "I may here incidentally mention that the Railway Police and the Railway medical staff might be induced even to go out of their way, if need be and see that the ordinary sanitary principles are obeyed by the people within their jurisdiction."

Concluding, he said: "In all matters that concerns the well-being of the people in sanitation and public health, I take the liberty of assuring Dr. Rajan the whole-hearted support of the medical profession of Andradesa."

CO-OPERATIVE RURAL HEALTH UNITS.

By

CAPTAIN E. S. GOPALAN, M.B., M.S., A.I.R.O.,

Surgeon, Coimbatore.

"Each for all and all for Each".

PHILOSOPHY OF CO-OPERATION.

Co-operation is no new thing. Throughout the history of mankind, in all its vicissitudes, anything great and anything tangible, for the human being, has been accomplished by co-operation. If co-operation is understood and practised, in virtue of its fundamental concept, then the world will certainly reach the Utopian existence, and the present miseries which man undergoes, might have been prevented. What is wrong with this world? It is a big question, no doubt, but only after a convincing answer to this question, can a condition, based on genuine world co-operation between the members of the different units based on geography, race, religion, colour etc., there is ever increasing tendency of exploitation of man by man under various pretexts. This exploitation and aggrandisement is the very antipodes of co-operation. Whether we practise it on a small scale or on a large scale, attempts at co-operation under a system which allows the eating of man by man, is bound to be imperfect and fundamentally unsound. Taking our country India, into consideration, co-operative activities will ever be under the shadow of this human tragedy so long as cupidity and selfishness lasts. The essential of an ordered organism, animal or vegetable, is undiluted co-operation, amongst the organs and cells constituting the organism. To the extent we, men, depart from this virgin concept of co-operation, to that extent we replace co-operation by disorder, camouflaged though it may be by various names such as Government, religion, caste, creed etc.

SOCIETY AND MEDICAL RELIEF

Throughout the ages, man has needed a doctor, to look to his physical well-being

and perhaps moral and mental well-being also. At present India is a land of haves and have nots. There is grinding poverty in the midst of the bountiful nature's gifts. The system of medical relief will have an intimate relation to this state of society. The haves will theoretically patronize the independent medical practitioner and the have-nots will be treated at public and charitable institutions. The honorary system will be successful only if there are enough numbers of the haves to patronize the honorary man in his private practice. The honorary system will flounder the moment there are not enough people to pay the honorary doctor, in his private practice.

The world, in general, and India, also, is subjected to numerous forces. What the ultimate outcome shall be, one cannot swear, but, I think, the tendency is towards the establishment of socialistic society where there is bound to be levelling-up and levelling-down. If such a state becomes the order of the day, the system of medical relief, will be beyond recognition. The honorary system will go and pure private practice may vanish.

PRIVATE PRACTITIONER OF
THE FUTURE

In a socialised state, the doctor, in common with the other members of the society, will be robbed of his independence and will have to be only an individual unit in a mechanized system of medical relief. After all the medical profession is for the public and not the public for the profession. So doctors should certainly adjust themselves to the condition of the society in which they are placed.

CO-OPERATIVE RURAL HEALTH UNITS.

But we have to provide for the present and the immediate future, irrespective of

what is going to happen in the more remote future. So we will have to examine the scheme proposed by the Hon'ble Dr. T. S. S. Rajan, in his address, at Ellore recently in connexion with the Seventh Andhra Medical Conference, according to the existing needs and the existing state of society. Medical relief is certainly very urgently needed in the rural parts and the present Subsidized system, incomplete though it might be, is serving a genuine need. With suitable alterations, the independence of the rural medical practitioner, may be correlated to his obligations to the poorer section of the rural public by establishing the principle of subsidy on a rational basis. Wherefrom does he get his subsidy at present? He gets it from the Government, which gets it from the tax-payer. There is already the Government agency for the collection of taxes; and if the Government should depart from this system in favour of a system based on local co-operation, the reasons for such a change must be very convincing. Moreover, I fail to understand, how in the existing state of society in India, this additional burden on the people, call it by any name you like, is justifiable or philosophically sound. Where the economic level of the people, constituting the society, shows such a divergence, this sort of socialistic medical relief, is not well suited. The incidence of taxation, when considered with the economic status of the populace, has almost reached the saturation point. It is indeed a great dilemma for the present popular ministry, which has inherited a legacy of top-heavy administration, but at the same time has to find ways and means for ameliorating the lot of the tax-payer. Circumstances as they are, miracles cannot be achieved, but, I should plead, that no makeshift arrangement should be attempted which may have to be given up at a later date. Perhaps the Minister of Public Health has an idea of remodelling the entire Scheme of Rural Medical Relief on this co-operative basis. If so, it may be asked, cannot the present system of Subsidized Rural Medical System, be extended, on a rational basis so that every private practitioner who has chosen to settle in a village, be given a subsidy

based on the number of poor people treated? In my view, a slight modification of the present system, should suit the existing conditions most admirably. A national medical service will be utterly incompatible with the present state of society.

SCOPE FOR PRIVATE PRACTICE
WILL GO.

Private practice will thrive in places where there are people who can afford to pay. Personally I should completely nationalize the system of medical relief, where, as in Russia, every qualified doctor, is an unit in the system of state medical relief. Major General Sir Cuthbert Sprawson, lately Surgeon-General with the Government of Madras and Director-General, Indian Medical Service, has written very appreciatively about the Russian system. Sir Sprawson mentions that all doctors are state employed and that there is practically no private practice. India is not at present, fit for the transplantation of such a system. Such a system, if introduced, may benefit the rich and the middle classes for they will get cheap treatment, and may not benefit the poor. If this co-operative system is introduced in the villages, the few rich and the middle classes will readily pay two annas for membership and pay four or five annas for visiting charges, for the cheap medical relief will be Godsend to them, while there will be any number of poor people who cannot even afford two annas for membership not to speak of four annas for visiting charges. Where will such non-members go for treatment? They will have to be provided for. But under the present subsidized scheme, such poor members have a right to get treated at the office of the Subsidized Practitioner. But the Government may say, they may exclude the richer members from membership in the co-operative society. But it is utterly unfair. When you say it is a co-operative society, anyone applying to be cooperated, must be taken and you cannot go on creating exemptions and exceptions.

THE SALARY QUESTION.

It is said that somehow, the doctor, will be paid Rupees 50/- per mensem

with free quarters. For a junior it is a good start. But if the starting pay, is to be the permanent pay for all time to come, with no expectation of private practice—for the prospective paying patients would have advisedly found the co-operative society—this is very discouraging indeed. You cannot bracket a medical man with an unskilled or even a skilled labourer. He is certainly a member of the enlightened profession and would like his sons and daughters to attain a high standard of intellectual attainments. When the doctor is aged between 35 and 50, he has to think of high school and collegiate education of his boys and girls; and the doctor who is allowed to go strong with 600 a year, may not even find sums to meet the railway expenses to the nearest college if not the metropolis. The doctor need not at all worry, if education, at all stages including boarding and lodging, is free to every member of the society applying for the same. But the

present unfortunate tendency, even in the case of Mahatma Gandhi, is to make a distinction between primary education and University education, at the expense of the latter. That is why I have been expostulating on the futility of introducing even national medical relief, at the present juncture. If medical relief is to become national, every activity, including public conveyance must be national and education, at all stages, must be free.

CONCLUSION.

I am of opinion that the proposed scheme of co-operative medical relief will not suit the existing Indian conditions. I also firmly believe that the present system of subsidised medical relief, with suitable modifications, is the best, under the existing circumstances.

Reference: (1) Sir Cuthbert Sprawson: Medical tour in Russia: Indian Medical Gazette January 1939 P. 33.

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AND

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Composition.

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TUG OF WAR.

The proceedings of the Seventh Andhra Medical Conference which met in Ellore on the 4th and 5th March indicate that a supreme contest between the Government and the Medical Profession is going on, the Government being represented by the Hon'ble Dr. T. S. S. Rajan, the Public Health Minister, who till he assumed office was a successful private practitioner and made his fortune as such. The bulk of the representatives of the Medical Profession being represented by starving or half-starving members of the profession with a small mingling of State-paid practitioners with whom the former are having unwholesome and unhealthy competition in the field of private practice. They are not organised and they find it difficult to have one solid organisation for the whole profession as the profession is divided against itself due to causes beyond the control of the profession, the old Government being wholly responsible for such divisions either due to the Government-made qualifications or the meaningless service cadres. This struggling heterogenous mass in the medical profession cannot naturally see eye to eye with Dr. Rajan though he is one amongst them. Fortune favoured Dr. Rajan before he made a sacrifice by taking office as one of the members of the Government. The vast majority of the members of the profession has nothing to sacrifice. They are naturally deaf to the high ideals of service which Dr. Rajan as the Hon'ble Member of

the Government, has been placing before them. Those who are in service have been hit as well as those few who have been enjoying hospital service as honoraries on account of the new policy of the Government with "the fundamental consequence that the State Hospitals will not be the property of a department but become the property of the whole profession". The real tug is therefore between the Hon'ble Dr. Rajan and vested interests.

Wherever the Public Health Minister goes, the forces arrayed against the Government are just the same. It could not be different at the Seventh Andhra Medical Conference which the Minister was requested to inaugurate. It was indeed a strange coincidence but happy in the interests of the medical profession that the Chairman, Reception Committee at Ellore, Dr. M. Rangayya, a political comrade of Dr. Rajan was the captain leading the medical profession in the context. He could talk with authority for the urban and rural medical practitioners being himself a practitioner in the urban area and the President, District Board, West Godavari having under his direct control the Subsidized Rural Medical Practitioners. Dr. Rangayya did not beat about the bush but put before the Minister the real hardships of the private practitioners in the towns and villages as they existed. True to his political cult Dr. Rangayya first dealt with the grievances of rural practitioners as villages are the first concern of National uplift in the

Congress programme. Regarding Subsidised practitioners he said "

"They do not make much income: by way of private practice under the existing conditions in the villages and their only main stay of life is the subsidy they have been getting from the Government. In these days of economic depression, that these practitioners should be asked to work honorary with their duties doubled by being asked to do sanitary work also is really too hard. They have no proper leave facilities; they are subject to a dual control, the rules and regulations of regular Government servants do not apply to them and their services can be dispensed with at the shortest possible notice but all the same they do not stand to be gracefully treated by the State. They are treated more or less as outcasts of the profession for the mere fact that they have chosen to dedicate their lives to rural service."

He appealed to the Minister to give up the idea of introducing honorary service in the villages and to treat the rural practitioner 'as respectable professional men'. The Minister's reply that the rural practitioners had no cause to complain was as much optimistic as Dr. Rangayya's narration was pessimistic. Both talked with authority being the two limbs of the 'dual control' over the Subsidised Rural Medical Relief Scheme. The Minister saw things as depicted in the files of the Secretariat and Dr. Rangayya felt them as the President, District Board actually running the Scheme. The Subsidised Practitioners groaned almost every day at the treatment accorded to them by those in authority over them. A trusted friend of the Government openly expressed to the Minister the hardships of the Subsidised Practitioners against the 'dual control'. The Government did yield to the representation made by Subsidised Midwives against the 'dual control' and have since placed all the Subsidised Midwives under the control of the Government through their local representatives, the District Medical Officers. Dr. Rangayya being a medical man himself and knowing the lot of his professional brethren in the Subsidised Rural Me-

dical Relief Scheme, would not have meant that the control of the Scheme should be entirely vested in the District Board when he condemned dual control. Evidently he feels it a difficult task to do things to his liking being an elected head of the Board. We would suggest to the Government that the Scheme may be entrusted to a Committee consisting of the District Collector, The District Medical Officer and the President, District Board. Every interest will be very well represented in such a committee and the elected District Board President will be free from the personal influence of his comrades in the Board and the Government will have more peace.

There would not have been any cause for the Public Health Minister to be 'touchy' regarding Honorary System of Medical Relief if the Minister pointed out the aim of the Government relating to Honorary System to the members of the medical profession whom he addressed at the All India Medical Conference which met in Madras in 1937 December, in the way he did at Ellore. It was the unfortunate statement made by the Minister that Rs. 30 or very near that amount would be enough to maintain a medical man that must be the cause which has been irritating the medical profession especially so as nobody demanded any honorarium. The Minister's statement that the Honorary Medical Officers could not be dismissed by the District Surgeon or the head of the hospital without giving them full opportunity to repudiate the charges against them implies that such dismissals were done in the past without enquiry and that the District Surgeon or the head of the hospital were the officers who directly exercised disciplinary control over the honoraries. If this is the correct report of the statement, the

subconscious revelation from the Minister is likely to perturb the honoraries. Recently a leading Daily had to pay damages to two medical practitioners for publishing a statement which implied that the honoraries were dismissed though no cause was assigned by the Government in their order terminating the services of these two Honorary Asst. Surgeons. It is well the Minister realises that the control of honoraries by the paid officers is incompatible with Honorary Medical Scheme. At the same time the honoraries should realise that all is not well with all of them. Consistent with these affairs the Government should invent a new agency of control. Dr. Rangayya's complaint that more Honorary Assistant Medical Officers are posted in Government Head Quarters Hospitals than are actually necessary and not much responsible work is turned out by them, is worth the consideration of the Government.

With due regard to the sentiments of Andhra Medical Profession we reiterate what we have been saying in the past that the unwanted Medical Council of India which was brought into existence more to placate the General Medical Council of Great Britain than to help the medical profession in this country and the misdirected zeal displayed at the College during the Inspectors' visit and not the callousness on the part of the Congress Government which is responsible for the non-recognition of the Andhra Medical Degrees.

The pull between the Hon'ble Minister and the medical profession would have slackened considerably if the Minister did not claim a higher premium on the medical certificates granted by Government medical officers as against those issued by private practitioners. Dr. Rajan told his audience at Ellore that, "it is the hospital practice and service in the hospital that has put a terrible premi-

um on those who are in Government service". In the case of medical certificates before that very audience he justified a higher premium on medical certificates issued by Government Medical Officers and advised the independent medical profession to challenge the Government in case any of its members had a grievance against the second opinion relating to the original certificate. The advice given by the Minister is as humiliating as it is impracticable. The public, the medical profession and the Government know that non-genuine medical certificates can be obtained from some of the Government medical officers and no second opinion has been ever obtained on the certificates issued by them. It was expected that the Congress Government would put an end to corruption in the Medical Department. On the other hand signs are not wanting to show that the old order of things are likely to continue and the few notorious offenders could get along as usual with their wonderful talents in mesmerism. In this state of affairs when the Government cannot clean their own stables they should change the 'statutory rules of service' to the effect that if an officer does not believe in a certificate, he should report the conduct of the registered practitioner whether he be private or State-paid to the Madras Medical Council which has statutory disciplinary control on the entire medical profession. The Council can clean Government stables more effectively by removing the name of the practitioners from the Medical Register on a charge of infamous conduct in a professional respect which power the Government do not have over their officers. If this is done the Government and the medical profession will rise high in the eyes of the public.

Dr. Rajan has added one more element on the Government side in the tug

of war by introducing Co-operative Health Unit Scheme to be run by the Government Agency. On the face of it, it looks as if this new scheme is likely to curtail the scope of private practice on which alone the medical profession has to depend. We shall reserve further comments on this new venture of the Government till we get the full details. In the meanwhile the thought-provoking article on this subject appearing elsewhere contributed by one of our Associates is worth the consideration of the Government as well as the members of the medical profession.

Working of the Public Health Act, combating social diseases, giving free advice to the people on nutrition and such matters could be done only by those in the medical profession who are above want. So the first and the foremost duty of the Government should be to evolve a contented and prosperous medical profession. The Hon'ble Dr. Rajan could conceive that unlike politics, in the field of medicine the public, rich and poor, will avail themselves of the services of the members of the medical profession who are worth something and not from those who are worth nothing financially, as the worth of a medical practitioner is measured by his wealth and not by his knowledge alone. The tug-of-war between the profession and Hon'ble Dr. Rajan will end as soon as Dr. Rajan realises his responsibility to his brethren in the medical profession. When he demands free service from them he should necessarily increase the scope of private practice. The Government should increase the facilities of private practice by closing the doors of the State hospitals against the rich and make the members of the profession enjoy equal rights and privileges without any premium on those working in the hospitals as stipendiaries or honararies.

News and Comments

Andhra Medical Conference: The proceedings of the Seventh Andhra Medical Conference which met in Ellore on the 4th and 5th instant were very lively. The controversial portion of the proceedings is the subject-matter of the Editorial under the caption, Tug of War. The Presidential address was very conciliatory as it should be as the President is an 'old friend' of the Hon'ble the Public Health Minister and himself a staunch Congressman. The President wished that the members of the medical profession should emulate Dr. Rajan's 'professional achievement through industry and skill' and said:

"Perhaps, this is the first time a medical man is in charge of the portfolio of Public Health. The long-felt need has at last been met, and to-day our Public Health Minister knows where the shoe pinches us. He is one of us and knows how we feel and why. Again this is the first conference we are holding since Congress took office. So we welcome Dr. Rajan to our midst and trust that he will get to know us and we get to know him. As you know the Congress Government has not been idle since taking office nor has Dr. Rajan. He has been introducing salutary reforms into problems dealing with health and disease in this Presidency with courage and determination. At the stroke of his pen he removed inferiority complex from the L. M. Ps. and raised their status to that of those possessing a University degree. The future generation of medical students will no doubt be very grateful to him for this far reaching reform".

We trust that the members of the medical profession in Andhradesha would note the valuable opinion of their accredited President and treat the Public Health Minister as their own, so should their brethren do in Tamil Nadu, the Kerala and the Karnataka parts of the province. Medical profession cannot recognise castes or creeds nor the division of human beings based on the language they talk. They will do well to make as much hay as they can when the sun shines. The underlying principles of all the reforms advocated by Dr. Rajan are sound. It is for the profession to mould the principles for common good expressing their views courageously.

Regarding medical education Dr. Rao suggested that 'merit and capacity and

scientific attainment' should be the criterion to the appointments in University Colleges and 'not the rank of the persons in service'. He pointed out that the supply of qualified practitioners had been yearly increasing and compared the 'unenviable position' of the private practitioners with those of brethren in Government service and said that the tendency in the profession was to make 'the rich richer'. So he welcomed the future policy of the Government to restrict private practice only to consultation practice. He pleaded that the Government should protect the qualified medical profession 'from the brazenfaced effrontery of the quack'. Regarding the Allopathic System the President said:

"The Allopathic system is a courageous venture and perhaps a necessary venture as India is struggling for nation-hood and freedom. There seems to be no way out of the wood except that the infant profession should be directly or indirectly protected by the State for time being. Otherwise close down the colleges and cut off the supply. The situation is becoming more hopeless every year".

The President whole heartedly supported the Government's policy relating to Honorary Medical Relief Scheme, the Nursing Scheme. The rural medical service did not escape the attention of the President and we wish the Government would note the impartial and disinterested opinion of another true friend of theirs relating to the lot of the Subsidized practitioners who, "Dr. Rao declared is in no sense of the word an independent practitioner and he has lost his independence for the crumbs of bread that are flung at him. His loss may be 'Plain-living' under the aegis of the Congress Government but his patients would stand to lose heavily if their doctor is dragged down from the plane of 'High-thinking'." Dr. Rao deplored the ignorance of the public even of the educated classes amongst them about matters sanitary and warned the Government that unless the sanitation problems of the rural areas were solved courageously they could not deal with the economic problems satisfactorily. He also referred to the callousness of the Railway administration regarding sanitation.

We refer the Government and the readers to the proceedings of the Conference published elsewhere and also the decisions arrived at by the Conference and trust the Government would reciprocate the feelings expressed by the President of the Conference on behalf of the Andhra Medical Profession that in all matters that concerned the well being of the people in Sanitation and Public Health Dr. Rajan would have the whole-hearted support.

Backwards or Forwards: Dr. Lakshminpathy, is a product of modern scientific medicine. His services to Ayurveda are meritorious and incalculable. He was and is one of the pillars for the revival of interest in the Indian Systems of Medicine. Combining in himself, a scientific outlook thanks to his early training, and his sturdy patriotism which has made him an uncompromising advocate of the Indian Systems of Medicine, he should be a great asset, in building a modern Indian Ayurveda, based on a scientific interpretation, elucidation, and investigation of the treasures of the Indian Systems by unassailable methods based on truth. Intrinsically there is no difference between the so-called Ayurveda and the modern system of medicine. The modern scientific system is as much entitled to be called Ayurveda as the "Ayurveda" in the mind of the learned doctor. He cannot have the monopoly and the exclusive copy-right to use the term "Ayurveda" which means "Science of Life". Does Dr. Lakshminpathy seriously mean that the modern scientific medicine is not doing its duty towards the "Science of Life"? Why should he set a limit to the progress of Ayurveda to the level attained at the time of the pre-musalman period? It is thousand pities that the doctor instead of giving a correct lead, tries to move heaven and earth, to beat a fictitious Will-O-The-Wisp. How can we understand his heroic statements and his threats of Satyagraha, against the Ministry which possesses a Public Health Minister of the stamp and the type of Dr. T. S. S. Rajan, who is as much interested in Ayurveda, as the loudest shouter among the Ayurvedists themselves. Moreover

Dr. Lakshmipathy is giving a wrong lead. His tearing propaganda amongst the masses, who are incompetent to form a correct opinion on such technical points, is really unfortunate. There is absolutely no use, for instance in trying to prove that the "Raman effect", is wrong, or the Einstein's Theory of Relativity is absurd, before an audience who are the least fitted to form any judgment on such great topics.

We should ask Dr. Lakshmipathy this one question. "Do you want us to go forwards or do you want to cripple yourself permanently on the basis of the theories held one thousand years ago? Has not God endowed us with creative faculties? Do you want us to be ever intellectually stagnant and not question and enquire into dogmas and theories however sanctified they might be?" Does not Dr. Lakshmipathy himself use the modern electric current to pulverize raw products into churnams, the modern printing press for his publications, the modern telephone for talking to his patients, the modern motor car for his whirlwind tour, etc? If these are good and necessary, Ayurveda also requires a modern touch and rejuvenation.

Superfluous Deputation. When the Hon'ble Dr. Rajan was in Ellore on the 4th March the representatives of the P.S.R.M.Ps' Association, West Godavari District waited on him in deputation and narrated to him the hardships of the Subsidized Practitioners in general making special mention of their immediate grievances.

The first related to the Government Memorandum No. 34730 dated 30.9.1938. The reply of the Minister was to the effect that it was not the intention of the Government to give effect to the proposals mentioned in the Memorandum. The history of the Memorandum was narrated in detail by the Minister. (*Vide* his speech elsewhere).

2. They appealed to the Minister that the subsidized practitioners deputed for Sanitary training should be paid their usual subsidy while undergoing the

training in addition to the honorarium of Rs. 25/- sanctioned by the Government. The Minister's reply was in the negative.

3. They complained that the additional subsidy of Rs. 15/- fixed by the Government for doing Public Health work was inadequate and suggested Rs. 30/. The Minister's reply was in the negative.

4. The subject of selection of senior-most subsidized practitioners of merit and experience to fill in vacancies in L.F. Dispensaries was the fourth item of discussion. Minister replied that instructions had been given to the District Board Presidents to follow the G. O. on the subject.

5. The Minister was requested to modify the clause relating to appointment of Dispensary attendants appearing in G. O. No. 3510 dated 4th October 1938 so that every subsidized dispensary having an average daily attendance of more than 30 patients may be supplied with an attendant.

6. The sixth item was with regard to the sanction of house rent for locating subsidized dispensaries.

7. The representatives requested that the R. M. Ps working directly under District Boards should also be deputed for sanitary training. The Minister said regarding this item and No. 5 and 6 that the Government would not have any objection if the District Boards complied with these requests.

8. It was represented by the deputationists that the practitioners should be permitted to avail themselves of 30 days leave in addition to public holidays. The reply was not favourable.

9. Inadequate and late supply of medicine indents was the next item of discussion. It was also said that a large amount was deducted towards freightage and that the practitioners did not get medicines to the full value of Rs. 360. The Minister pleaded the inability of Government to do anything in the matter as the Government Medical Stores was

directly under the control of Central Government.

10. The last request was to the effect that the subsidized practitioners should be associated with rural uplift work. The reply was that the subsidized practitioners were independent practitioners and that they could individually do whatever they liked regarding the village uplift work, knowing as they did that the Government had removed the ban over them to stand for election for all public bodies.

We are informed that the President, P. S. R. M. Ps' Association had submitted a memorandum as desired by the Provincial Committee at its first meeting held in Madras on 31.12.1938 and that all the points raised by the deputationists at Ellore had been discussed in the Memorandum. Under the circumstances we should say that the West Godavari District Branch might have reserved their energy to represent to the Minister any local grievance. The off-hand answers of the Minister is likely to effect the decision of the Government adversely on the memorandum submitted by the President, P. S. R. M. Ps'. Association on behalf of the whole Association.

Temple Reforms:—The readers might remember the comments expressed in these columns (October 1938) regarding our visit to Tirumalai hills under the caption 'A Happy Combination'. We

complained about the insanitation, beggar nuisance and the congregation of lepers both in and outside the temple and suggested reforms pointing out to the Government that, "there cannot be a greater opportunity for the Madras Government than the present one when they have the Hon'ble Dr. Rajan in charge of Medical and Temple Portfolios." We are glad to learn that the Government have decided to amend the Tirupati Devasthanams Act 1932 'to place more exclusive responsibility in regard to public health, sanitary control, etc., over the area, on the Commissioner of the Devasthanams subject to control by the Devasthanams Committee and by the Government. Clause 4 of the Bill gives effect to this object. Clause 2 gives power to define the Tirumali Hills area. The amending Bill will 'specifically permit the authorities controlling the temple to utilise the temple funds for purposes such as establishment and maintenance of hospitals including a veterinary hospital, a leper asylum, a poor home and for acquiring lands and other immovable properties to make the surrounding of the temple sanitary. As expressed by us in these columns last October Dr. Rajan has proved that combination of the responsibility of management of Hindu Temples with those of Public Health is very happy indeed. Dr. Rajan has made 'it possible for the members of the medical profession to serve God and man by working for Hindu Temples.'

Correspondence, Reports, Etc.

Resolutions passed at the VIIth Andhra Medical Conference, Ellore.

1. The first resolution was about Mahatma Gandhi's fast.

2. This conference requests the Government of Madras to promote the existing Sub-Assistant Surgeons in service as Assistant Surgeons with all privileges in Madras Provincial Service on their existing pay.

3. This association requests the Government to undertake prosecution relating to India Medical Degrees Act.

4. This conference reiterates its emphatic protest against the scope, the constitution and

the composition of the Indian Medical Council Act of 1933 and appeals to the Central Government to so amend this Act as desired by the Indian Medical Profession, and accord, among other things the recognition of the diploma of the Medical Licentiates in the Schedule of recognised qualifications under this Act.

5. That the Government of India be requested to give facilities to Medical Licentiates to go in for Maternity and Child Welfare Diploma Course opened in the All-India Institute of Hygiene and Public Health of Calcutta; that in the opinion of this house the Government have done a great injustice to the largest medical group in depriving the Medical Licentiates of the benefit of this

course who cater to the needs of the largest number of people in India.

6. In view of the abolition of the L.M.P. course in Madras, and also of the Subordinate Medical service, and in view of the fact the consequential position of the existing licentiates *vis-a-vis* entry into public services such as Honorary Medical service, has been a matter of great difficulty, this Conference suggests to the Government to institute a L.M.S. diploma and confer the same on such of the licentiates who had undergone or are undergoing a five years' course in the Stanley Medical School, and also to the licentiates of four years' course of not less than 5 years' standing after submitting them to an examination test as approved by the Government.

7. This conference requests the Government of Madras to reduce the present post-graduate fee of rupees thirty per mensem (for Madrasees and rupees fortyfive for Non-Madrases) to a nominal fee of rupees five per mensem as it is the avowed intention of the popular Government to throw open facilities for (young and ambitious) medical men to attain higher standards of efficiency.

8. This conference requests the Andhra Medical Association to prepare a Medical Directory for the Andhra Province at an early date.

9. Resolved to request the President of the Andhra Medical Association (being ex-officio) to go into and report on the problem of the immediate and special needs of Andhra Desha in regard to the organisation of the medical relief and Public Health needs of the Andhras, the report to be submitted before July 1st 1939 to the Provincial Congress Committee and the Madras Government through the Andhra Medical Association.

10. This conference urges on the Andhra University to arrange for short summer and winter post-graduate courses in Vizagapatam from the General Practitioners' point of view and for their benefit.

11. This conference is of opinion that in view of the altered constitution of the Madras Council the 7 general seats on the Council should be allocated previously by mutual understanding between the leading medical Associations in the Presidency, affording fair representation for the graduates as well as the Licentiates and all major linguistic areas in the Presidency; and authorise the Andhra Medical Association to negotiate and settle the details in consultation with the concerned bodies.

12. This conference urges on the Minister for Health to inaugurate a comprehensive honorary scheme for the Vizag Medical College and K. G. Hospital with a view to raise the

standards and efficiency of the profession and science of medicine in Andhra Desh.

13. This conference urges on the Minister for Medicine to consider the early introduction of a Health Insurance Scheme for the major Municipalities in the Presidency and selected rural areas and authorise the Andhra Medical Associations to prepare and submit a scheme for the same to the Government.

14. Resolved that the King George Hospital should be treated by the Government on the basis of a General Hospital like the Madras Hospitals and not merely as a District Head Quarters Hospital, which has been the case till now, in spite of its being a teaching Hospital.

15. This conference recommends to the University to amend the regulation for the M. B. and M. S. to permit L. M. S. Degree holders also to appear for the same.

16. This conference while thanking the Madras Government for all that they had done and propose to do to secure immediate and permanent recognition of the Andhra Medical Degrees by the Indian Medical Council urges on the Government the following immediate improvements to the King George Hospital, Vizagapatam, to meet the needs of the Andhra Public:— (1) Increasing the beds in the main departments (surgical and medical) (2) improvements in the Radiological equipment, providing for a deep X-ray plant and radium (3) provision of the septic ward in the Maternity section and a special Antenatal clinic (4) separation of T. B. beds from the Venereal medical wards (5) provision of adequate accommodation, and a special institution for Tuberculosis (6) Children's ward, (7) paying wards (being better equipped) (8) quarters for resident house-surgeons.

17. This conference resolves that the status of the Indian Medical School be raised to that of a College higher preliminary education qualification being insisted for admission and proper grounding being given in other medical subjects.

18. This conference strongly urges the Government to extend the facilities of Public Health training to the L. I. Ms. and amend the G. O. 2639 at an early date accordingly. This is to apply to District Board Subsidised Practitioners as well.

19. The conference views with pleasure the intention of the Government to prohibit the medical men in service from private practice and requests the Government to extend the prohibition to the Indian Medical Service also.

20. Resolved to hold the next session of the Andhra Medical Conference at Vizagapatam in December 1939 on the invitation of the Secretary of the Vizag Medical Association.

POST-GRADUATE COURSES BY THE GERMAN AUTHORITIES.

The German authorities for post-graduate medical instruction have arranged international courses for specialists for the summer of 1939. The courses are arranged in Hamburg, Vienna, Cologne, Bochum and Gelsenkirchen-Buer, Hohenlychen, Munich, Breslau, Berlin, Luebeck, Frankfurt a/M, Leipzig, Tuebingen and Halle. The courses will be in variety of subjects in Medicine and Surgery including Gynaecology and Padiatry E. N. T. Medicine and Surgery, Ophthalmic Surgery and Medicine, Dermatology, Plastic and Cosmetic Surgery, Urology, Dental Surgery and Medicine, Surgery of special regions, Radiology, Neurology, Psychiatry, Allergy and Dietetics etc., etc. All courses will be in German language. Foreign doctors and German doctors resident abroad will receive 60 per cent. reduction on the German State Railways. Further particulars can be had from:

Aerztliches Fortbildungswesen, Berlin N. W. 7.
Robert-Kochplatz 7. Kaiserin-Friedrich-Haus.

Statement of Receipts and Charges of the Madras Provincial Subsidized Rural Medical Practitioners' Association for the Month of February 1939.

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Subscriptions received from members during the month ...	70 12 0	Remuneration to two part-time clerks for January 1939 (at Rs. 10 and Rs. 5). ...	15 0 0
Entrance fees from 11 new members ...	2 12 0	Amount credited to The Medical Practitioner from the subscription received from 24 members ...	12 0 0
Amount paid by the Treasurer being the subscription collected by him from 2 members ...	6 8 0	Contributions to District Branches:—	
		Madura 7 0 0	
		Trichy 8 0 0	15 0 0
		Amount with the Secretary-Treasurer of the Trichy District Branch ...	7 0 0
		Amount paid to Dr. Bhat, General Secretary of the Association for his office expenses ...	20 0 0
		Cash Balance: Rs. A. P.	73 14 0
		In the Savings Bank 124 2 0	
		In the Office 2 6 9	126 8 9
	200 6 9		200 6 9

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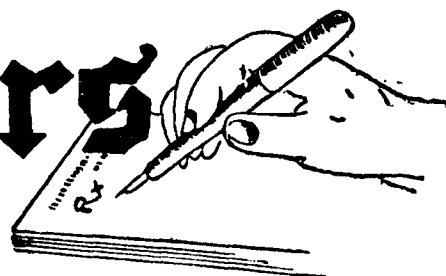
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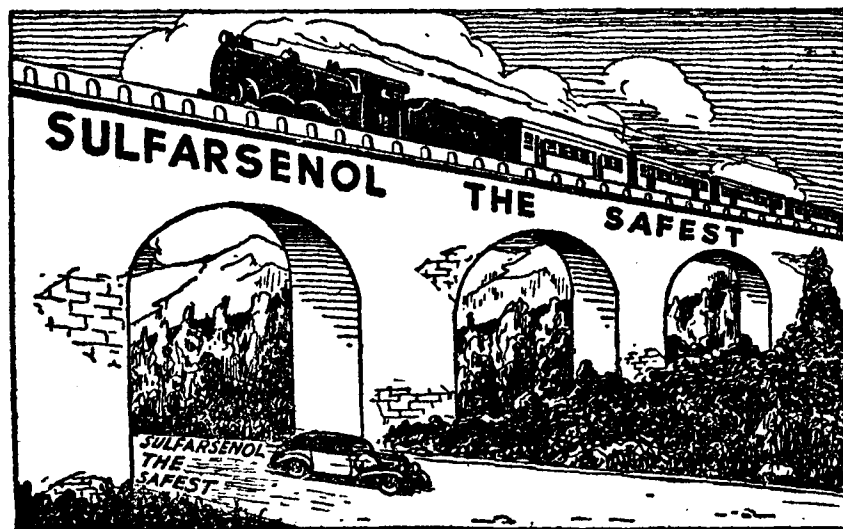
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