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Madras Medical Council Elections.

MY DEAR READERS,

The Elections are now in full swing and you have to do your duty by voting for the following six candidates solidly. We trust that our brethren in the Northern Circars will respect the spirit of the resolution passed by the Andhra Medical Conference by voting only for one amongst the five candidates contesting the Elections.

KAMATH, Vaderbet Rama	X
KRISHNA MENON, Vellore	X
NARAYANAMURTI, Kasthuri	X
SAMUEL, Murtaty, Jonathan	X
SHENNAPPA SHETTY, Thonse	X
SRINIVASAN, Pattukota Sundaram	X

V. RAMA KAMATH.



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Original Articles

PULMONARY TUBERCULOSIS

MEDICAL TREATMENT

By

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HISTORICAL: Treatment of Tuberculosis has a chequered history. It assumed a scientific aspect only with the discovery of the tubercle bacillus by Kock. It was soon realised however that knowledge of the curative organism was not a sufficient basis for treatment, and in opposition to Kock, the importance of the constitution was stressed by several workers.

The influence of Rokitansky and Virchow tended to dissociate the clinical aspects of tuberculosis, and a pessimistic attitude developed amongst physicians which retarded the progress of therapy. 'Phthisis' (caseous pneumonia) was dreaded as much as cancer and was differentiated from the much more benign 'tuberculosis'. Though Bodington in 1840 was the first to preach the open air and hygienic treatment, its practical application came into force in Germany in 1855 through the initiative of Brehmer. He worked on 'Constitutional' rather than anatomical lines and thereby paved the way for an understanding of tuberculosis as a disease of the whole body.

By the beginning of this century the 'sanatorium movement' has spread to England. Only during the last two decades have a few sanatoria sprung up in India. Two factors have worked against the stressing of general bed rest in sanatoria; (1) the autoinoculation theory of Marcus Paterson on which was based the treatment by graduated rest and exercise and (2) the introduction of diversional and occupational therapy on the ground of contracting the damaging psychological effects of prolonged rest. In the last few years as the result of work in sanatoria in Holland, the importance of complete and prolonged rest until healing has been promulgated and has been increasingly realised.

Tuberculin treatment popularised far too early against Kock's better judgment, has failed to get a stronghold because it was based on too much bacteriological and too little clinical observation. Gold therapy introduced by Mollgaard is in vogue at present.

Medical treatment of tuberculosis can be considered under the following headings:—

1. Prophylaxis.
2. General Management.
3. Diet.
4. Climate.
5. Institutional treatment.
6. Chemotherapy.
7. Tuberculin Treatment.
8. Symptomatic treatment.

PROPHYLAXIS: There has developed during recent years a justifiable tendency to separate tuberculous infection from tuberculosis disease. Hence prophylaxis has to be considered in its two aspects namely prevention of infection and prevention of disease production.

Spread of infection is due to (1) tuberculosis in cattle and the consumption of milk (2) contact from human cases of phthisis and (3) chance infection from consumptives outside the home.

Though milk infection owing to the wide prevalence of tuberculosis in cattle is a great problem in western countries, it is not so here in India as Soparkar has shown that Bovine tuberculosis is extremely rare in this country. The problem of course is solved by the prevention of sale of milk obtained from tuberculin positive herds or by the pasturisation of milk before being sold. In India the milk is usually boiled before use. Hence even if the milk is infected there is no danger.

The principles governing the reduction of the human reservoir of the tubercle bacillus include (1) diagnosis of early tuberculosis, (2) isolation in institutions until the sputum is free from bacilli (3) segregation of "good chronic" patients in village settlements and (4) isolation of advanced cases in hospital or 'homes.'

The Granchar system of isolation of infants born of tuberculous parents in a non-tuberculous environment is adopted.

in France, Belgium, Sweden and Norway. This is not practicable in all countries as it involves considerable expenditure.

B. C. G. vaccination is yet another method of prophylaxis which is extensively tried in European countries though it is not in vogue either in England or America. The vaccine contains live tubercle bacilli which have been attenuated by passage through animals and by subculturing for a long period of years. Kayne, after an exhaustive study of the work on B. C. G. vaccination being carried out in Europe, concludes that (1) it produces a very partial immunity, which is only likely to play an effective role when it is combined with avoidance of contact for some time after vaccination and (2) the duration of immunity varies considerably but is generally between six and twelve months.

Prevention of disease in infected person is more difficult and more debatable. There are many among infected persons whose natural resistance to the tubercle bacillus is so great that they will not develop the disease even under highly unfavorable conditions. At present there exists no means of recognising this large section. Since most adults are infected special measures cannot be applied to busy individuals. The problem of prevention of disease in adults is mainly a question of general hygiene with particular reference to nutrition and well ventilated adequate accommodation. The position is different however with reference to children. Something definite can be done for them. The infected infant must be regarded as diseased and the infected young child in poor general health must be regarded as a candidate for tuberculosis. It is for the management of these potential sufferers that institutions like preventoria are necessary.

Preventive work will be greatly facilitated if periodic clinical and radiographic examinations of the chest can be done in tuberculosis out-patient clinics.

GENERAL MANAGEMENT: Even at the very beginning the question will arise whether a patient should be told that he is

tuberculous. He must be told otherwise great harm might be done. More than anything else the patient will not resort to proper treatment if the truth is hidden from him.

The line of treatment suggested to any one patient should depend upon his social and economic condition. There is no point in advising a poor patient to go to a distant climatic resort, since he cannot possibly afford the same.

The preliminary instructions given to a patient should be as regards his personal hygiene. For treatment to be successful it is necessary to enter into the smallest details of every day life, and most patients appreciate it greatly. If the patient is under domiciliary treatment his house must be visited and the location of the sleeping room should be attended to.

He must be asked to cease working, an advice more often honoured in the breach than in its observance particularly by those who exhibit few constitutional symptoms. As mental and physical rest are very important items in treatment during the initial stages, a show of firmness on the part of doctor is necessary.

There is no need to restrict bathing if the patient is accustomed to the same when healthy. Only when the patient is having high temperature, and when complete rest is ordered, should sponging be resorted to.

As soon as diagnosis of disease of the lung is made, the patient covers his chest with layer upon layer of flannel so much so that he is practically borne down by the weight of his own clothing. This is altogether unnecessary specially in a tropical country like India. One single light wear is all that is required. Woollen clothing is preferred to cotton because the former absorbs moisture better. The patient should also be advised to change his clothes if they became wet due to perspiration.

Smoking in itself may not have deleterious influence on the tuberculosis disease

process. If a patient is a habitual smoker, it is better to allow him to enjoy that luxury. But those who can possibly avoid it may be asked to do away with the habit as the smoke might irritate and thereby increase the cough.

DIET: The very name 'consumption' indicates that wasting is the main symptom of the disease. Hence it is but natural that efforts to combat this wasting should be made. Till recently, a tendency developed to overfeed the patient to make him put on weight. In many cases it was unsuccessful owing to digestive troubles. In others though they put on weight while resting, the weight was lost soon after the patients were allowed to move about. The modern practice therefore, is to give the patient an adequate well balanced diet with sufficient vitamins and no more.

There is no restriction of diet in tuberculosis; nor is any particular form of diet more suitable than others. Diet as everything else should be individualised. The patient must be allowed to take his usual diet supplemented by those ingredients which are deficient in his dietary. Two pints of milk, a couple of eggs and some fruits over and above his ordinary diet will be adequate even for a vegetarian.

VITAMINS: Cod liver oil has always been popular. The work of Harris and Ellman has shown that in pulmonary tuberculosis, the body seems to be wanting in Vitamin C. To combat this deficiency orange and tomato juice may be prescribed. Or the synthetic preparations of vitamin C may be substituted.

Insulin has been tried by Baurer, Nyiri Ellman and others to improve the nutrition of the tuberculous patients. Small doses of insulin have been found to be useful in correcting anorexia and malnutrition. In some cases it has a tonic effect indicated by improved strength and a subjective spirit well-being.

There have been two attempts to prove that diet therapy may influence the response of the body to the

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tubercle bacillus. Two diets that of Gerson and latter that of Saverbruch-Herrmannsdorfer have been introduced. Both are based on the belief that in tuberculosis a state of compensated acidosis exists. It is agreed that in surgical tuberculosis remarkable improvement is obtained sometimes by having recourse to diet therapy. But not so in pulmonary tuberculosis.

GERSON'S DIET: No salt, preponderance of fresh vegetables, reduced carbohydrates, avoidance of animal proteins administration of cod liver oil.

SAVERBUCH DIET: Diet should be poor in salt, protein and carbohydrates. Raw foods like fruits, salt conserves, smoked or spiced meat, fish, soups and extracts are forbidden.

CLIMATE: Though only fresh air is no longer considered a specific remedy for tuberculosis, ventilated environment is essential for preserving good health and therefore for recovery from any illness. Besides exposure to fresh air is invigorating. It has also got its psychological effect. Hence treatment in the open air is indicated in all patients suffering from phthisis except in the very advanced cases.

The climatic treatment of tuberculosis is as old as the disease itself. Hippocrates advised change of climate and Celsus advised sea voyages. But climate is not a specific remedy; for no climate prevented the development of tuberculosis or caused its cure. The factor that matters most is the mode of treatment, not the climate. The physicians who have experience of treating the patients in different altitudes maintain that the results are the same everywhere. Obviously everything else being equal a favourable climatic environment is to be preferred. Besides a change of environment acts as a new stimulant which reinvigorates and calls for the dormant vital forces of the patient.

There appear to be no definite indications for high altitudes but generally, advanced disease, exudative types, and presence of

complications like emphysema are considered to be contraindications. The decision must in the end depend on the type of institution available, the financial status of the patient etc.

Medium altitudes also have no special indications. Patients with cardio-vascular and renal complications dwell at the sea level. Desert districts are particularly popular in America, and the belief in their beneficial influence has caused the migration of many families. On the whole it may be concluded that climate is of little importance in the treatment of phthisis and therefore it should be the last consideration.

SANATORIUM TREATMENT: The tuberculous patient is usually an individual who has not led an exemplary hygienic life, as is shown by his natural resistance being lowered by errors of his ways of living. Hence he must be guided to healthy mode of life. He must also be cared for in such a way as to prevent dissemination of the disease. In a sanatorium the patients are under the constant supervision of specially trained physicians who methodically guide them to follow a definite regime of life. The rules to be followed are rigid and the discipline more or less military in character.

As originally contemplated, sanatoria were practically convalescent homes where in ambulant cases only, be they incipient or those discharged from hospitals after treatment, were admitted but now-a-days they are of the nature of hospital sanatoria where in-patients at all stages are admitted and all the forms of medical and surgical treatment are adopted.

The educational value of sanatoria are beyond question, teaching as they do the rules of healthful life. At least out of this consideration, I am of opinion that all tuberculous patients, should be given the opportunity of being inside the sanatorium even if it is only for a short period. No doubt absence of sufficient number of institutions is a practical difficulty.

CHEMOTHERAPY: Various metals and dyes have been recommended sporadically in the treatment of pulmonary tuberculosis. At present only gold preparations are recognised as belonging to the therapeutic equipment of phthisis. Mollgaard's chemical and experimental work on Sanocrysin (an inorganic compound of gold with the formula $\text{Na}_2\text{Au}(\text{S}_2\text{O}_3)_2$) led to its first clinical trials by Secur. The histo-chemical work of Koppenhoffer has shown that in infected animals injected with gold, the metal was found in the epithelioid cells of the tubercles in the lung and also in the reticulo-endothelial cells of liver and spleen. Hence it has been suggested that the action of gold is like that of a catalytic activator of the reticulo-endothelial system.

Indications for gold treatment are: (1) recent lesions of an infiltrative exudative type, (2) incipient tuberculosis without definite localised physical signs, (3) bilateral lesion where one side is but slightly affected, the more affected side being controlled by pneumothorax and (4) bilateral exudative lesions where collapse therapy is impracticable.

The toxic reactions of gold treatment divided into three types such as small rise of temperature, slight transient albuminuria and fleeting erythemas are regarded as focal reactions. If any of these reactions are noticed the next dose is to be given after the disappearance of the symptoms of reactions. Gastro-enteric disturbances, dermatitis and persistent albuminuria indicate metallic intolerance and call for a longer interval before the same dose is repeated. Repetition or multiplicity of intolerance symptoms indicate cessation of treatment.

In the King George Hospital, Vizagapatam the routine of dosage followed is to give .01 gm, .01 gm, .05 gm, .05 gm, .1 gm, .1 gm, .2 gm, .2 gm at weekly intervals. The last dose of .2 gm is continued weekly until the patient has had 3 to 4 gms altogether. Before and after each injection the urine is tested for albumin.

Severe constitutional symptoms, very extensive disease, renal disturbances, intestinal disturbances, hepatic inflammations, advanced cardiovascular disease and recurrent haemoptysis, must be considered as contraindications for gold therapy.

TUBERCULIN: The enthusiasm which followed the announcement of the preparation by Kock was soon followed by intense disappointment. Tuberculin treatment is still adopted by a very limited number of workers. It is indeed a double edged weapon. It either ameliorates the condition or makes it rapidly worse. Its dosage and its indications cannot be judged with any degree of accuracy. It has no practical use in pulmonary tuberculosis. It may be tried with some benefit in glandular tuberculosis and tuberculosis of the eye. The dosage differs with different workers.

Symptomatic Treatment.

FEVER: Fever is a distinct sign of activity of the disease. During the early stages fever demands rest in bed not so much as a cure but as a preventive against the extension of the process in the lung. Many advanced cases of phthisis with quite extensive lesions in which there is a rise of one or two degrees in temperature daily, need no acute treatment because they have become habituated to the sub-febrile condition. A sudden rise of temperature in chronic phthisis demands rest in bed till the temperature subsides.

In active phthisis, temperature demands treatment. Pneumothorax when feasible is the best method of controlling temperature in active phthisis. Except when the temperature is very very high, antipyretics, hydrotherapy, etc., are not necessary in tuberculosis. When antipyretic medication is indicated a small dose of aspirin is as good as any other drug.

COUGH: In the early stages patients complain of hacking unproductive cough, very disturbing at night. In such cases sedatives and antispasmodics are indicated.

ed. When the expectoration is very viscid, it is better to give expectorant like ammonium carb, squill and vinum ipecaa. Sometimes disturbing cough can be relieved by inhalation of creosote menthol and eucalyptol. In some cases nothing but opiates give relief. Perhaps the least harmful preparation amongst opium derivatives is linctus codein. In advanced cases where nothing can be done to cure or avert the disease, considerable relief from the disturbing symptom of cough can be given to the patient by giving him repeated doses of linctus codein or heroine.

NIGHT SWEATS: When these are excessive and tiring and exhausting to the patient, 1/100 gr. of atropin in tabloid form can be given in the evening. Zinc also can be tried. Sleeping in a cool room with sufficient but no excessive clothing must be enjoined.

HÆMOPTYSIS: When there is only slight hæmoptysis, blood not exceeding a teaspoon for the whole of 24 hours, the patient if he has been ambulatory must be put to bed for a week. Calcium should be given by mouth. Nothing else will be necessary. In moderate hæmoptysis wherein patient spits up to about

four ounces of blood in 24 hours, the patient no doubt must be ordered to rest in bed. Seven grains of calcium chloride in 15 c.c. of distilled water should be given intravenously. Hæmoplastin 2 c.c. can also be given along with it subcutaneously. If bleeding does not stop, the injections may be repeated as often as is necessary. Morphia is not indicated except when the patient is very restless and nervous.

In severe hæmoptysis perhaps the best treatment will be to collapse the offending lung completely if possible. Failing that all the usual methods of treatment adopted for moderate hæmoptysis must be tried. Some have reported favourable results from subcutaneous injection of oxygen.

The routine followed in the King George Hospital, Vizagapatam, is to put the patient to bed, reduce the intake of fluids, allow only semisolid light food which will be non-irritating to the pharynx and give by way of medication 8 c.c. of 1 per cent. solution of Congo Red intravenously. This can be repeated in 12 hours if necessary. My experience with this treatment during the last five years has been very satisfactory.

NOTICE.

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**THE PERFECT
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THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.

By

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The various surgical measures adopted in the treatment of pulmonary tuberculosis are referred to by usage under the term "collapse therapy." This term includes the following procedures:—

- (1) Artificial pneumothorax.
- (2) Division of adhesions. (Also called intra-pleural pneumolysis).
 - (a) Closed method.
 - (b) Open method.
- (3) Paralysis of the phrenic nerve.
 - (a) Temporary.
 - (b) Permanent.
- (4) Sceleniotomy and sceleniectomy.
- (5) Multiple intercostal neurectomy.
- (6) Oleothorax.
- (7) Extra-pleural pneumolysis.
 - (a) Apicolysis and plombage etc.
 - (b) Extra-pleural pneumothorax.
- (8) Extra-pleural thoracoplasty, partial or complete.

It is very important to realise that tuberculosis anywhere in the body is a localised manifestation of a generalised disease. Tuberculosis of the lung is no exception to this statement. The introduction of sanatorium treatment about 50 years ago was in itself a great advance, but it effected improvement in the health of the patient by dealing with the generalised aspect of the disease. Any improvement of the local condition *i.e.*, the lung condition was the indirect result of improvement in the general condition. The introduction of collapse therapy gave a weapon by which the local condition also can be treated. This effected a further great improvement in results. In the very advanced stage, the result of unaided sanatorium treatment is very bad.

With the best of sanatorium treatment, ten years' survival of patients is at the most 15%. On the other hand, the result of collapse therapy used in conjunction with sanatorium regimen is immensely better. A patient with a cavity in the lung 2 c.m. in diameter with bed rest and sanatorium treatment has poor chances of living at the end of 5 years. But when collapse therapy is properly utilised, the advantage is proved by the figures quoted below, which relates to the cases treated in Madanapalle Sanatorium.¹

The authorities traced all patients who stayed at least a month in the sanatorium between the years 1916—1930. There were 2,604 such patients. Of these they were able to collect information about 1,695 patients. The following is the 5 year survival rate as assessed on these 1,695 patients.

	Among those discharged as arrested. %	Much im- proved	Im- proved.
Stage I ...	90.3 living ...	81.8	79.2
Stage II ...	84.4 ...	71.8	49.2
Stage III ...	... 58.4	25.1	
Out of 1,695 898 are alive <i>i.e.</i> 53%			

The above statistics speak for themselves on the value of collapse therapy added on to sanatorium measures. It must be remembered that ever since 1930 not to speak of 1914—tremendous advance has been made in collapse therapy measures; the results therefore are bound to further improve hereafter.

Collapse therapy including pneumothorax is now being applied to about 20 % of all cases of tuberculosis of the lung. There is reason to believe that with increase in hospital accommodation and trained staff, the percentage of cases getting some form of collapse therapy or other will reach 50 to 80%. This is the

opinion of John Alexander who is a well known authority on the subject.² In India now, the total number of tuberculous patients is assessed to be 2 millions. The number of beds available in the whole of India is only 2,800, a mere drop in the ocean.³

These tuberculous patients are not only suffering from tuberculous toxæmia, but the cavities produced in the lung due to sloughing of lung tissue is almost always secondarily infected. There is very severe septic absorption due to this. The aim of the various surgical measures is to close these cavities by collapsing the lung. The beneficial effects that are brought about by the collapse of cavities are due to several important factors.

(1) **REST:** A normal lung, when collapsed, will take the shape as it were of a contracted balloon round the hilum. In diseased conditions, due to mediastinal fixation and adhesions, it collapses more or less as a vertical partition. Such a lung is not absolutely without respiratory function. All the same, diseased portions do get a relative rest. Everybody knows in tuberculosis anywhere and so in lung too, rest if secured in some measure is a highly important curative factor.

(2) Normal lung tissue is in a state of elastic tension. The centrifugal pull of lung tissue and radiating scar tissue around the cavity keeps it open. Collapse of the lung eliminates or diminishes the elastic tension that is antagonistic to scar contraction. The walls of the cavities in a collapsed lung fall together and heal. Indeed, this elastic relaxation, is said to be the more important mechanism than even rest. Consequently, some suggest the term "Relaxation Therapy" as the better alternative to "Collapse Therapy."

(3) With the abolition of cavities, spaces where septic matter can collect are obliterated. Septic absorption and its evil effects are, therefore, abolished or minimised.

(4) Chances of broncho-genic spread of tuberculosis to other portions of the lung are lessened.

(5) Haemorrhage in the lung is checked.

(6) Anoxaemia and lymph stasis are said to occur and favour the production of fibrous tissue.

Let us now pass on to a consideration of the selection of cases that can profitably be subjected to one or other of the various measures of collapse therapy already mentioned. Every case of tuberculosis is not fit for collapse therapy when first seen. A case that is fit, may be fit for one measure, but not another. Healing of a tuberculous process depends a great deal on the patient's resistance. The various measures at our disposal can only just help him to that end. With this point of view, pulmonary tuberculosis can be classified into two types, the "exudative" and "the productive". The exudative type of disease is acute in onset not unlike that of pneumonia: here, there is a massive or virulent infection counteracted only by a poor defence. There is no evidence of or proof of formation of fibrous tissue. The productive type of disease has on the other hand an insidious onset and a chronic course. There is a relative absence of exudate although there are present the typical tubercle and tuberculous granulations. Here, the infection is by a few bacilli which are opposed by a strong defence and are therefore likely to be overcome. There is production of lot of fibrous tissue. In the X-Ray picture of this condition the trachea is pulled over to the affected side.

The exudative type is the case fit for induction of artificial pneumo-thorax. Let us define the indications here more elaborately. If the necessity for Collapse therapy for a particular case is accepted, pneumo-thorax must be the first method attempted. There are very few valid exceptions to this rule. All other measures of Collapse therapy are a continuation of, or alternative to, artificial pneumo-thorax. The alternatives are to be thought of where induction of pneumo-thorax has been attempted and failed or the produced pneumo-thorax does not improve the patient's condition for one reason or another. Having thus put the indications

in general terms, I shall mention what they are:

(a) A progressive unilateral exudative type of tuberculosis.

(b) All unilateral cases with cavitation.

(c) Selected bi-lateral cases.

(d) Cases of Hæmoptysis. This may occur not only in cases with cavitation but also in early acute stages. In the acute stage, there is congestion all round the focus of infection, a manifestation of allergic phenomenon. Haemorrhage as a result of this should be considered as a fortunate event, because it forces the patient to seek medical advice early in the disease. Hence, the statement "bleeders do well."

Hæmorrhage in chronic cases is due to aneurysmal dilatation of an unsupported blood vessel running across a cavity and erosion of the wall by infection. The aim of collapse therapy in hæmoptysis is not merely to stop hæmorrhage. Hæmoptysis is rarely the primary cause of death. So, what is more important is to prevent extension of the disease to the other parts of the lung through aspirated or coughed up blood and infected matter. If a patient is given a lipiodol injection into one lung and screened, the shadow cast by it will be seen in the lung; if now the patient is made to cough the lipiodol will be found to be thrown not only into the other parts of the same lung, but also into the opposite lung. In the same way any collected blood clot after hæmoptysis will, when the patient coughs be thrown into other parts of the same lung and opposite lung. The clot may contain tubercle bacilli and other organisms and implant the infection wherever it is thrown. Collapse of the lung prevents this danger.

(e) Where there is pleurisy with effusion. Here some are against routine aspiration and air replacement, and want it reserved for those cases where there is X-ray evidence of disease in the lung underlying the effusion.

Dry pleurisy where the lung is known to be affected, should also be an indica-

tion. Delay here means running the risk of adhesion which may prevent the successful formation of a pneumothorax that may have to be attempted later. Indeed, for this reason, if pneumothorax is decided upon in any case, it should be done earlier in the disease than later.

There are some contraindications to pneumo-thorax therapy.

These are:

(1) Lesions diffused or disseminated throughout both lungs;

(2) Complications which seriously interfere with respiration as emphysema.

(3) Where there is additional serious disease elsewhere as chronic heart or kidney disease.

(4) Patients above 50 are not suitable subjects.

THE METHOD OF INDUCTION OF PNEUMO-THORAX.

In 1820, a Liverpool Physician James Carson suggested the use of pneumo-thorax in the treatment of pulmonary tuberculosis. The suggestion passed unnoticed till an Italian Physician Carlo Forlanini put it to the practical test in 1888. He got good results and the profession as a whole began to adopt the method more and more afterwards.

In the early days of pneumo-therapy, experiments were tried with various gases as N₂, O₂, CO₂ etc. But it is now known that the air is the most convenient to use and is the only thing. Any type of apparatus may be used if the administrator is familiar with any particular one. The two-bottle method (Lillingston-Pearson pattern) is a good one. The area to be chosen for introducing the needle must avoid extensively affected areas and sites of big cavities, as can be judged by clinical findings and X-Ray. Where there is no contraindication, the 4th or 6th intercostal space in mid-axillary line is as good as any other. The patient lies on his healthy side arched over a pillow with affected lung uppermost. The area is cleaned with tincture iodine and draped

with a towel with a central hole. The operation has to be done with as much ritual regarding aseptic technic as any major operation. A laxity in this very important process may mean the introduction of sepsis.

The area to be injected is infiltrated with half percent novocaine from the skin down to sub-pleural tissue. The pneumo-thorax needle connected to a monometer is introduced with the stop-cock closed. One reaching the pleura, the stillette is drawn back, and the stop-cock opened and the needle gently pushed down. The advent of free oscillations in the monometer synchronising with the respiratory excursions shows the needle is in the pleura. This registers a negative reading, for example minus 12, minus 8 centimetres of water. Now air is slowly let in, noting the pressure and finishing with a slight negative pressure as minus 1. In the initial induction, about 252 to 300 C. C. of air is let in. Only when the pneumo-thorax is induced, with the idea of checking haemoptysis can more air up to 500 C. C. can be introduced. Pushing in air up to the point of getting a positive pleural pressure is very dangerous and unjustifiable. If the monometer does not oscillate freely with the respiratory excursions, do not push in air. It means the needle is not in the pleural cavity. If the reading registered is positive, the needle has entered a closed cavity and here again no air should be pushed in. If 2 or 3 attempts at different places show no free pleural space, the procedure may have to be abandoned, and other measures of collapse thought of. In fact, taking all cases of tuberculosis of the lung, only in about 10 per cent is the induction successful. And again, only in half of these, is the ultimate result good. However, in no given case can one say beforehand with surety judging from X-Ray or otherwise that the pneumo-thorax will succeed or fail. Where one confidently expects to meet with a free pleura, induction may fail. Where X-Ray show lot of adhesions and induction is expected to be well nigh impossible, a free pleural is sometimes met with to the pleasant surprise of all.

An empty stomach is preferred before

the initial induction, a full stomach may be an additional source of embarrassment should dyspnoea occur. After induction the patient must be at rest in bed for half an hour at least. He must not be allowed to walk back to the ward, but must be taken in stretcher, as otherwise sudden deaths have occurred. To avoid these dangers, it is best to induce the pneumo-thorax in the patient's bed itself.

The time for refill depends on the reaction that occurs after induction. If reactions are severe, refill must be delayed. If the reaction is nil or very little, refill is usually performed on the 3rd day, introducing about 50 C. C. more than what was given at the first induction, and the process repeated in a straight-forward case on the 5th, 7th, 9th, 11th, 15th and so on, increasing the intervals, to weekly, fortnightly, then monthly. Where there are facilities, the quantity of air to be introduced and the intervals between refills have to be controlled by X-ray or screening. Sometimes the lung expands most unexpectedly and rapidly even if it had remained collapsed till very recently. Re-expansion of the lung should not be allowed till the disease is quiescent for a long time. If the lung is allowed to re-expand beforehand, the visceral and parietal pleura fuse, and re-induction of pneumo-thorax is almost always impossible. The beneficial effects after successful induction are:

- (1) the cough and quantity of sputum lessen, though there is an immediate increase of the sputum just after the induction,
- (2) the sputum becomes tubercle negative,
- (3) septic absorption diminishes, temperature keeps nearer normal and general condition improves,
- (4) haemoptysis, if present, is arrested.

The complications that may arise during induction of pneumo-thorax are:

- (1) Air embolism.
- (2) Pleural shock. (Some consider this as due to air embolism).

(3) Puncture of lung and spontaneous pneumo-thorax.

(4) Surgical emphysema.

(5) Injury to vessels.

The complications during A. P. treatment are pleural effusion, which may be simple or tuberculous. Some effusion occurs in nearly 50% of all pneumo-thorax cases. This is not of much importance in itself, but if it gets secondarily infected it is very unfortunate. These cases do badly and may require severe measures as total thoraco-plasty in the end by way of treatment.

How long to Continue the Pneumo-thorax?

The answer to this is not easy. Roughly it is 3 to 4 years from the day on which the collapse was made complete and not from the day of commencement of pneumo-thorax. It is no use stopping refills the moment the patient feels fit. It is sure to bring disaster, but a wage-earning patient, mainly by necessity and partly by ignorance stops away.

Allowing the lung to expand, is not without danger. The cavity or cavities may reopen and the whole trouble restart. What is worse, the cavity may tear and empyema may result. Because of these dangers, some say so long as the patient is well and able to get on with his work, do not allow the lung to expand. At any rate, if it is known that the whole of the collapsed lung was functionally useless, and contained many cavities, it is only common sense that the lung should be kept permanently collapsed.

Before allowing the lung to re-expand in a favourable case, phrenic evulsion is better done beforehand on that side. This is because the healed, contracted lung will not be able to re-expand to its original size without danger of getting its cavities opened or torn.

I have discussed so far cases where artificial pneumo-thorax has been successfully and usefully induced. But earlier I also said that the production of Pneumo-thorax may not be possible

in every case attempted. Even when successful in a more or less degree, the expected closure of cavities and amelioration of symptoms may fail to occur. This failure is due to the presence of adhesions between the pleural layers. Adhesions almost always over-lie a cavity. They prevent the cavities from closing down. A partial collapse may cause some immediate improvement in the patient, but the ultimate prognosis in such cases is bad unless the collapse is completed by division of adhesions or other measures.

This takes us on to the next measure, namely division of adhesions. When an adhesion is interfering with the therapeutic efficiency of a Pneumo-thorax, it must be divided, and the sooner this is done the better. "There is often a tendency not to consider such measures for several years when the fortunate survivors having wasted several years of their life and a large part of their financial resources, come under review." 4

That an adhesion preventing collapse must be divided is accepted by all now. But the indication for division of adhesions must go far beyond that. A few years ago, it was accepted that adhesions should only be divided if they were certainly holding and maintaining a portion of lung from which sputum containing tubercle bacilli was being coughed. "Most experienced workers now agree that even though cavities do not appear to be present in the lung held by adhesions, and although symptoms are absent or minimal, it is not safe to leave such a lung incompletely collapsed if study of the earlier films shows that adhesions are controlling areas of what was active disease. Cavities are lengthened and converted into slits and become hidden but are still present unhealed and remain a menace. Exudative disease is prevented from resolving and encouraged to spread while everlasting tugging and pulling is transmitted to it by each act of respiration and coughing. In every such case where adhesions are present and prevent perfect collapse of previously diseased portions of the lung, an attempt should be made to divide them even in the absence of

positive sputum or indeed any sputum at all.

It should not be misunderstood that any adhesion that is present must be divided merely because it is an adhesion. Many adhesions are doing no harm and need not be interfered with. To cut them would be merely meddlesome. The adhesion that is nearly always a menace, however harmless it may appear to be, is the adhesion which is overlying a portion of what has been demonstrated to be actively diseased lung tissue."⁵

The correct time to divide an adhesion is usually between 3 to 6 months after the induction of pneumothorax. By this time, if adhesions are of such a nature as to have yielded and permitted collapse of cavities, they would have done so. With the idea of making adhesions yield, some used to try the effect of positive pressure pneumothorax. This is a dangerous procedure. The adhesions may tear off, breaking through the lung tissue with the resultant dangers. During the period of 3 to 6 months waiting, vascular adhesions tend to become avascular thus making its division safer later.

*Technique of Operation.*⁶

There are two methods of cutting adhesions. (1) by closed method, and (2) by open operation. In the open operation, the chest wall is opened and the bands of adhesions are reached and divided under direct vision. This is a serious undertaking, and the dangers are considerable. Majority of surgeons are very much against it. The closed method is the one usually adopted.

Preliminary Considerations: The adhesions must be previously localised by X-ray taken in different views or by stereoscopic pictures. In some cases, it may be possible by careful fluoroscopy and rotation of the patient to localise the adhesion. The site of the introduction of the thoracoscope must be worked out as far as possible before the operation. It is not possible to say from X-ray films alone, except in very obvious ones whether an adhesion can be divided or

not. This can be decided only by thoracoscopic examination.

The patient should be given a refill of air shortly before operation, so that there is ample space for the introduction and manipulation of instruments without damage to the lung.

The operation is done under local anaesthesia. The area chosen for the introduction of the thoracoscope is infiltrated with $\frac{1}{2}$ per cent novocaine, infiltrating all the tissues down to the sub-pleural space. A stab incision is made through the skin, and the trocar and cannula are cautiously introduced, trocar withdrawn and thoracoscope introduced. The thoracoscope is constructed on the principle of cystoscope and the view obtained is clear and a very wide area is well seen. The adhesions are carefully inspected and the feasibility or not of their divisions judged. Some require great care lest the lung be injured. When lung tissue extends out along the adhesion, it gives it a bluish instead of the usual creamy colour. Very close proximity to important blood vessels as the sub-clavian artery may preclude the possibility of dividing them. When the extent and thickness of an adhesion is uncertain, through a separate puncture a Maurer's hook is introduced, the adhesion palpated and its divisibility decided. Having decided that the adhesion can be divided, another puncture is made, trocar and cannula introduced, trocar withdrawn and the cautery introduced. The puncture should be so made that the cautery will be working at right angles to the line of adhesions rather than parallel to it.

The division should be made nearer to the chest wall than to the lung surface as a general rule. If there is any blood vessel seen running along the adhesion, it should first be coagulated by diathermy and then cut across. In some cases, where the lung tissue is close on to the chest wall, and the adhesion is short and thick, the adhesion can be enucleated as it were off the chest wall, making the base of the adhesion float up on a bed of infiltrated novocaine as recommended

and performed by Maurer. If the adhesions are too thick and there is danger of dividing the lung, the operation must be abandoned. In some cases, a thick adhesion is capable of division in stages. It is first cut through as far as it is safe. When re-examined after a few days, it is seen that the adhesion left uncut has stretched out and thinned, and the lung tissue has fallen away from the chest wall. The division can now be completed safely. Having divided the adhesions, the cannulae are withdrawn, and the puncture holes in the skin sutured and a pad strapped firmly over the area to prevent surgical emphysema.

The two cannulae method described above is better than the one recommended by Chandler, where through a single cannula both visualisation and division of adhesions can be performed. The difficulty in this latter method is that the thoracoscopic view is very much more restricted than in the former method and the manipulation of instruments also is also very much more difficult.

The operation of division of adhesions requires constant patience, care and skill. Granted these, the results of the operation have been very gratifying, and the reaction has been slight or negligible in all but a few cases. The various complications that may follow the operation are: injury to the lung, injury to vessels and severe haemorrhage, and serous effusion. The effusion may become tuberculous or secondarily infected.

PHRENIC OPERATIONS.

By paralysing the phrenic nerve of one side that half of the diaphragm is paralysed. This procedure has a distinct field of usefulness in selected cases of pulmonary tuberculosis. The operation was first suggested by Stuertz in 1911. The paralysed diaphragm rises up for half to as much as 4 inches in some cases and in a favourable case even more. The height to which it rises is largely governed by the presence or absence of adhesions and by the extent to which the muscle is deprived of its nerve supply. The rise of the dome into the thorax may continue

for 2 or 3 months as the muscle fibres atrophy. The extent to which the lung volume is diminished by this has been variously estimated as being from $\frac{1}{4}$ to $\frac{1}{3}$ of its total and upon this depends the degree of pulmonary rest afforded. Further, if there has been spasm of the diaphragm before, its abolition causes great relief to the patient. Morriston Davies says "the relief of such symptoms as pain, aching drag, tightness round the base of the lung, tachycardia, when the pericardium is involved by basal adhesions is amongst the most immediate results of hemidiaphragmatic paralysis. It may have considerable influence also on cough and sputum. That form of dry recurrent cough due to irritation of the diaphragm is completely abolished, the bringing of sputum is facilitated because of the expulsive force of the abdominal muscles acting directly on the lung and is no longer damped by the semi-rigid tonically contracted muscle."⁷

The indications for phrenic paralysis are:

(1) In basal tuberculosis as an addition or an alternative to pneumothorax.

(2) In certain apical lesions. The effect of partial collapse due to phrenic paralysis is not limited to the base. This is illustrated in some cases by the great diminution in size of cavities near the apex. Several observers have recorded the healing of apical lesions by phrenic paralysis alone.

(3) In cases of more generalised tuberculosis where artificial pneumothorax has been tried and failed or found incomplete and the case not suitable for thoracoplasty. The operation in some cases may be used as an alternative to division of adhesions that are holding out cavities during A. P. treatment.

(4) For the relief of symptoms such as pain, dragging cough and tachycardia.

(5) As a preliminary to thoracoplasty the number of lower ribs which require excision is lessened. Some Surgeons do a phrenic evulsion invariably before every case of thoracoplasty.

(6) As a preliminary to letting out a lung which had been kept collapsed by artificial pneumothorax. The reason for this has been explained earlier.

(7) Selected cases of haemoptysis.

The Anatomy of the Phrenic nerve: The phrenic nerve arises from the 3rd, 4th and 5th cervical nerves (anterior primary divisions), the main contribution being from the 4th. The nerve runs downwards and inwards in front of scalenus anticus muscle behind the pre-vertebral layer of cervical fascia. At the root of the neck it crosses in front of the subclavian artery, enters the thorax running posterior to the innominate vein. It descends along the lateral border of the mediastinum anterior to the root of the lung to reach the diaphragm, where it breaks up into branches, pierces it and supplies it from the undersurface.

The accessory phrenic nerve arises from the 5th cervical and descends into the thorax either in company with the nerve to the subclavian or separately. It usually joins the phrenic nerve at some point between the 1st rib and the root of the lung. According to Alexander an accessory phrenic nerve is present in 20 to 30 per cent of all persons. Other authorities believe it is present even more frequently. A simple division of the main phrenic nerve does not sever these important contributory fibres; the results of the operation are apt to be ineffectual unless the accessory phrenic nerve connections are also removed at the same time by avulsing the main nerve or by deliberately searching out the accessory connection and dividing them.

Temporary versus permanent paralysis: The nerve can be temporarily or permanently paralysed. Temporary paralysis has one very great advantage *viz.*, if after paralysing the diaphragm the expected benefit does not occur no permanent damage to the lung has been done, for the paralysed diaphragm recovers in the course of 3 to 6 months. Again in a case where one is not sure whether or not paralysis of the diaphragm will favourably influence the condition

one can see the effect of temporary paralysis and if this proves beneficial the paralysis can later be converted into a permanent one.

Technique of the operation: The operation is usually done under local anaesthesia. A horizontal incision is made, about an inch long, and an inch above the clavicle, the middle of the incision being a little posterior to the posterior border of the sterno-mastoid. The platysma is divided, the posterior edge of the sterno-mastoid is defined and drawn medially, the omohyoid is freed along its lower border and drawn upwards. The posterior border of the scalenus anticus is defined. Now the phrenic nerve may be seen lying in front of the scalenus anticus shining beneath the prevertebral cervical fascia. Before dividing this fascia, it is a great advantage to thus see the nerve and localise its position. This is important and it is of great help, for if the fascia is divided beforehand and the nerve is not evident every strand of fascia may resemble a nerve and cause confusion. In very many cases the nerve is easily identified. In a difficult case possible abnormal positions of the nerve must be remembered. In some cases the phrenic nerve may pierce the muscle or it may cross it higher up or lower down than normal. In some the phrenic nerve runs along the outer border of the scalenus, closely bound with the supra-scapular nerve till just above the clavicle the latter nerve runs abruptly outwards and the phrenic nerve abruptly inwards.

Having found the nerve if permanent paralysis is decided upon the nerve is avulsed as follows:—Inject 1% novocaine into the nerve and cut it across between two clamps. Then by a combination of traction and twisting on the distal end of the nerve 10 to 12 c. m. of it is pulled out and cut across. This procedure is necessary to be sure that the connections of the accessory phrenic nerve are also removed. If not the accessory phrenic nerve connections may remain and if it is responsible for a greater proportion of the nerve supply to the diaphragm as sometimes happens, the ensuing diaphragmatic

paralysis may be imperfect. However, sometimes in the process of avulsion of the nerve there may be severe pain or transmitted pulsation noted. In such cases the avulsion may be stopped and the exposed length of nerve cut away. To be doubly sure under such circumstances, the nerve to the subclavius is then found and also search is made for any possible accessory nerve bundle arising from the surface of the brachial plexus and running downwards and inwards towards the phrenic. A short length of each of these nerves is excised.

In temporary paralysis the main phrenic nerve is crushed with a mosquito haemostat and the accessory phrenic nerves crushed or cut.

The following accidents which though very rare have been recorded in these operations:—Injury to subclavian vein, internal mammary artery, the phrenic artery, injury to the lower part of the brachial plexus, sympathetic nerve etc.

SCALENIOTOMY AND SCALENECTOMY.

These have been used by some Surgeons in combination with phrenic paralysis, some have proposed these operation to supplement thoracoplasty and extra-pleural pneumolysis or a pneumothorax with apical adhesions. Scaleneotomy has been recommended as a means of making easier the resection of the anterior portion of the 1st rib during a subsequent thoracoplasty.

MULTIPLE INTERCOSTAL NERVE PARALYSIS.

By this the intercostal muscles are paralysed permanently by resection of the nerves or temporarily by crushing or injection of alcohol. By this respiratory movements are lessened on the operated side and a degree of pulmonary rest has been procured. It has been noted that a month after operation the circumference of the chest on this side had decreased 4 c.m. and the circumference of the contra lateral side had increased 1.5 c.m. The operation benefits a small group of patients for whom pneumothorax has

failed because of pleural adhesions and for whom prolonged bed rest and phrenic paralysis have been found to be inadequate. If thoracoplasty is contra-indicated in these patients for some reason as bilateral lesion etc., intercostal neurectomy may benefit some of them. The real indication is in this type of patients or to prepare patients for thoracoplasty that will obviously be necessary to close large pulmonary cavities but for whom thoracoplasty at the time contra-indicated. Intercostal neurectomy should not be used as a last resort for desperately ill patients.

OLEOTHORAX.

5 per cent Gomenol in olive oil has been used in varying quantities up to 200 c.c. injecting the solution into the pleural cavity in certain selected cases. The procedure is not quite popular and is largely given up now.

EXTRAPLEURAL PNEUMOLYSIS.

Tuffier in 1891 conceived the idea of separating diseased areas of the lung together with the overlying adherent parietal and visceral layers of the pleura from the thoracic wall, and keeping the diseased area collapsed by maintaining increased pressure through various means in the extra-pleural space. His attempts to keep this area collapsed by putting in air failed; he later limited his operation to collapsing the cavities in the upper part of the lung and maintained the compression effect by the insertion of a graft or foreign substance apicolysis. Various substances as muscle, (portion of pectoral muscle pedicled at one end) lungs of fat, paraffin etc. were used. These methods have not been very successful. Especially when paraffin was used there was a great danger of it eroding into the cavity and fistula with the bronchus resulting. These complications resulted in great mortality. Further though there were improvements in some cases there was reason to believe at least in some cases the apparent closure of cavities was due to the dense shadow cast by the paraffin hiding the shadows of the cavities. These operations are falling into disfavour.

However air is being used again to the cavities closed down by creating a pneumothorax in the extra-pleural space. Tuffier originally failed in his attempts because (1) the lung was not freed sufficiently well *i.e.*, an epiolysis was performed where a pneumolysis should have been done. (2) the refills to prevent air being absorbed were not frequent enough. (3) the air was not kept under high + V. E. pressure about + 20, that we now know to be necessary.

This renewed operation of extra-pleural pneumothorax has received an extra impetus in its rebirth and is being employed on a larger scale. The indications for the operation as at present understood may be defined as follows:—

(1) In patients where though permanent collapse is desirable, they are too ill for a thoracoplasty.

(2) In patients where though permanent collapse is desirable the disease appears too mild to justify a thoracoplasty.

(3) In children and young people where thoracoplasty will probably lead to severe scoliosis.

Technique of the operation: The operation can be done under local anaesthesia and has been done more often under local than under general. In nervous patients gas and oxygen or cyclopropane has been used. An oblique incision 5 to 6" long is made in the line of the 4th rib posteriorly and 4" of the rib removed. This seems to give best access necessary. Sometimes 3, 5 or even 6th has been resected knowingly or unknowingly and has not made the operation difficult. Once the rib bed has been exposed the course of anatomical layer is found *i.e.*, the immediate extra pleural zone. In the normal chest there is an extremely delicate layer of areolar tissue between the parietal pleura and chest wall. In disease this becomes thick and well defined and is then called endothoracic fascia. All stripping is done between this layer and parietal pleura. If not, bleeding is troublesome and even dangerous. The operation field is kept illuminated with a

specially made malleable holder carrying a light at its end. The field must be kept dry. The dissection is carefully proceeded with a swab on a holder and in places with the help of the finger. If the adhesions at the apex are very firm and stripping is difficult, it must not be broken through. The operation is better abandoned. For in such cases disastrous complications have arisen. The wall over the cavity sloughs and extra-pleural space gets infected which is a dangerous complication.

Where the separation proceeds smoothly it is necessary to free the lung well all around—exactly to the same extent as the lung is freed by an artificial pneumothorax in the absence of adhesions. In other words it must be separated not only from the lateral chest wall but also from the apex and from the mediastinum as far as the hilum from above from front and from behind. After proper strip the wound is closed in layers.

A pneumothorax needle is now inserted just above the wound and a refill 200 to 400 c.c. of air given until the pressures are just positive. The patient is returned to bed and placed in the sitting position. A second refill is given some six or seven hours later, a third after another 12 hours and then daily refill for a few days. This frequent refill in the 1st 24 hours and later is very necessary and I know of some failures where the reason was partly due to not observing this necessity. A radiogram is taken on the day following the operation and about every 3rd day for the next fortnight. The spacing and pressure of subsequent refills are decided by the radiographic appearances and the rate at which pressure falls between the refills. An attempt is made to keep the pressure at +14 to +20. It is very important that the lung should be kept down from the very beginning, as if it expands in the 1st few hours it may be impossible to obtain a good collapse again.

In some cases, after complete separation of the lung from the chest wall the cavity is held open by the septum of pleura that separates the intra and extra

pleural pneumothorax. This barrier has been divided a few days later (or even at the same time perhaps) and very good results have been obtained, the cavities collapsing completely.⁹

The post-operative complications that have arisen in some cases are:

(1) Haemorrhage.

(2) Late effusion.

(3) Infection of the cavity with tubercle or secondary organisms. These complications have been seen but the good results obtained have been far greater. It is too early to say what the ultimate results of these cases will be. But the immediate results have been very gratifying.

EXTRAPLEURAL THORACOPLASTY

This is the most serious of the undertakings. In this operation depending upon the extent of the cavities, varying lengths of the ribs are excised. Artificial pneumothorax and temporary phrenic paralysis are revocable measures. Thoracoplasty is a permanent and irrevocable measure forced upon the surgeon, because other measures of collapse therapy have not been possible or have been tried and failed.

For success in this operation, a proper choice of cases is necessary. The ideal type of case is the one with unilateral infection of the chronic type with multiple cavities. Here there is good evidence of fibrous tissue formation, that is the productive type of disease mentioned before. In X-ray, trachea is found pulled over to the affected side. Having these factors in mind, Archibald enunciated "Do not operate if the trachea is in the middle line" meaning thereby that these cases won't stand this operation unless there is demonstrable evidence of scar formation.

From the surgical point of view, these patients can be divided into three groups:

(1) Those that are recovering without any special treatment. Obviously no operation is required here.

(2) Those that are rapidly going downhill. No surgery is possible here.

(3) There is a type of case which deteriorates and then improves in a sort of step-ladder fashion. It is this type of case that should be submitted to operation at a time when the patient is in the up-grade. That he is in the up-grade will be shown by an increasing or at least steady weight, a normal or slightly raised temperature or pulse, and by blood tests. If the sedimentation rate is over 40, he is unfit.

Sauerbruck originally gave the indications for thoracoplasty as follows:— (1) Unilateral disease. (2) fibrotic lesions, (3) an apyrexial patient, (4) good general condition. The indications as modified today are: unilateral fibro-cavernous disease, in a patient otherwise reasonably fit and well. (2) Similar cases in which only a contra sive collapse is possible. (3) Tuberculous empyema with underlying unilateral disease when conservative measures as frequent pleural aspirations and washouts have failed. (4) Repeated haemoptysis failing to be controlled by other measures.

Contra-indications for the operation:— (1) Age below 18, (severe scoliosis occurs in these cases.) In these patients nowadays, one will perform extrapleural pneumothorax. In patients above 50, mortality is very high. Best results are obtained in cases between the ages of 25 and 35.

(2) Local pulmonary lesions. Fluffy progressive lesion, bilateral disease, associated with bronchiectasis etc.

(3) Important tuberculous disease elsewhere which is rapid and progressive. This statement requires some modification. Laryngeal and abdominal tuberculosis are not contra indications. With the collapse of cavities, the coughing up or swallowing of sputum is lessened. The sources of infection for these conditions are minimised and the patients improve after collapse therapy. In fact, laryngeal tuberculosis and abdominal tuberculosis must be considered as indications for collapse therapy.

(4) Important extra-pulmonary non-tuberculous disease as severe cardiovascular or renal disease, any wasting disease of the amyloid type. Diabetes once considered a contra-indication is no longer so, Insulin having robbed it of its many dangers.

This operation of extra-pleural thoracoplasty has gone through various modifications and several improvements in technique but still remains a serious undertaking.

In the earlier stages the portions of rib resected were either too small to cause collapse of cavities or to compress the lung sufficiently to arrest the disease, and the general results were unsatisfactory. Without going into details of the older methods a brief mention of important facts learnt by experience from the success of the operation can be mentioned.

(1) The operation must be done in two or more stages. These patients have suffered from long continued toxæmia and the heart is in a condition of myocardial degeneration. If too much is attempted in one stage, mortality is very high. The important thing to remember is that the operation can be stopped at any stage and must be stopped the moment the anaesthetist thinks it is dangerous to proceed. I have seen cases where just the skin and muscles were incised when the anaesthetist said the patient's condition was unsatisfactory. The Surgeon at once closed up the incision and put him back to bed. In this particular case Thoracoplasty was being attempted to close a tuberculous empyema cavity. Nevertheless it emphasises forcibly what I want to stress. The patient was given a blood transfusion and the operation was reattempted 5 or 6 days later. The time spent in going down to the ribs was very little now. The edges of the old incision had just to be splayed apart. The time thus saved does count in these serious undertakings. The Surgeon removed just one rib at the first sitting. So on this operation went on in stages and in the end there was a live patient considerably better. Had only the

Surgeon first carried on thinking he can just remove one rib he would have removed a rib and the patient also. I have heard this Surgeon stress more than once that if the condition of the patient demanded it the 12 ribs may have to be removed in 12 stages.

(2) For the same length of ribs removed it is absolutely essential to remove that portion posterior to the angles than anterior. For the same length of ribs resected, with posterior resection you get much more relaxation i.e., much more collapse.

(3) To get good relaxation you must remove the 1st rib totally. Removal of 3 or 4 c.m. of it is not sufficient. The 2nd and 3rd ribs also are removed entire and lower down, you remove less and less as indicated.

(4) If long lengths of several ribs are removed at a time, not only is shock great, paradoxical movement occurs and this produces dyspnoea and spreads tuberculosis by bronchial spread. If you have to remove whole of 4, 5 & 6, remove posterior part first. The scapula covers it. Later remove the anterior part in a separate stage.

(5) The intervals between operations should not be unduly long, for these the periosteum regenerates and produces irregular relaxation. To delay regeneration, the periosteum is painted with 20% formalin by keeping a gauze soaked in the solution in the rib bed for a minute or two.

(6) The improvement of Carl Semb and Holst. Semb demonstrated the fact that in normal individuals bands pass from Sibson's fascia to apex of pleura. Three particularly strong ones pass between brachial plexus, and subclavian vessels. His operation consists in upper stage thoracoplasty with division of these bands in a plane well above the pleura in neck.

(7) If maximum degree of collapse is required the 12th rib must be resected at the last stage.

(8) A preliminary paralysis of the diaphragm is indicated in most cases to reduce the size of cavities after which the general condition of the patient normally improves. It also assists the collapse by diminishing the danger of aspirating pus into the lower lobes and limits the extent of rib resection to the lower stages.

(9) In doing operation in stages, it is better to proceed from above down. The operation can be stopped where you want, but if begun from below you have to proceed and remove the whole lot. Otherwise the upper ribs stick out and prevent proper falling in of the chest wall.

Anaesthetic: Any anaesthetic which makes the patient cyanosed and dyspnoeic is bad. Chloroform being a cardiac poison is best avoided. The anaesthesia must be such as can be induced smoothly, and recovery must be quick. Therefore regional and local anaesthesia is best. Semb does all his operations with local anaesthesia.

If general anaesthesia is used cyclopropane which can be administered with 85% oxygen which can be administered only with 15% oxygen. But cyclopropane is not yet available in our country and gas and oxygen is the next best.

TECHNIQUE.⁶

Position: "The patient lies on a flat operating table across an air cushion which is placed under the good side and so gives a convexity towards the side of the operation which tends to open up the intercostal spaces. Upper arm hangs forward over the side of the table which is then tilted into 15° Trendelenburg position so that any secretion from the collapsing lung will come into the trachea rather than into the opposite lung and be coughed up."

Incision: The incision should be in the form of inverted starting from the 7th cervical spine level running vertically down and turning forward below the angle of scapula to the mid-axillary line. It should not cross the middle line but

should be 1" medial to vertical border. In doing operation in stages incision must be so planned, so that a sufficient area of skin is left between each so as not to interfere with blood supply. The incision must be free and in the upper stage is such that the scapula falls forward without the necessity for forcible instrumental retraction which increases shock.

The ribs resected extend from the tip of the transverse process to as far forwards as the extent of the disease requires. It is not necessary to remove the transverse process of vertebrae and thereby get access to head and neck of ribs. This increases the shock and dangers of the operation without compensating advantages. The resection of the 1st rib should not be attempted till the 2nd and 3rd have been removed. On the operation table itself patient is given per rectum 1000 c.c. of 5% glucose in tap water at 110° F. The wound is closed by one continuous catgut suture for the muscle and a second for the skin and drained for 24 hours with a rubber tube through the most dependent portion of the incision. The side of the chest must be firmly strapped over the dressings to prevent paradoxical movements of the decostalized chest wall. Before the patient leave the operation table the patient is encouraged to cough up any sputum that has been squeezed out of the lung.

Post-operative considerations:

(1) These patients bleed a great deal at the operation, the incision being through thick muscles and long. So as much as 40 per cent of the patients require a post-operative transfusion. If haemoglobin is below 60 per cent transfusion is done as a routine.

(2) Patient is best kept in an oxygen tent, the concentration of oxygen being at a minimum of 65 per cent. The nasal catheter used for administering oxygen must have the tip seen below the uvula, otherwise it is no good. The catheter is best fitted on to a spectacle frame.

The ribs left in upper thoracoplasty are forced to fall in further by the application

of weights with bags containing lead shot, and in lower by encouraging the patient to lie on the operated side across a pillow in such a way that the weight of the body is taken by the anterior ends of the cut ribs.

Two weeks after operation, a thoracoplasty belt is provided till the chest wall is fixed by regenerated bone. In some clinics these measures are thought to be unnecessary.

The operation must be always followed by 4 to 6 months of sanatorium treatment.

Post-operative complications :

(1) Heart failure administration of glucose rectally or intravenously, oxygen tents, blood transfusion given slowly etc. are the measures utilized to counteract it.

(2) High fever, 107° and so on due to auto-tuberculinization. Some deaths have been due to this cause.

(3) Pneumonic complication.

Drainage of cavities :

Where all measure of thick walled cavities have failed and they are the source of severe secondary infection, they have been drained posteriorly in some cases.

Collapse therapy in bilateral disease :

An increasing number of cases have been successfully subjected to bilateral selective pneumothorax or selective pneumothorax on one side and phrenic avulsion or limited thoracoplasty etc., on the other side. Bilateral extrapleural pneumothorax also may be possible. The results of recorded cases so far have been very encouraging. More than a third of

the lung on each side should not be collapsed.

CONCLUSION.

Collapse therapy has established its value in the treatment of pulmonary tuberculosis. Where it is indicated, the earlier it is effectively applied the better the results. Not only the patient's condition improves enormously but also a good proportion of them get cured. Its value from the point of view of the prevention of the spread of disease to other people is even greater; from the point of view of the community this is a very important consideration. I feel sure that collapse therapy will find rapidly increasing application in our country very soon with enormous benefits being derived thereby.

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- (5) Brompton Hospital Reports, Vol. VII, 1938: Thoracoscopy and cauterization of adhesions, R. C. Brock.
- (6) Chapters on Thoracic Surgery by J. E. H. Roberts in Modern Operative Surgery, Vol. I Grey Turner.
- (7) Surgery of Pulmonary Tuberculosis—Moriston Davies—British Medical Journal, April 12th, 1930.
- (8) Brompton Hospital Reports, Vol. VII, 1938—Extrapleural pneumothorax—J. E. H. Roberts.
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NOTICE.

Subscribers of The Medical Practitioner are requested to note their registered numbers appearing on the postal wrapper of the Journal while corresponding with the Managing Editor.

ADDENDA AND CORRIGENDA.

(From Page 221 to Page 240)

Page.	Para.	Line.	For.	Read.
221	At the top		After 'Andhra Medical College' insert 'Vizagapatam.'	
"	1	4	bacillis	bacillus
"	1	4	Kock	Koch
"	1	6	curative	causative
"	1	8	Kock	Koch
"	3	9	Delete 'the' before treatment.	
"	3	12	contracting	counteracting
"	4	2	Kock's	Koch's
222	2	4	tuberculosis	tuberculous
"	5	3	bacillus	bacillus
223	Part para.	1	Insert ' ; ' after 'told.'	
"	6	2	tuberculosis	tuberculous
224	Part para.	2	Saverbruch	Sauerbruch
"	2	1	"	"
225	1	2	sporadically	empirically
"	3	2	divided into three types such as small rise	divided into three types. Small rise
"	3	13	intolerance	intolerant
"	7	10	acute	active
"	8	5	Delete 'very' after 'very'	
226	1	2	Delete 'and' before 'tiring'	
"	2	8	Insert 'the' before 'patient.'	
227	At the top.		Surgical Registrar	Department of Surgery
"	"		Insert * at the end of the heading after the word 'Tuberculosis' and insert the following foot note :	
			* Abstract of lectures delivered to post-graduates under the auspices of the "All India Tuberculosis Association" in October 1939 at Madras.	
229	4	10	After 'early' insert 'on'.	
"	5	6	top	stop
"	7	5	formation	induction
"	15	1	pneumo-therapy	pneumo-thorax therapy
"	15	4	Delete 'the' after 'that' and 'use', and delete 'and is the only thing.'	insert full stop after
230	1	46	a free pleural	a pleural space
"	2	2	a full stomach	as a full stomach
"	3	3	If reactions are severe	If reaction is severe
231	7	1 to 3	Delete from " Before allowing the lung to re-expandon that side "	and insert " It is better to do a phrenic avulsion beforehand, and then allow the lung to re-expand.
"	8	4	earlier I also	earlier it was also
233	1	7 to 10	much more restricted than in the former method and the manipulation of instruments also is also very much more difficult.	much restricted and the manipulation of instruments is more difficult.
235	6	7	Delete ' through various means '	
"	"	14	apicolysis	—" apicolysis"—
"	"	16	lungs of fat	lumps of fat
"	"	20	of it eroding	of its eroding

Page.	Para.	Line.	For.	Read.
235	6	20 to 21	and fistula with the bronchus resulting	and causing a bronchial fistula
"	"	25	at least in some cases	that sometimes
"	"	28	Delete 'shadows of the'.	
236	1	2	Insert 'keep' before 'the cavities'	
"	"	6	epiolsis	apiolysis
"	6	9	Delete 'necessary'	
"	"	10	Insert 'rib' after "6th"	
"	"	14	'course of'	'correct'
"	"	28	proceeded with a swab	proceeded with, with a swab
"	7	8	Insert 'and' after mediastinum.	
"	8	2	refill 200	refill of 200
"	8	11	'some failures..... necessity'.	some failures due to not observing this.
"	8	22	Insert comma after 'as'	
237	1	2	Delete 'in some cases'.	
"	4	2 to 3	These complications have been seen	These complications have occasionally occurred.
"	5	2	In this	In this,
"	6	6 to 7	Insert full stop after 'formation', and delete 'that is the productive type of disease mentioned before'.	
"	11	1	Saverbruck	Sauerbruch
"	"	9	slecive	slective
"	14	7	lessened. The	lessened; thus the
"	"	9	Insert full stop after 'improve' and delete 'after collapse therapy'.	
238	1	3	Insert 'and' before 'any'	
"	3	2	rib	ribs
"	"	7	Insert comma after 'methods'	
"	"	8	Delete 'from the success of the operation'.	
"	"	2	For these	for then
"	"	7	in the rib bed	on the rib bed
239	4	3	oxygen which	oxygen is best as against N 2-0 which
"	5	4	so	thus
"	"	5	which tends	and tends
"	6	2	inverted	inverted "J"
"	6	7	vertical	vertebral
"	7	23	leave	leaves
240	2	1 & 2	Underline both the lines.	
"	3	1	Insert semicolon after 'Heart failure.'	
"	5	1	Complication	Complications
"	6	1	Where all measure.....	Where all measures of collapse of thick walled cavities have failed and the cavities are the source of.....
"	Last	1 & 2	Collapse therapy.....	Collapse therapy has established its important place in the treatment of pulmonary tuberculosis.
"	"	Last	Insert full stop after 'benefits' and delete 'being termed thereby.'	
"	Ref.	No. 9	Insert 'Reports, Vol. VII, 1938' between "Hospital" and "extra."	

THE Medical Practitioner

Vol. XI]

APRIL, 1940

[No. 7

MEDICAL COUNCIL OF INDIA ELECTION AND ITS LESSONS.

The news of the result of the Poll relating to the election held in this Presidency for the return of a candidate to represent the registered practitioners in the Provincial Register who possess recognised qualifications or medical qualifications granted by a British Indian University were received with mixed feelings by not only the concerned electorate but by all medical practitioners in the Madras Medical Register. Such of the practitioners whose qualifications are recognised by all the Provincial Medical Councils in India but not by the Medical Council of India have been asking a pertinent question, "If the registered practitioners whose qualifications were granted by British Indian Universities could be the electors for selecting one amongst them to be their representative in the Medical Council of India why should not the medical licentiates be the electors being those who were granted qualifications by the British Indian Governments? They add, "that the M.B.B.S., degree of the Andhra University granted before December 1938 is still not recognised. Yet the medical graduates of the Andhra University who passed out of the Andhra Medical College earlier than December 1938 could be electors. On the same principle why should not the medical

licentiates also be the electors even if their qualifications are not recognised by the Medical Council of India?" Can there be anything else to demonstrate the outrageous and as scandalous disharmony, in the principle employed to qualify and disqualify registered practitioners to exercise their franchise, whose names are found in the Provincial Medical Registers? The anachronism is ludicrous and the absurdity of the principle is plain when it is known that it is possible for a medical graduate of the Andhra University to contest the election relating to the Medical Council of India even though this graduate is not recognised by that Council if his M.B.B.S., degree has the hall mark dated earlier than December 1938. One such Andhra Medical Graduate was nominated as a candidate along with the two graduates of the Madras University and our information is that he had to withdraw as he found that the electors minded persons and not principles. The medical profession in the Presidency lost indeed a very good opportunity to demonstrate the unwisdom of the framers of the Indian Medical Council Act. The Andhra graduate must have withdrawn from the contest not being sure of the support of the Madras graduates as even the graduates in Andhra Desa were asked by a resolution moved by the District Medical Officer of Kistna in his capacity as the President of the Kistna District Medical Association on 20-3-1940, to vote for a Madras graduate. It was a rude shock for us

to hear for the first time the news of the withdrawal of the Andhra candidate from the lips of the President, Kistna District Medical Association himself. We felt the shock the more when Col. Shastri, the President promulgated yet another principle to his audience on 20-3-1940 a couple of minutes later than he announced the support for a Madras graduate by saying that the sitting member of the Medical Council of India had enjoyed five years term and an opportunity should be given to the another Madras graduate. We were on the scene and exclaimed within ourself why not that chance be given to an Andhra? We attended the meeting without any invitation and we could not even whisper what we felt nor could our whisper reach the chair, as we are oh a back bench the last in the order and could not even catch the familiar eyes of the Subsidized Rural Medical Practitioners who were present in large numbers, as our eyes were on their backs and the atmosphere was such that these practitioners could not perhaps move their heads one way or the other. The Andhra graduate if he was encouraged by the Kistna District Medical Association would have been able to aim at three principles, at one glance. The first two principles one relating to the conditional recognition of the Andhra M.B.B.S., degree and the other, the non-recognition of the qualifications of the licentiates, if pressed by the electorate would have brought honour to the Indian Medical profession and the third principle of five years tenure for each candidate would have satisfied the Andhra practitioners more than the author of that principle. We sympathise with the Andhra candidate who was forced to withdraw and who though, was well intentioned could not demonstrate his intentions for want of support by those whom he can all

his own and some of whom have begun saying uncharitably that this candidate usually contests elections but only to withdraw later.

As expressed in these columns last month, the two contesting candidates fought each other depending upon their individual strength and those who supported the one or the other did so quite nakedly and made personal grievances the planks to support the candidate of their choice. The methods employed were in some instances so repugnant as to come within the purview of the Indian Penal Code. To mention but one such instance, it has come to our knowledge that the medical agents of one candidate went to the electors putting on the guise as a friend of the rival candidate with the set purpose of securing the voting papers containing the votes for the rival and destroy the same. When it was possible to take advantage of communal bias it was done without mercy and the bias was made more heinous by making it appear that a candidate of a particular community had not the support of that very community. We were really aghast and were eager to know from at least two such young medical canvassers in the mofussil whether the rival of their candidate was really so bad as to deserve such a demonstration. For, it was very painful for us to see at least in one mofussil station that the worth of the candidate was weighed by communal balance. One such canvasser was rather indignant at our query not understanding its implication. Even the laymen were curious to watch the events relating to this election and one such layman enquired of us while on train as to why a retired Judge of the High Court took keen interest in the medical election and why also a co-operator who is a High Court vakil, we were puzzled and could not answer. Un-

fortunately the name of a retired High Court Judge is similar to one of the medical supporters of a candidate and not remembering this, we had to question the young medical canvasser in one station as mentioned above why the retired High Court Judge took keen interest in the election. He rightly answered that our information was wrong. We felt extremely sorry but could not express our sorrow to the young medico who promised to write to us on the subject and we expected we could apologise to him in writing but are disappointed till this day. We could not write to this doctor ourselves as we do not know his name. Journalistic ethics has been preventing us to write to others to know about his name.

The two candidates ought to have tried their strength mentioning to the electorate their programme for the profession, if elected. They failed to do so and depended entirely upon their personal strength and the support of their admirers some amongst whom got opportunities to wreak vengeance on personal disappointments. The Indian Medical Association which is making headway in this province ought to have taken the opportunity of this election and demanded from the candidates certain pledges in consonance with the resolutions passed by the All-India Medical Conference last December relating to the amending of the Indian Medical Council Act, 1933 so as to bring honour abroad and efficiency at home to the Indian Medical Profession. The Kistna District Branch was the only one whose President and not the candidates addressed the Branch in the way mentioned by us above.

If the candidates and their supporters mind principles and not persons, the elections are occasions to educate the electorate and not to

create destructive rivalry as was demonstrated in the last election. From our experience of political elections we warn the supporters and canvassers of the candidates to medical council elections that they should not lend their support to persons who have no principles to place before the electorate or else the personal feelings at times run so high as to be very detrimental to their future prospects in life whereas the rival candidates who are interested in themselves, forget their rivalry and become bedmates soon after the elections, to suit their purposes. But the enthusiastic supporters and canvassers remain enemies for the rest of their lives, a tendency which the members of the noble profession should eschew especially the young amongst them who are usually made tools for selfish ends.

We will be failing in our duty if we do not bring to the notice of the Government the unsatisfactory arrangements made by them relating to this election. The initial mistake was in their appointing the Surgeon-General as the Returning Officer. He is the Head of a department who has under his control over two dozen quasi official institutions in addition to the legitimate multifarious responsibilities of his own office. He is over worked and has to manage his office with the help of only one assistant. He is a touring officer who may be required anywhere at any time. Such an officer the Government selected to do the routine tedious work of a Returning Officer whose presence at his desk was imperative from the very next minute when the voting papers left his office. And when the voting papers come back from the voters it is the Returning Officer and nobody else that should endorse on the envelopes received by registered post, mentioning the time and date of

the receipt of such envelopes. This duty however unpleasant and tedious, is mandatory as could be seen from the following rule on the subject:

"On receipt of the envelopes by registered post containing the declaration paper and the closed cover containing the voting paper, the Returning Officer shall endorse on the outer envelope the date and hour of receipt".

We know as a matter of fact that the Surgeon-General, that is, the Returning Officer had to leave Madras during a portion of the period when the envelopes reached his office by post and may we ask the Government most respectfully whether a default in a mandatory rule could be legally condoned? In framing the rules on Medical Council elections, the Government seem to have forgotten that the word "Poll" has two meanings in the English dictionary, one implying, "voting at election" and the other indicating, "counting of votes". Ballot-Box was kept only one day in Returning Officer's room the Government applying the meaning, 'counting

of votes' for the word, 'Poll'. Whereas taking into consideration that there were over 36 percent of voters in the City of Madras, the Ballot Box should have been made available to the voters from the very day the Poll began and for this purpose the Government ought to have minded the facilities and convenience of the voters and applied the meaning, 'voting at election', to the word, 'Poll'. Where a word in the rules or a group of words are capable of being interpreted more than in one way, the voters and the candidates should be given benefit of the meaning which would not vitiate the result of the election. There are many other minor defects in the rules. The elections for the Madras Medical Council will be in full swing soon and we trust the Government will avoid repetition of the violation of the rules by all concerned. We shall revert to the subject of Madras Medical Council elections after the Poll lest we should confuse all concerned and make matters worse at this stage.

Madras Medical Council Elections.

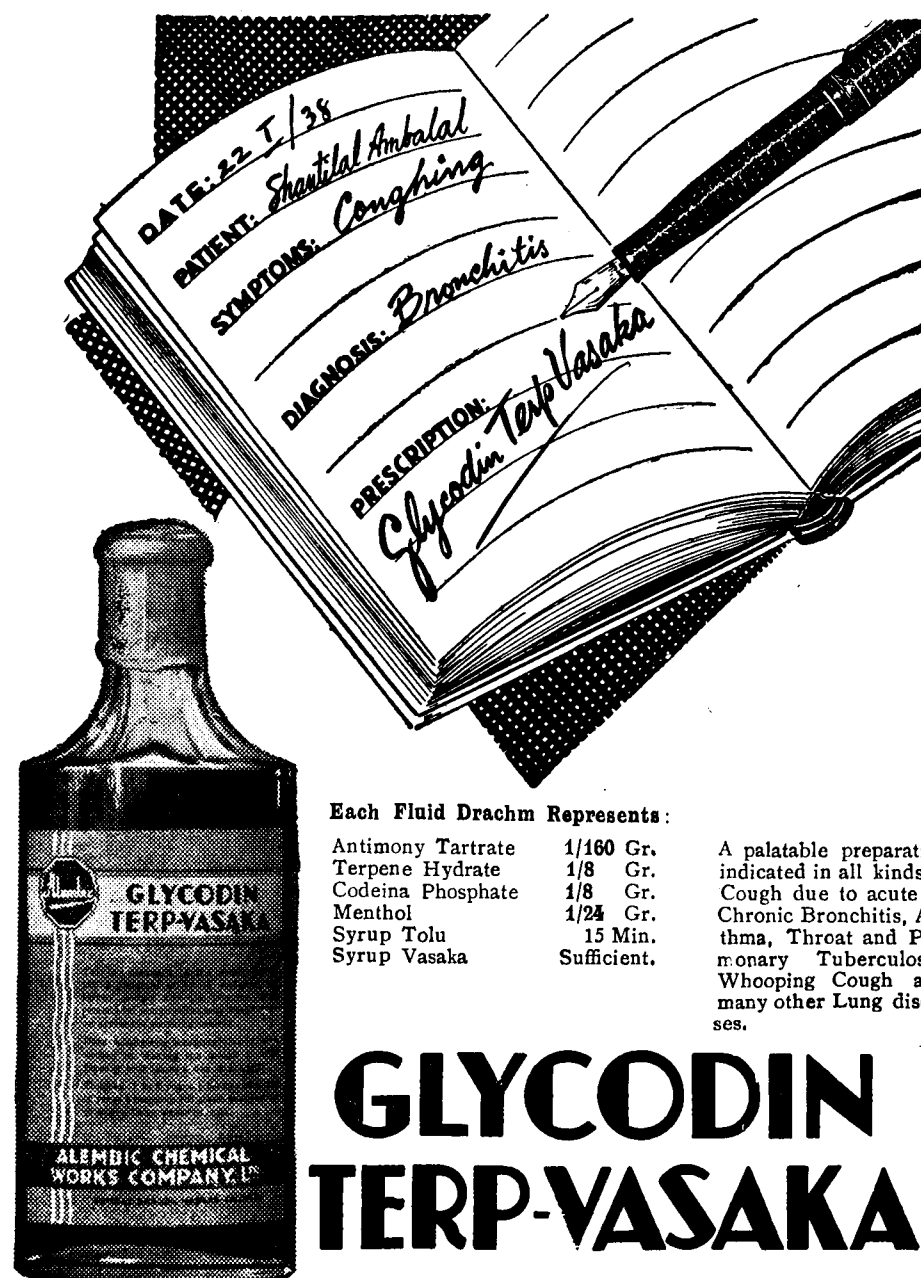
VOTING: By Post: From 1-5-'40 to 20-5-'40.

VOTING: By Ballot Box: On 21-5-'40 (From 11 a.m. to 4 p.m.)

OUR DEAR READERS,

We request you to read carefully the Postal Address which you must have received from Dr. Kamath. It is as interesting as it is educative. **Team work is certainly safer than the work of individuals.** So please record your six votes solidly in favour of the Six in the team. They represent all Districts, all languages, all castes and in fact every conceivable interest though **the interest of the team is the interest of the entire Medical profession.** The seventh successful candidate is sure to be one from the five candidates outside the team all from Northern Circars. It is earnestly hoped that our friends in the Northern Circars will make the best choice so as to enable the team to sing after the elections, "We are Seven", in spite of Election Heat.

Yours ever in service,
V. RAMA KAMATH.



The illustration shows a dark glass bottle of Glycodin Terp-Vasaka in the foreground. Behind it is an open book with handwritten notes in cursive. The notes include: "DATE: 22 I/38", "PATIENT: Shantilal Ambalal", "SYMPTOMS: Coughing", "DIAGNOSIS: Bronchitis", and "PRESCRIPTION: Glycodin Terp Vasaka". A fountain pen lies across the open book.

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Terpene Hydrate	1/8 Gr.
Codeina Phosphate	1/8 Gr.
Menthol	1/24 Gr.
Syrup Tolu	15 Min.
Syrup Vasaka	Sufficient.

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News and Comments.

Medical Council Elections: We trust the lessons taught and learnt by those who took very active part in the election to the Medical Council of India will not be repeated in the Elections now in full swing to return to the Madras Medical Council seven candidates out of eleven contesting. Seven candidates met in Madras on 17.3.1940, (three by proxy). Who they are and who amongst them later, changed his mind after the meeting of the Kistna District Medical Association was held on 20.3.1940, is now the common knowledge of the Electorate whom the team of six has addressed by post. We wish one and all who have to cast their votes in the election will patiently go through the Address and judge for themselves whether it is to the advantage of the medical profession to choose a team whose members have come out publicly and have placed before the Electorate their programme of work for the profession both in the Madras Medical Council and outside, whereas the four candidates outside the team of six have only mentioned the names of the various institutions they represent and they wish to add to the list the name of the Madras Medical Council. The fifth is modest enough and beyond announcing his candidature in the newspapers has not so far sent his manifesto at least to the electors outside the Northern Circars. It is evident that the electors outside the Circars have taken a sensible view of the situation brought about by the fateful resolutions on the Medical Council Elections announced by the President, Kistna District Medical Association at its meeting on 20.3.1940. They are intelligent enough to understand the purpose of the second resolution which made mention of a fourth candidate talking the Telugu language, and whose name appears in the team of six. The President got the first resolution passed before he mentioned the names of four candidates in the second resolution. The first resolution did not mention names but mentioned in general terms that there should be representation for three Telugu speaking candidates. Why was there a

necessity to contradict the spirit contained in the first resolution by the passing of a second resolution on the very same subject, Col. Shastri, the President of the Kistna District Medical Association must have known for himself. The electors in the Ceded Districts must have been feeling within themselves and asking a pertinent question, "Is it to throw dust into our eyes?" The three candidates out of the four candidates mentioned in Col. Shastri's second resolution are conspicuous by their silence on the issues raised by Col. Shastri's resolution and therefore the two resolutions which are cutting each other have assumed the importance of an election stunt. It is said by at least one candidate, a personal friend of Col. Shastri that Dr. Narayanamurti cannot represent the voters talking the Telugu language though he belongs to a well known Andhra family which played its part to build up the ancient Andhra glory. Dr. Narayanamurti's sin seems to be that he has settled in Madras following the footsteps of many of his elder Andhra brethren belonging to the legal and other professions. The most prominent amongst them lives in the very street in South Madras where Dr. Narayanamurti has his residence and this High Court Vakil has been declaring that half the City of Madras, perhaps including South Madras should be within the limits of the future Andhra Province. How could this Andhra candidate contesting the Madras Medical Council Elections, a personal friend of the High Court Vakil and his co-worker in the field of co-operation denounce a younger brother of his in the Medical Profession declaring that the latter cannot represent the Telugu speaking voters? Is it another stunt? We have to mention most reluctantly yet another most painful impression created in the minds of at least a few Andhra voters themselves who are reminded of communal interests unfortunately due to the politically associated atmosphere. They say "Why should all the five candidates contesting from the Northern Circars be Brahmins? Could not at least one non-Brahmin have courage to be one of the candidates from Northern Circars?" The team of six which till 20.3.40

was of seven did anticipate the psychology behind the query just mentioned and all other conceivable and yet to be conceived interests and formed a team to satisfy all interests. The team of six contains three Brahmins and three others representing other castes including one belonging to Christian community which community being in a minority position naturally feels nervous to associate itself in elections of a general type. The team of six could only choose candidates from amongst those validly nominated. This is the best they could. The last stunt now coming from the mouth of one or two candidates from the Northern Circars is, "Who is Dr. Kamath to select a team". Fortunately for the profession this query has been answered without any bias by Dr. Kamaraju of Cocanada in an appeal to his Telugu speaking brethren published in these columns last month. Since its publication we have been receiving chorus of praise from all quarters for the modest yet thought provoking appeal of Dr. Kamaraju. Dr. Kamath has never taken the role of a Dictator for any purpose much less relating to the Madras Medical Council Elections. We beg to be excused if we are forced to mention some facts about the elections as we cannot stand the most uncharitable statements made by some candidates with the set purpose of prejudicing the judgment of the Electorate. Out of five candidates now contesting from the Northern Circars four did approach Dr. Kamath requesting him to take each one of them in the team. It was difficult for Dr. Kamath to judge and make a selection. He consulted many Telugu speaking practitioners not at the top of the profession but amongst the rank and file as the latter and not the former are in need of democratic leaders to fight for them. Almost all whom Dr. Kamath consulted approved the name of one candidate to whom Dr. Kamath wrote requesting him to contest the elections. The following two letters will, it is hoped, help the Electorate to judge whether Dr. Kamath assumed the role of a Dictator or if the Telugu speaking candidate selected by Dr. Rama Kamath betrayed him and is now singing yet another stunt to cover his betrayal.

RAJAHMUNDRY,
Dated 14th February, 1940.

DEAR DR. KAMATH,

Thanks for your letter dated 12th February 1940. I am very much obliged to you for thinking of me in that connection. I am getting old, and I do not know whether I am any good. Anyhow I shall obey your command if you think it absolutely necessary. I will be at Madras on 3rd March when I shall meet you.

With kind regards,
Yours sincerely,
(Sd.) P. GURUMURTI.

VEPERY,
Madras, 20th February 1940.

DEAR DR. GURUMURTI,

I thank you for your kind and prompt reply and I am glad that you have made up your mind to take up my suggestion. I am not in a position to command you but I highly appreciate the spirit with which you have taken up my idea not in your personal interest but in the interest of a class of practitioners to which both of us belong if not in the interest of the medical profession as a whole.

3rd March, the day when you said that you would be here is Sunday and I shall be most pleased if you can be my guest that day. If for any reasons you cannot oblige me please let me know the time when I may expect you at home. I am not at present in active practice. I go to beach every morning for my bath and return home at or about 10-30 a. m. and for the rest of the time I shall be at home.

Yours Sincerely,
(Sd.) V. RAMA KAMATH.

Is it not a sad irony that elections are fought on stunts and not on facts especially by candidates who belong to an enlightened noble profession? If Col. Shastri did not interfere, which he did, not even minding the Government Servants' Rules of conduct, it would have been possible to have a non-contested election as at least one of the candidates told Dr. Kamath that he was prepared to withdraw in favour of the candidate who was originally in the team formed by the seven candidates if others in the field withdrew. The fact that Col. Shastri took personal interest in the elections by writing to other District Medical Officers and also Secretaries of District Medical Associations must have prevented the other candidates to withdraw. If The Medical Practitioner has been serving the Medical Profession fearlessly even at the risk of courting entries into Judicial

Tribunals (from one such tribunal its Editor creditably came out successfully in 1937) it was because its Editor identifies his body and soul with the body and soul of a profession which is declared by all to be the noble profession. The Editor has been always depending upon facts and figures and not on his personal views. This is why he has been able to do some work for the profession in the Madras Medical Council where there were occasions when he could not get a seconder for the resolutions tabled by him yet he was able to get the very resolutions passed later and at times unanimously too; as it was impossible for anybody to contravene established facts and figures. Therefore he felt a need of a team in the Medical Council of representatives having common ideals and can he be called a Dictator if he took the trouble of initiating the idea of team work to serve the medical profession which is at present in a most deplorable condition? The team of six is fighting the election on principles at issue and not on personal considerations and the intelligent and as enlightened electorate have to give their verdict not minding the personal interests of the candidates or of their agents who will be nowhere after the election. Is it too much for us to request the Electorate to mind principles and not persons and return the team of six which can stand the test of all interests though the team minds the interests of the entire profession while contesting the Elections and after the Elections will stand by the seven pledges mentioned in the Postal Address to the Electorate.

Suggestions to Improve Honorary System. Dr. K. R. Kini, M. B. B. S., Ex-Honorary Assistant Surgeon, Government Head Quarters Hospital, Mangalore who served in that capacity from 1.8.1933 to 30.6.1939 has submitted a memorandum to the Surgeon-General with the Government of Madras, narrating his experiences while working in the Mangalore Head Quarters Hospital. He says he was treated differently by four different Superintendents of the Hospital and their subordinates on the principles of personal equation, and finally makes some sugges-

tions for the improvement of the Honorary System of Medical Service, which suggestions have been published in the Correspondence Columns. We reserve our comments on the suggestions for the time being. All the same going through them cursorily we should say that the suggestions are worth the consideration of the Surgeon-General who is keen on stabilising the the Honorary System on sound basis. Knowing as we do the work of at least two committees appointed by the Government for considering the possibilities of enlarging the scope of Honorary System, we can say that the purpose of Dr. Kini cannot be served by any committee appointed by the Government. The best thing to do seems to us, is to call a conference of District representatives of the medical profession in a convenient place and to request the Surgeon-General to preside over the conference and submit the views of the conference to the Government through the Surgeon-General. From our experience we should say that till the post of the Surgeon-General exists, the members of the independent medical profession will gain much and lose very little if the Surgeon-General is taken into their confidence instead of treating him as an opponent of the Honorary System. Even during the short regime of the Congress Government which is decidedly the most democratic Government the country ever had and in spite of the enlargement of the scope of the Honorary System during its regime it can be said that neither the honoraries nor the independent medical practitioners are happier now than they were before the Congress came into power. On the other hand it is indeed very unfortunate that a large section of the general practitioners are now made to feel that the Honorary System as it is now worked, has brought them to the brink of starvation. We assure Dr. Kini and others who are interested in the Honorary System that we will keep our services at their disposal and also the columns of The Medical Practitioner. Soon after the profession gives its verdict in favour of the team of six which is now contesting the Medical Council Elections, all the members in the team representing regions consisting of

districts in close proximity, will co-operate with the profession and help to organise conferences the first of which may be one relating to Honorary System of Medical Relief.

A Grateful Patient. Our readers might remember that some years ago 'A Grateful Patient' arranged a function in appreciation of the services rendered to him by his private Doctor which function was published in the Newspapers. Later, another 'Grateful Patient,' a prominent Congress-man arranged a dinner in a public hotel in appreciation of the services rendered to him by a Physician and a Surgeon in a Government Hospital. Quite recently another 'Grateful Patient' made a gift of a ward to a local hospital which was recently opened by the Surgeon-General with the Government of Madras. The proceedings of the last two functions did appear prominently in the leading dailies of Madras. Sometime ago, the Ex-Premier opened a Cancer Ward of a local private institution and the proceedings of this function also appeared in the leading local dailies. Later, while commenting upon the conduct of a Retired Civil Surgeon who recently opened an X-Ray Institute making an announcement about it in the advertisement columns of a daily, he was found fault with by the Madras Medical Council and while doing so, the Council referred to a function of the opening of a ward in a private institution by the Ex-Prime Minister and expressed its opinion that such function should not find a place in the lay press. All the above functions were published in The Medical Practitioner but did not catch the eyes of the Registrar, Medical Council. The question now arises whether any proceedings of functions relating to a 'Grateful Patient' treated in a Government Hospital come under the code of Medical Ethics. Some say they do, and some say they do not. It is for the Medical Council to decide whether they do or do not. We trust the vigilant Registrar of the Medical Council will bring to the notice of the Council such questionable items of publicity for its opinion. The last function reported to

above has been brought to our notice by a Registered Practitioner who has made a special request to us not to divulge his name to anybody. All the same he wants us to do what he ought to have done himself and we cannot refuse to comply him with his request as The Medical Practitioner is the only journal in this Province, if not, in India which devotes its columns to the proceedings of the Medical Council.

Nominations to the Madras Medical Council: Unlike in the old Madras Medical Registration Act where no direction was given as to who should be nominated to the Council by the Government, the amended Act of 1938 has made a special provision how the nominations have to be made. The Government have to nominate three members as expressed by us in the Editorial appearing in the March Issue of The Medical Practitioner. The representation for the three Medical Colleges by election did not bring into the Council the Principals of the three colleges who must be considered the best persons to represent educational interest. In their places the next best persons would have been, in our opinion, the Professors of Medicine of these Colleges. Let it be known that we do not make any aspersions against the three candidates who have been returned uncontested by the three colleges. It, therefore, behoves the Government that one of the three nominated seats should be reserved for an educationist and another to a popular missionary and the third to a woman practitioner who may also represent the Anglo-Indian community as it will never be possible for any practitioner of this community to get elected from the General Constituency, even if such a practitioner happens to be a male. Till 1933 the Government did nominate a practitioner belonging to the latter community which served two interests, one communal, the other the interests of a class of practitioners belonging to the grade of the Military Assistant Surgeons. It will be certainly possible for the Government to find out from the Medical Register a woman practitioner who

can represent triple interests, one of the Anglo-Indian community, second the interests of the practitioners belonging to the fair sex and the last but not of least importance the interests of medical education. It is also possible for the Government to make the Council a bit international, if the missionary Doctor that is to be nominated is from outside the British Isles. We wish to repeat once again that the profession cannot recognise any interest except that of the scientific profession and if we have suggested representations, it is because of the sentiments which are at present

unfortunately associated in the daily life on account of politics.

Apology: We beg to be excused for not being able to publish the April issue of The Medical Practitioner in time. Due to our absence from Madras the 1st, 2nd and 3rd forms were printed by mistake before the corrections were attended to; consequently we had to issue an 'Addenda and Corrigenda' relating to the mistakes appearing in the above three forms. We regret the annoyance caused to both the authors and readers on account of a large number of mistakes appearing in the three forms.

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Extracts from the Memorandum on the working of the Honorary System and Suggestions for its Improvement.

SUBMITTED BY

DR. K. R. KINI, M.B.B.S.

After narrating his experiences while working as a Honorary Asst. Surgeon in the Government Head Quarters Hospital, Mangalore, for nearly six years, Dr. Kini sums up his suggestions as hereunder :

" Having given an idea of my experiences, I shall give my suggestions for the improvement and firm establishment of the system. I shall suggest the lines on which the system is to be worked in District Head Quarters Hospitals in general and only touch in brief on work in Taluk Head Quarters Hospitals, where conditions are different.

There are now a large number of independent medical practitioners trained in the Modern Methods. The Government should take full advantage of the talent.

There should be House Surgeons in every Head Quarters Hospital, the number depending upon the departments available. They should be paid and given free quarters wherever possible. They should be on duty by turns. These may be appointed for one year to 18 months, the last six months being the time when they should be asked to specialise in any particular line they wish to take up for their future, in case they wish to do so.

Honorary Assistant Surgeons may be divided into two categories, the junior and senior, the recruitment for the same being from the House Surgeons who have specialised. The junior officers should be paid Rs. 50 per month as an Honorary, to meet their conveyance allowance etc. These should be attached either to an Honorary Surgeon or Physician or a senior Assistant and where none of these posts exist, to the Superintendent or his

Assistant. They should be directed to pick up work, assist at operations, routine as well as emergent, and be held responsible for the proper maintenance of case sheets along with the House Surgeons. They may also be given independent work under the direction of the Chief. Their tenure may be fixed for five years. The senior Honorary Assistant Surgeons should be recruited from among the Juniors and their tenure should be five years. They should be given independent work, under the general control of the Honorary Surgeon or Physician or the Superintendent as the case may be. They are to be encouraged to do their work by themselves and get consultative or other help from their seniors, when necessary. Their tenure is to be five years. They may be paid a conveyance allowance of Rs. 50 per month. They are to spend at least three hours of their time in the Hospital. It is desirable that they should handle emergencies. At the end of five years, their tenure should cease. The entire staff should attend both the out-patients' and in-patients' work, the House Surgeons attending morning and evenings, the Assistant Surgeons in the mornings only.

By the end of his tenure, a Senior Honorary Assistant should be expected to show some work, in cases handled by him and relating to any particular subject of his choice, a report of which he is to submit annually with a consolidated report at the end of five years.

Honorary Surgeon or Physician is to be recruited from among the Senior Assistants, depending upon the work turned out. These may have a tenure of five years or more, depending again, upon the original work they turn out. If any officer works at any particular subject he should be encouraged to do so and given a longer tenure. He is to be independent and he should attend to emergencies on his admission days. One House Surgeon, one Junior Honorary Assistant Surgeon should form part of his unit. His Assistants are to assist

him at all work. He is also to attend out-patients on his admission days. He may be paid a conveyance allowance.

The question now arises as to how to adjust the service men into the scheme. The post of Superintendent and District Medical Officer will have to remain for some time more. With regard to the subordinate staff, a Resident Medical Officer of the grade of an Assistant Surgeon who shall also be the Assistant District Medical Officer, is all that is necessary. The Sub Assistant Surgeon places may be abolished. These two officers may be given some professional work, also, for the present.

As the scheme develops, the question of future changes may be decided. The service staff should as far as possible, be administrative, without any control on professional matters, except where their own wards and subordinates are concerned. Since the hospitals are owned by the state, there should be its officers to look after the property. Hospital committees consisting paid and honorary staff should be established. There may be a few laymen in it. Such a committee should such improvements to the hospitals and lay down policies.

Taluk Head-Quarters Hospitals : The Government have laid down the definite policy of running these hospitals with honorary staff. I suggest that wherever there is no Woman Medical Officer, two Honorary Assistant Surgeons may be appointed. The work should be divided between them according to their speciality. Each is to work in the mornings and be on duty, on alternate days. The idea underlying is that the honorary medical officer should have time at his disposal to attend to his private work, without sacrificing his public duties. Moreover, for surgical and other work, each may have the assistance of the other. They may be paid a conveyance allowance of Rs. 30 per month. For administrative purposes, as also to take care of the Government property, a lay manager may be appointed. This officer may be under the general control of

the medical staff. Hospital Committees should be formed as in the Head Quarters Hospitals.

One aspect of professional work is sadly lacking in our country. It is the co-operation between the hospital staff and the independent profession. Once a case is sent to a hospital, the practitioner is shut out as it were, and knows very little about the same. He is neither consulted with regard to previous treatment nor is he apprised of subsequent treatment. If cases are sent with a note for admission, it is common knowledge how such notes are treated. Thus, there is a wide gulf preventing the Practitioner from both following up the case and from understanding his own defects. This also precludes him from understanding the type of case requiring institutional treatment or of the stage at which a case requires such treatment. I should earnestly request Government to issue instructions to their officers, to encourage practitioners to visit hospitals, so as to enable them to follow up the cases sent by them, to the hospital.

The question of the qualifications of the Honorary Staff now arises. It is certainly very good to have officers with the highest qualifications. Happily now there is one uniform standard of medical education in our province. I am sure, the Government will agree with me when I say that the training imparted in our medical institutions, is of a very high order and compares very favourably with that imparted in any institution in the West. The District and the Taluk Head Quarters Hospitals, being non-teaching institutions foreign qualifications should not be insisted upon, even for the highest posts. Of course, if a medical man with such qualification is available, he may be given preference. People with high local qualifications are to be preferred. It is common knowledge that local graduates in service, have acquitted themselves very well, in their professional work and have kept our institutions at a high level of efficiency. So, I do not feel there is any justification

for insisting upon a foreign qualification for even the highest post in the mofussil hospitals. The present system of giving free post graduate training to such honorary officers, as apply for it, should continue. I also suggest that regular Post Graduate lectures on different subjects may be arranged at the teaching hospitals extending over a week or two for the benefit of the practitioners.

The Scheme suggested above will take some time to work out. There is an interim period from now, to the full maturation of the scheme, and a way out is to be found, for work during the period. Senior practitioners who have either specialised in any subjects or who have already put in service as honorary officers, may be given higher posts and a beginning made in the lower grades. In the course of a decade, the scheme will work out with ease.

The above scheme has been outlined on the following principles. It makes team work essential, giving an opportunity for a large number of doctors to be trained. Having all the facilities provided by Government at their disposal and the co-operation of the workers in the field, a team of this type must be worked out to help the advancement of science. This will produce some good results in unravelling the ravages of diseases. Co-operation between the independent and service sections which is very desirable, will be established for mutual benefit, for advancement of science and for the relief of suffering humanity. Local talent will have an opportunity in solving local problems and can be fully utilised. Economy in Medical administration will be effected, without sacrificing efficiency, the result being that the money may be diverted for the relief of the suffering poor. I earnestly request the Government to take up the idea seriously and work out the details. If necessary, a small Committee consisting of a few ex-honorarys, a few service men and a non-official President, may be requested to go into it and after obtaining all data they require, suggest a definite scheme, so that all interests

may be reconciled for the smooth working of the system. The war in our midst is the best opportunity for working out the idea. I am certain that once a definite policy is laid down on certain principles, after giving an opportunity for all interests to represent their views, co-operation from all parties will easily come forth, for a scheme designed for the benefit of the public whose money feeds the Hospitals and their staff."

Memorandum dated 6-3-'40 submitted by the President, The Madras Provincial Subsidized Rural Medical Practitioners' Association to the Surgeon-General with the Government of Madras relating to some of the grievances of the Subsidized Rural Medical Practitioners requiring his kind attention.

Sir,

Apart from the matters referred to by me in the memorandum to be forwarded by you to the Government in regard to the working of the Subsidized Rural Medical Relief Scheme there are some which are directly concerned in the exercise of the profession by the practitioners belonging to the Subsidized Scheme and which require your kind and sympathetic attention both as the Head of the Medical Department in this Province and also as the Head of the entire medical profession.

In their Memorandum No. 19228-2 (D. 2) P. H., dated 7th January 1937 the Government passed an order debarbing subsidized practitioners from issuing medical certificates to the employees working under the local bodies. It was said in the order that the then Surgeon-General considered that the subsidized practitioners were neither the servants of the local bodies nor of the Government and that were medical officers working under the local bodies and as such it would not be proper to entrust the work of granting medical certificates to them especially so as regular L. F. Dispensaries were within the reach of the villagers. I beg to submit that the subsidized practitioners being Registered practitioners it is a slur on them to be deprived of the privileges enjoyed by all Registered prac-

tioners in the matter of issuing certificates as even the Government accept the medical certificates granted by the independent Registered Medical Practitioners to their employees wherever they are in spite of Government Medical Institutions existing in such places and only in exceptional circumstances such certificates are sent to the Government Medical Officers for obtaining second opinion. I might also mention that the Madras Medical Council did rightly point out to the Government about a couple of years ago that even the procedure of obtaining second opinion was unethical. I, therefore, request you to re-consider the opinion on the subject given by your predecessor in office as it is against the spirit of the Madras Medical Registration Act.

Recently the President, District Board Coimbatore had debarred subsidized practitioners in that District from issuing certificates of fitness to the drivers of motor vehicles though the rules framed under the Motor Vehicles Act permit any registered practitioner to issue such certificates. I appeal to you as the President of the Madras Medical Council to make it possible that the subsidized practitioners enjoy the rights and privileges of Registration in common with the rest of the members of the Medical Profession.

It is reported to me that in some districts the District Medical Officers visit the Subsidized Dispensaries at a time when the dispensaries cannot be expected to be working, that is, after 12 noon. The working hours of the dispensaries are from 7 to 12 noon. Even the regular L. F. or Government Medical Institutions work only during the period fixed and the medical officers in these institutions are not expected to be there throughout the day. I, therefore, respectfully suggest to you to instruct the District Medical Officers to inspect the subsidized dispensaries during the working hours but in case the officers wish to inspect at non-working hours they may give the practitioners previous intimation about the inspection.

It is most unfortunate that the authorities in charge of the Rural Medical

Relief Scheme forget at times that the subsidized practitioner is a private practitioner and that the subsidy is not the pay. It must be the aim of all concerned to encourage the rural practitioner to depend upon his private practice for his maintenance as the amount of Rs. 41-10-8 paid to them monthly is hardly enough to maintain a husband and wife (if the practitioner could afford to marry at all). Instead, all sort of obstructions are placed in his way to deprive him of private income. In addition to the work of medical relief he is one saddled with Public Health work which is no less in volume than that of a full time Health Inspector who has one or two peons to help him. Whereas the rural practitioner is expected to do the Health work single handed along with his legitimate duties of medical relief. In some districts such as South Kanara, Malabar, Tanjore, and Trichinopoly there is no dispensary attendant attached to the dispensaries.

In addition to the above hardship he is not allowed to leave the village or even the dispensary for a short while to see any urgent case requiring his immediate attention. In such cases if he fails to attend on the case he not only becomes unpopular and the parties make complaints to the District Board President or the District Board Member. The practitioner is indeed in a precarious position not knowing what to do. If he leaves the dispensary during working hours he has to explain. If he does not leave the dispensary the patient suffers and in addition he is charged not only for his negligence but for many other imaginary complaints such as extortion etc., added to make the case stronger against an unwanted practitioner. And he is either transferred or sent out.

To lessen the above hardships the compulsory attendance at the dispensary may be limited only between 7 and 11 A. M. and if the practitioner has to attend any urgent case during working hours he may be permitted to do so recording such a case in the Attendance Register. You may also be pleased to recommend to the Government that all subsidized dispensa-

ries should have a dispensary attendant at least in such dispensaries where the daily attendance is over 30.

That a midwife is a necessary desideratum in all dispensaries has not been realised by those who are entrusted with the welfare of the village folk. Village reconstruction and village welfare is talked about in season and out of season by all. The effect of such talks are not felt in the villages. Large sums of money are spent in urban areas for maternity and child welfare work and yearly exhibitions are conducted on a lavish scale to demonstrate the activities of well-meaning, at times fussy social workers. If even a portion of money spent in these tamashas was utilised in actually demonstrating the activities of maternity and child welfare work, the villagers would have realised the sincerity of purpose in such demonstrations. So it is desirable that the Government and the local bodies should have advice from you of the necessity of attaching a midwife to all subsidized dispensaries.

It is not possible to separate preventive work from the curative in the treatment of diseases. The Public Health Department exists to help the Curative Department in discharging the responsibility of the latter Departments is enlarging and one is actually working independent of the other with the result that the welfare work cannot command the co-operating and co-relating spirit from both the Departments. The result has been expansion of Departments with the resulting financial commitments which at the same time do not yield adequate results in the welfare work. Subsidized dispensaries serve as a model for exhibiting discordant activities of the Curative and Preventive Departments of Medicine. As in urban areas the Curative institutions were first started in villages in the shape of half starving Subsidized Dispensaries. It is now felt that preventive work also should be introduced in villages. The humble subsidized practitioner who was first promised permanent settlement in the villages is now compelled on pain of his losing the so-called permanent settle-

ment if he does not do Public Health work. The Government and local bodies have been paying their officers full pay and extra allowance while deputed for any special work or training whereas the subsidized practitioner is given only Rs. 25 as an honorarium while undergoing the training by depriving of his subsidy of Rs. 41/10/8 and after undergoing the training he is to get Rs. 15/- as additional subsidy perhaps the pay of the peon of the Health Inspector doing similar work in the villages. To add to this there is now a tendency to take away the midwife from the subsidized dispensary to be put directly under Public Health Department to do Maternity and Child Welfare work. If my information is correct it is said that one lecturer to the subsidized practitioners deputed for Public Health training is devoted to instruct them that the midwife cannot be an assistant to the subsidized practitioner but her work was only to maternity and child welfare work and nothing else. It has not been possible for these practitioners to relish the soundness of this advice when the practitioner has to do his work as physician, surgeon as well as obstetrician. When the medical officer in charge of a subsidized dispensary is expected to do this combined work it is not known why the midwife should help him only in maternity work. In addition to this handicap, in some villages where there is a midwife attached to subsidized dispensary the Public Health Department has been starting maternity and child welfare centres working directly under the latter department with the baneful result that two midwives side by side have to work in a spirit of competition and unhealthy rivalry. I may suggest for your kind approval that the money the Government spent in opening additional maternity centres may more usefully and as economically spent in providing midwives in the subsidized dispensaries where they are not as yet attached and that the maternity and child welfare work be done in the subsidized dispensaries where they are not as yet attached and that the maternity and child welfare work be done in the subsidized dispensary under the direct supervision of the practitioner. In this connection I

wish to bring to your kind notice that triple control over the subsidized practitioner by three departments, the District Board, the Public Health Department and Medical Department will not be conducive to the legitimate work for which the dispensaries were originally started and the Public Health Department may be made to deal with the subsidized practitioner through the Medical Department and the Surgeon-General be the final authority in adjudicating the various activities in the subsidized dispensary. This will also help to prevent delay, drift and procrastination in the affairs of the Subsidized Rural Medical Relief Scheme.

There are some practitioners who have working knowledge of Ophthalmic Medicine and Surgery having undergone training in the leading Ophthalmic hospitals in the Province or neighbouring States. They wish to give the benefit of their special knowledge to the patients attending the subsidized dispensaries. For this purpose they must have a stock of drugs like Argyrol, Atropins, Eserine, Dionine etc. I am informed that when any practitioner indents for the supply of above drugs they are usually scored off by the respective District Medical Officers. There is at least one instance where the District Medical Officer found fault with a subsidized practitioner possessing M.B.B.S. qualifica-

tion and who had to his credit special training in a recognised Ophthalmic Hospital in operating on a patient for cataract in spite of the patient who was once blind telling the District Medical Officer that after operation he had good vision in the operated eye. It is needless for me to tell you the seniormost member of the medical profession in this Province that the healing art, pertaining to special departments of the medical science cannot be a gift of only a chosen few and even a humble practitioner whose lot is to practise in villages can either have the inherent aptitude by special training and such a practitioner should be helped and encouraged instead of being obstructed or prevented to do special service to his patients. Is it therefore too much for me to request you to instruct the District Medical Officers to help the Subsidized practitioners to serve the villages to the utmost of his capacity.

In conclusion, Sir, I beg of you to excuse me if I have overstretched any point to zeal to serve my younger brethren in rural service and in case I have overstepped my limits, I did so with the sincere hope that I am making representations to a seniormost brother of mine who I know is well disposed not only with the humblest unit in the medical profession serving in villages but towards all the members of the profession, official or non-official in whatever position they may be.

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RECEIPTS.	Rs. A. P.	CHARGES.	Rs. A. P.
Cash balance (as on 1-3-'40) ...	63 11 11	Postage including Money Order Com- mission ...	3 6 3
Subscription from members ...	10 0 0	Pay to Clerks for February '40 ...	15 0 0
Entrance fees from two new members ...	0 8 0	Stationery ...	0 11 0
		Amount credited to The Medical Prac- titioner from the subscription paid by members ...	4 0 0
		Contribution to District Branches :—	
		Guntur 14 0 0	
		Salem 1 0 0	
		Madura 0 12 0	
		South Kanara 7 0 0	
			22 12 0
			45 13 3
		Cash Balance :—	Rs. A. P.
		With Savings Bank 4 3 7	
		With Office 24 3 1	
			28 6 8
Total ...	74 3 11	Total ...	74 3 11

V. RAMA KAMATH,
President.

K. GOVINDAN,
Treasurer.

A Correction: In the last Statement under the Receipts column in the fifth item the District should be Chittoor and not Coimbatore.

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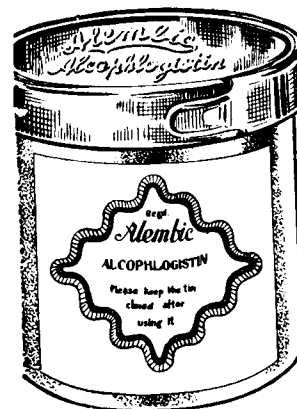
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Original Articles

RENAL TUBERCULOSIS

By

DR. N. M. RAO, M.B., F.R.C.S.E.,
Surgeon, General Hospital, Madras.

Renal tuberculosis is found in 1% of all autopsies and 5—8% of autopsies in patients dying of tuberculosis (Kapsammer). Kocher found pulmonary foci in 80% of autopsies on cases of genito-urinary tuberculosis. It may form part of a generalized miliary tuberculosis when both kidneys are found affected. This type is more common in children in whom it is bilateral in 53% of cases.

It also occurs as a localized infection limited to one kidney with no other active tuberculous focus elsewhere in the body in 94.95% and only 5.6% show an active lesion. This type is known as Surgical Renal Tuberculosis. It is however never primary as 60% of cases show a healed or latent focus in the lungs, mediastinal glands, etc. This type is seen in the third and fourth decades of life. It is unilateral in 85 to 90% at the beginning. It forms 30% of surgical renal lesions and is twice as common as renal tumours (Young).

In men kidneys and genital organs may be affected in equal proportions. In

women genital tuberculosis is rare and kidney is more often affected. Renal infection shows a slightly higher incidence in men than in women as kidney may be affected from genital tuberculosis also.

Either kidney may be affected equally in men but in women the right kidney is more often affected.

ÆTIOLOGY: Infection of kidney occurs through the blood stream from a focus elsewhere in the body, usually in the lungs, mediastinal glands, etc. In men it may also be infected from foci in the prostate and seminal vesicles either by the blood stream or by an ascending peri-ureteral lymphangitis.

CLINICAL TYPES OF RENAL TUBERCULOSIS.

1. **MILIARY TYPE:** It is bilateral forming part of a generalized miliary tuberculosis. It is more common in children.

2. **SURGICAL TYPES:** (a) *Ulcerocaseous* or *Ulcerocavernous* type. This is

the commonest of the surgical types where nephrectomy is so useful. (b) Massive Caseous type:—This is a more chronic form. In this one or more caseous areas form in the cortico-medullary junction surrounded by tuberculous granulation tissue. This type often extends towards the calyces and ulcerates into the renal pelvis. Some may become encapsulated and later on become infiltrated with lime salts. The kidney is often enlarged, lobulated and palpable.

3. TUBERCULOUS NEPHRITIS: A sub-acute nephritis with heavy infection may be sometimes seen in young people, albumin, blood and casts being present in the urine. It usually settles down to one of the previous types, 1 or 2.

4. TUBERCULOUS PYONEPHROSIS: Partial obstruction of ureter leads to dilatation of pelvis and calyces into a sac filled with urine and tuberculous debris.

5. CHRONIC FIBROTIC TYPE: It is rare and often missed. It is found occasionally in grown up adults. The kidney is shrunk by marked fibrosis with a few scattered tubercles, the only symptom being the presence of albumin in the urine.

CLOSED RENAL TUBERCULOSIS: This may occur in the ulcero-caseous type by occlusion of the ureter. It also occurs occasionally in the massive caseous type.

PATHOLOGY: The bacilli are deposited in the region of arcuate arteries. 75% of lesions occur in the cortex and show a tendency to heal, 13% occur in the cortico-medullary region and 11% in the medullary area. The latter two are often progressive ones.

No healthy kidney ever passes tubercle bacilli in the urine without being infected. Microscopic lesions occur in both kidneys of phthisical patients, but in a large number these heal. Medler was able to demonstrate such lesions in over 60% of cases dying of pulmonary tuberculosis. Where general resistance is good but the local resistance of a kidney has been lowered by trauma or disease, the lesions may persist and progress. The medullary

and cortico-medullary lesions show a tendency to progress and ultimately involve the whole kidney.

The earliest naked eye lesion is a small yellow tubercle at one of the poles in the cortico-medullary lesion or near the apex of a renal papilla. As the cortico-medullary type spreads the kidney becomes enlarged and bossing and tubercles appear on the surface followed by adhesions to the peri-renal fat. At this time the tubules may be filled with bacilli and leucocytes which are now and then discharged in the urine without any actual ulceration into the calyces. In many cases the infection extends towards the renal pelvis and finally ulcerates into a calyx and the caseous debris is passed in large amounts in the urine attended with renal colic. In a few cases the caseous areas may become encapsulated and later on infiltrated with calcium salts.

MEDULLARY TYPE: The focus usually on or near a papilla extends towards a calyx and ulcerates into it. The disease also spreads towards the bases of the pyramids resulting in a cavity lined by ragged walls of necrotic tissue which may show a zone of grey tubercles. Outside this, areas of isolated tubercles may be seen dotting the renal tissue or arranged as streaks radiating towards the cortex. Other pyramids become similarly converted into caseating cavities with ragged edges surrounded by yellow streaks of tubercles leading to the cortex. In more advanced cases the renal pelvis is much dilated, the papillae destroyed, and calyces deeply excavated and the ureter is found thickened and irregularly dilated. Partial occlusion of the ureter by tuberculous strictures may lead to tuberculous pyonephrosis in which the kidney is converted into a multilocular sac filled with urine and necrotic material. With complete occlusion the pus may become inspissated and later impregnated with lime salts. Fibrosis at the neck of a major calyx or at the pelvi-ureteral junction may lead to a partial or complete pyonephrosis. Where no obstruction develops, the whole pelvis and calyces become ulcerated. The fatty areolar tissue round the pelvis and the kidney become thickened, scleros-

ed and densely adherent to the kidney and surrounding structures. The fat round the hilum, renal pedicle and along the inferior vena cava also becomes sclerosed and adherent. Glands along the inferior vena cava may become enlarged and adherent.

In some young people the entire kidney may become involved simultaneously resulting in an acute tuberculous nephritis. The kidney becomes engorged, oedematous and enlarged. The urine may be smoky and contain albumin, blood and casts. But it soon settles down into one of the more chronic types.

CHANGES IN THE URETER: Passage of tubercular debris through the ureter causes infiltration, ulceration of the mucosa and fibrosis usually at or near the anatomical constrictions and leads to dilatation of the intervening portions of the ureter between the constrictions. There is also a descending periureteral lymphatic infiltration. The ureter becomes thickened and rigid. All gradations, from a few patches of ulceration to a most deformed ureter, may be seen. The ureter becomes adherent to the peritoneum and surrounding tissues. In long-standing cases irregular infiltration of ureter with lime salts may occur.

BLADDER CHANGES: Bladder becomes infected by the tubercular debris brought down by the urine, and also by descending lymphatic infiltration. In the early stages the ureteral opening is swollen and red and a halo of hyperaemia is seen in the mucosa where the impact of efflux occurs. Next round cell infiltration occurs in the submucosa near the ureteral opening. Then grey tubercles form. These caseate and break down into small superficial ulcers with sharply cut margins. These ulcers run together to form larger ones with irregular undermined edges and a greyish yellow or haemorrhagic base. Yellow tubercles are seen dotted around the ulcers on a slightly congested mucosa.

Infiltration of the ureter causes its opening to be rigid, rounded and wide-open—"Gold Hole ureteral opening." It is also pulled upwards and outwards into an asymmetrical position.

In the absence of secondary infection the lesions are discrete with healthy mucosa intervening. In the presence of secondary infection bullous oedema may hide the ureteral openings. If extensive ulceration is present irregular exuberant masses of granulations may sprout up especially in the presence of secondary infection and are called Tuberculomas. With progress of the disease, wide-spread infiltration of the bladder wall and subsequent fibrosis leads to contraction of the bladder whose capacity may be reduced in late stages, to a couple of ounces when it is known as "Tumble Bladder". Pericystitis occurs followed by fibrosis of perivesical fat and the bladder may become adherent to surrounding structures as intestines, rectum, uterus, etc. Pelvic glands may enlarge but abscess formation is rare.

OPPOSITE KIDNEY: It may become enlarged from compensatory hypertrophy. It may also suffer from toxic nephritis. Later it may become infected through the blood stream or by retrograde lymphatic infiltration from advanced tuberculous cystitis.

CLINICAL FEATURES: I shall confine myself to Surgical Renal Tuberculosis in which clinically only one kidney is affected and where nephrectomy is so useful.

This type is usually seen in young adults, 38 per cent in the third decade and 32 per cent in the fourth decade. It is practically symptomless till ulceration into a calyx has taken place. At first the symptoms are entirely referred to the bladder and cases are diagnosed as cystitis and treated with drugs and lavage.

Frequency of micturition occurs in 75 per cent. Increased frequency is the first symptom. It may be slight and variable depending on the weather, diet and climate. It is at first diurnal and as it increases it becomes also nocturnal. It is not affected by rest. A burning sensation accompanies it. This increases to scalding and pain shooting along the urethra. At this stage centrifuged deposit shows a few pus cells and red blood cor-

puscles. Later frequency becomes so marked that the patient has to pass urine every 20 to 30 minutes and scalding is severe enough to cause tenesmus. There is now an urgency in micturition and in heavy sleepers incontinence may occur.

Polyuria is an early sign and is due to interstitial fibrosis and it increases the frequency. Urine is pale opalescent, faintly acid or even neutral in reaction and often hazy from a small amount of well mixed pus. Presence of albumin is an early sign and may occur independently of polyuria and haematuria.

Loss of Weight: A continuous slight loss of weight is noticed in the early stages. In the advanced stages loss of weight is more rapid from want of sleep, mental and physical rest and toxæmia.

Haematuria: Usually it is microscopic and occurs in 40 per cent of cases. The deposit shows a greater proportion of pus cells to red cells. Visible haematuria may occur in about 5 per cent, especially in the acute type but it rarely persists.

Pyuria: Is fairly constant in the open types and occurs occasionally in the closed type unless lesions are encapsulated. The amount of pus is variable and often in small amounts. It occurs often with haematuria especially after ulceration of bladder.

Pain: It is present in about 37 per cent of cases. Renal pain as a dull ache in the renal angle may be slight or absent. Renal colic occurs during passage of clots and tubercular debris. Vesical pain occurs with ulceration of trigone and radiates along the urethra or the perinium.

With the onset of vesical ulceration and contraction of bladder, frequency in micturition rapidly increases and is accompanied by scalding and pain along the urethra. With the ulceration of the trigone, urgency, tenesmus or strangury and terminal haematuria appear. Pain in the bladder is constant and made worse by voiding urine. Frequency

is so great that the patient voids urine every few minutes, sleep and rest become impossible. Nocturnal incontinence and wetting of clothes may occur from urgency. Patient avoids society, ceases work, spends sleepless nights, rapidly loses weight and leads a miserable existence. Incontinence is more marked in women owing to their shorter and wider urethra.

Tumour Formation: Tuberculous kidney is seldom palpable unless pyonephrosis is present. In the diffuse massive caseous type the kidney may be palpable as an irregular, firm and slightly lobulated tumour. But more often it is fixed high up by adhesions to be easily palpable.

Thickened ureters may be palpable in the fornices in women and sometimes per rectum in men. In a few thin patients a thickened ureter may be palpated at the brim of the pelvis.

Fever is usually absent in the earlier stages. In some, temperature may rise to 99° to 100° F. Higher temperatures indicate a secondary infection, active pulmonary or generalised tuberculosis.

Prognosis: The onset and progress of uncomplicated cases is slow. Fluctuations in the symptoms are frequent. They abate and patient improves to relapse again. This may be due to change of climate, diet and the tendency for the disease to be walled off by fibrosis. In some, pus and bacilli may disappear from the urine for months to reappear suddenly after a strain or injury, etc. Spontaneous arrest of the disease is rare. When secondary infection is superadded, progress is more rapid accompanied by fever and pyuria. In untreated cases opposite kidney becomes affected sooner or later. Death usually occurs from phthisis, uræmia or sometimes from miliary tuberculosis.

Diagnosis: Frequency in micturition with burning unaffected by rest occurring in young adults, with acid urine sterile to ordinary cultural methods and containing a greater proportion of white cells to red

blood corpuscles in the deposit, is very suspicious of renal tuberculosis. A diligent search for tubercle bacilli should be made. A twenty-four hours specimen should be collected centrifuged and deposit stained for tubercle bacilli. Heavy deposits should be treated with antiformin for 6 to 12 hours before this. If urine has a high specific gravity, addition of 50% alcohol helps in centrifuging the deposit quickly. The centrifuged sediment is agitated with 15% sulphuric acid for twenty minutes and again centrifuged for 5 minutes. Slides are made from this. A loopful of this is inoculated into the chosen medium (Lowenstein) for culture. In 80% of positive cases tubercle bacilli are obtained. A guinea pig inoculation from a fresh specimen of urine taken under aseptic precaution would give in 3 to 6 weeks a positive result in another 15%. In the remaining 5% which are of the closed type diagnosis depends on clinical evidence.

X-ray Pictures: A plain roentgenogram may show an enlarged kidney with uneven density and areas of calcium deposit. Excretion pyelograms may show a moth eaten appearance of one or more calyces, dilatation of pelvis and calyces and irregular constrictions and dilatations of the ureter. They will show the presence of the opposite kidney and its functional capacity. Sometimes the affected kidney may show no excretion of the substance even in delayed pictures, being either destroyed or excluded in the closed type. 73% of cases show suggestive changes.

Cystoscopy: This should be done with absolute asepsis under a low spinal or caudal anaesthesia. Bladder should be gradually distended to hold at least 4 ounces of fluid. If ureteral openings are seen catheters are passed up and urine collected from each kidney for bacteriological, microscopic and biochemical examinations. Pathological changes as ulcers, tubercles in the openings of ureters are also noted. Where ureteral openings are not seen an intravenous injection of 8.10 ccs. of 0.4% indigocarmine would demonstrate them colouring the efflux and give an idea about the

functional capacities of each kidney by the time taken for colouring the efflux. A retrograde pyelogram should be avoided, but where diagnosis is uncertain it may be done on the affected side by using a 20% solution of uroselectan-B. 86% of cases can be confirmed by cystoscopic examination.

Treatment: For unilateral renal tuberculosis with no other contra-indication nephrectomy gives good results. The ureter should be sectioned of as low down as possible. Where the whole ureter is infected the lower portion should be also removed by a separate incision. This is required in 10% of cases. Into the distal portion a few drops of pure phenol are injected prior to ligaturing and sectioning. Where other active lesions are present sanatorium treatment is carried out first. Presence of genital tuberculosis is no contra-indication. Both can be dealt with. The patient should have sanatorium treatment subsequently. A nourishing diet rich in vitamins A and D is given. Codliver oil, malt with iron iodide is prescribed. Heliotherapy or U. V. R. therapy to the wound or sinuses should be had recourse to. I have found weekly injections of tuberculin T. R. useful in renal and genital tuberculosis, starting with 1/10 cc. of in 1 in 100 solution rising gradually till 1 cc. is reached. Injections of sodium cacodylate grs. ½-1 or sodium methylarsenate gr. ½ are also useful.

Tuberculous cystitis usually clears up in about six months after its cause—renal tuberculosis—is removed. If ulceration is advanced instillations of 5—20% gomenal are useful. Any ulcers left after six months should be treated by diathermy sparking.

Mortality of operation is 8%. 70 to 80% of women recover. In men owing to genital tubercle results are good only in 40—50%.

Prognosis in children is poor as bilateral cases are more common.

All bilateral cases should be treated in sanatoria.

LATE RESULTS: 50—60% become free, 15—20% improve, 15—20% end fatally.

Average duration of life after nephrectomy is 10—12 years. Some remain free from trouble for 15 to 22 years.

TUBERCULOSIS OF GENITAL SYSTEM.

It is uncommon in children and in old age. The commonest age period is 20 to 40, the average age being 25—26 years.

Kocher found pulmonary foci in 80 per cent of autopsies on genito-urinary tuberculosis.

Compared to urinary tuberculosis, it is a milder infection with an insidious onset and slow progress and finally involves all the genital organs. The chief danger is spread to the urinary tract, kidney or bladder.

Genital system alone 50%, genital system and urinary system 37%, genital system with foci elsewhere 13%.

Prostate and other genital organs 52%, Prostate alone 14%, Epididymis alone 32%, Seminal Vesicles 2% (Thomson-Walker).

ETIOLOGY: There are two views held as to the primary genital site of infection, Young, Kenneth Walker, Keyes and others hold that the primary site is the prostate and seminal vesicles in the great majority of cases. This view is supported by the fact that in the majority of cases the epididymal focus is first noticed at the lower pole and on a rectal examination nodules are found in the prostate and homolateral seminal vesicle. The prostate is primarily affected through the blood stream and extension to the epididymis is by retrograde lymphatic infiltration along the vas.

TUBERCULOSIS OF PROSTATE AND SEMINAL VESICLES.

Primary infection occurs in the prostate in the great majority and then extends to the seminal vesicles, sometimes both may be infected simultaneously. The process starts in the upper and outer parts of the gland and occasionally in the lower and outer angles.

There may be a number of nodules or a single mass. In course of time the whole lobe becomes involved. Usually the homolateral seminal vesicle is found involved and caseous nodules are found on its inner side. Later as the whole of the seminal vesicle becomes involved, it is converted into a rigid nodular mass continuous with the nodular mass in the prostate. The nodules caseate and soften into abscesses intercommunicating with one another or into one large abscess. The abscess usually ruptures into the bladder by the side of the trigone or into the urethra by one or more openings. Less frequently it may open into the rectum or into the perineum along the urethra. After the rupture the process becomes quiescent and the prostate becomes shrunken and hard. The tubercular process extends along the lymphatics of the vas to the lower pole of the epididymis. It also involves the opposite seminal vesicle and later on the epididymis of that side. The bladder may be infected directly or by extension from the infected prostatic urethra. In the later stages the prostate and the prostatic urethra are destroyed resulting in a cavity communicating with the bladder.

SYMPTOMS: When confined to the prostate in the earlier stages there may be no symptoms except sometimes a dull perineal discomfort. When the abscess opens into the prostatic urethra there may be a sudden urethral discharge and urine contains pus, prostatic threads and debris. The discharge may show tubercle bacilli but no gonococci. When the bladder neck is involved there is increasing frequency, difficulty, aching and burning in the perineum and anus. Where seminal vesicles are involved first symptoms may be absent or patient may complain of sexual irritation such as frequent erections, painful and blood-stained emissions. Often symptoms may be absent and infection of prostate may be found on routine rectal examination or a slightly painful nodule in the epididymis induces one to examine the prostate. Secondary infection may occur after instrumentation or spontaneously. In late cases mixed infection is common and bladder is found to be often involved.

Frequency, in micturition urgency, stranguary and terminal haematuria, etc. are added. Homolateral kidney may become involved by an ascending lymphangitis in course of time both the epididymes become involved.

DIAGNOSIS: *Rectal examination:* In the early stages firm nodules at the upper and outer angles of the prostate or nodules in the inner part of seminal vesicles will be felt. These nodules are small and more prominent than in carcinoma. In the later stages nodules and boggy areas of softening or soft, tender fluctuant swellings in the prostate and a hard craggy elongated mass in the region of seminal vesicle on one or both sides may be felt. Where an abscess has burst into the rectum, a button like infiltration round the fistula may be felt.

Cysto-urethroscopy may show congested elevations or openings of abscesses into the prostatic urethra or an irregular cavity with tubercles around it may be seen along the side of trigone.

TREATMENT: General constitutional treatment and nourishing diet, etc. are carried out. Tuberculin injections are very satisfactory in this type. T. R. 1/10 cc. of 1/100 solution is gradually increased avoiding a general reaction and given twice weekly till a dose of 1 cc. is reached. Prostatic abscess should be opened by the perineal route, scraped and iodoform emulsion injected into it. Sinuses are excised and scraped.

TUBERCULOUS EPIDIDYMITIS.

It is most common during the age period of 20 to 30. Usually a family history of tuberculosis and often a history of injury to testis is given.

PATHOLOGY: Most commonly it is due to an ascending infection from foci in the prostate and seminal vesicles via the lymphatics. Haematogenous infection is rare and when it occurs the testicle and epididymis are infected simultaneously. Chronic form is most common. It usually affects the lower pole, occasionally the whole epididymis may be

involved as in the acute type or a nodule may form in the upper pole of epididymis. Miliary tubercles form and gradually enlarge, caseate and give rise to an abscess. The abscess becomes adherent to the scrotal skin on posterior aspect and finally bursts on the surface leaving a sinus. Later the testis becomes involved and caseation occurs especially in the region of rete testis with scattered foci throughout the substance of the gland. These soften into an abscess which discharges on the anterior surface and the degenerating testis may protrude as 'Fungus Testis'.

CHRONIC TUBERCULOUS EPIDIDYMITIS: A nodule usually develops in the lower and less often in the body or head of epididymis. Attention of the patient may be accidentally drawn to its presence. The nodule is hard and not tender or slightly so and may be smooth or craggy in shape. The vas is thickened or beaded and can be separated from the other constituents of the cord. Later the whole of the epididymis becomes an irregularly craggy mass lying vertically on the postero-lateral aspect of the testis. In about a third of the cases a small hydrocele is present containing either flocculent or clear fluid. Adhesions in this are frequent. The nodules spread and caseate into abscesses which finally discharge on posterior aspect of scrotum. After discharging it may heal after some months, to break down again. This may repeat several times. Progress is slow. In about 2 to 3 years the opposite epididymis becomes similarly involved. Bladder and kidney may become involved from the prostate.

DIAGNOSIS: A rectal examination would show nodules in the prostate and seminal vesicles. Gonorrheal epididymitis leaves behind a fibrous nodule which is tough, smooth and ill-defined. Filariar epididymitis is accompanied by fever, orchitis, funiculitis, lymph scrotum or hydrocele, etc. Night blood shows microfilariae. Syphilis usually affects the body of testis and testicular sensation is lost early and it is painless and W. R. would be positive.

ACUTE TUBERCULOUS EPIDIDYMITIS: It occurs in younger people occasionally and is often mistaken for gonorrheal epididymitis. There is acute pain and tenderness with swelling of epididymis which in couple of days becomes of large size. There may be purulent discharge from the urethra due to prostatitis and vesiculitis and tubercle bacilli may be found in the discharge. Some weeks later an abscess forms and bursts. It then settles down into the chronic form.

DIAGNOSIS: A rectal examination would show nodules in the prostate and seminal vesicles. Gonorrheal epididymitis is more painful and does not form abscess. The discharge is negative for gonococci and tubercle bacilli may be found. The

sinuses are always on the posterior aspect of the scrotum.

TREATMENT: General treatment of sanatorium type. A nutritious diet rich in vitamins A and D, Haliverol, syrup ferri iodide, heliotherapy, U.V.R. etc. are given. Tuberculin injections of T. R. starting with 1/10 of 1/100 cc. given bi-weekly till a dose of 1 cc. is reached in the course of 3 months.

OPERATIVE: If the lesion is limited to the epididymis *i.e.*, in the early stages, an epididymectomy with removal of vas as high as possible is done. But in advanced cases an orchidectomy is done. It is always advisable to resect an inch of the opposite epididymis to prevent extension of the process to the healthy testicle.

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TUBERCULOSIS OF THE LARYNX

By

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Tuberculosis of the Larynx is otherwise known as Tuberculous Laryngitis or Laryngeal Phthisis.

This is a fairly frequent disease and is grave in its severity and prognosis.

OCCURRENCE: The Larynx is more often affected by tuberculosis than by any other specific disease at least 3 to 25 per cent of the patients suffering from pulmonary tuberculosis, develop tuberculosis of the larynx. This frequency increases with the duration of the pulmonary disease and in 48 to 83 per cent of the total cases there is involvement of the larynx also.

ETIOLOGY: Primary tuberculosis of the larynx is so exceedingly rare that for practical purposes it may be regarded as non-existent. Where no pulmonary lesion can be detected it just means that our present methods of detection are still inadequate.

METHOD OF INVASION: Infection from the lungs may take place (1) from the surface of the mucous membrane by infected sputum and (2) from the sub-mucous area by blood and lymph streams; the former theory is based on the fact that the posterior part of the larynx where the sputum stagnates is the part mostly affected. The second theory is based on the fact that tuberculous deposits are met with below the intact mucous membrane. But all the same it is now recognised that tuberculosis can pass through and between intact epithelium. Another argument in favour of the second theory is that the larynx is mostly affected on the same side as the diseased or more diseased lung. The chief arguments in favour are that we sometimes find the larynx very badly involved when there is little or practically no sputum passing over it, or where the sputum does not contain any T. B. It

must also be stated that the larynx may remain healthy in long standing cases though constantly exposed to sputum laden with T. B.

The T. B. in the blood stream form small perivascular follicles which coalesce and infiltrate. These undergo necrosis at their centres due to obliteration of the vessel and the ulceration on them spreads deeper. The interarytenoid regions and the edges of the vocal cords are most commonly affected as these are regions not provided with ciliated epithelium.

DISTRIBUTION; Sex: Both sexes are attacked with equal frequency. This is not so in India where more males are affected due to the more strenuous life they lead compared with the Indian women.

AGE: The disease is most frequent between the ages of 20 and 40. It is hardly ever met with children under 10 years; alcohol, dust and tobacco are well known etiological factors in all laryngeal affections and may materially affect infection, progress and prognosis.

SYMPTOMS: May be entirely absent in early and mild cases and laryngoscopic examination is very important in suspected cases. Chronic pulmonary cases also should be periodically examined. Cough is not an important early symptom and when present is bronchial or pulmonary in origin. In some cases of marked affection cough is completely absent. In others cough is phlegmy and may be accompanied by vomiting. Very rarely it may resemble whooping cough which may be due to pressure on the recurrent laryngeal nerve from glandular enlargement. The secretion from laryngeal ulcers is mucoid or mucopurulent and is rarely streaked with blood. Tubercle bacilli are hardly ever found in laryngeal

secretion. Sometimes pieces of necrosed cartilage may be coughed up.

There may be a feeling of uneasiness, fullness or irritation in the throat and this may lead to clearing of the throat by coughing. Change in the voice may be absent or very slight in the beginning but is generally progressive depending on the site of the lesion and also the state. The voice gets tired easily, becomes lower in pitch, weak and painful. Later it becomes thick and phlegmy and there may even be aphonia. It may also be reduced to a whisper. Dysphagia is not an early symptom and is generally due to progress of the pulmonary disease. Pain and tenderness are present when there is perichondritis. Dysphagia is common in fatal cases. Pain in the ear also may be complained of. The general symptoms excepting dysphagia are really more due to the pulmonary than to the laryngeal changes. It is usually accompanied by general fatigue, depression of strength, neurasthenia, indigestion and progressive wasting. Tachycardia, rise in the temperature and a history of haemoptysis or pleurisy will often be present.

EXAMINATION: The lesions vary according to the situation, duration and intensity. There are three stages:

1. Deposit and catarrh,
2. Ulceration or proliferation,
3. Perichondritis.

These stages are ill-defined and all three may co-exist.

The posterior part of the larynx is most frequently affected. The arytenoid and interarytenoid regions which are rich in glands exposed to trauma from the constant movement of vocal cords and to irritation from the lodging of the sputum are the first parts to be affected in most cases. In fact affection of this part is twice as common as that of the vocal cords and three times as common as that of the epiglottis and false vocal cords. The order of frequency really is the interarytenoid region, the arytenoids, the vocal cords, the false vocal cords, the epiglottis.

Ulceration is most common on the vocal cords and is least seen in the arytenoids.

EARLY SIGNS: One important sign is anaemia of palate and larynx. They will almost have a waxy appearance. This sign is not very constant and is more common in women. Instead of anaemia in men you may often see a chronic hyperaemia. The anaemia when not generalised is a very suggestive symptom; catarrhal congestion limited to one side of the larynx should always excite suspicion and lead to a thorough investigation! for a simple catarrh is almost always bilateral and symmetrical. So you must look for any roughness or velvety appearance of the interarytenoid region. If one cord is rounded or has lost its mother-of-pearl appearance, is sluggish or is encroached upon by the false vocal cord it should arouse suspicion. There may also be paresis of the muscles of adduction.

INTERARYTENOID REGION: In early cases this is the area generally affected. A tuberculous deposit may take place in this region without any symptom or there may be a slight alteration in the voice. This deposit may be either rounded or papilliform and may remain for years without any ulceration. Interarytenoid infiltration is almost pathognomonic of tubercle. As the condition spreads the infiltration breaks down and the whole area becomes ulcerated. The area in front of each arytenoid is also a favourite site for the deposit of tubercle.

THE ARYTENOIDS: These have a large amount of lax submucous tissue and so a swelling readily occurs in this region. The outline of the arytenoid gradually disappears and becomes pear shaped. It may look as though it is distended with fluid so much so that it is often described as oedematous though there is no true oedema. In some cases both the arytenoids may be affected and overhang the epiglottis. Ulcer is rare and when present occurs very late in the disease. Any unsymmetrical infiltration of the epiglottis requires investigation.

VOCAL CORDS: Simple infiltration is very rarely met with here due to the

adhesion of the epithelium to the muscular and elastic tissue underneath and the small quantity of submucous and connective tissue. The vocal cords may even appear normal with undoubted deposits in the ventricular bands and arytenoid regions; when infection takes place it is usually on the posterior or middle part. The vocal cords may appear red and granular or a fringe of granulation tissue may appear along the attached edge of the vocal cords. The free end may become sinuous. There may be want of tension in the vocal cords and the voice may be uneven and cracked. Ulcers on the vocal cords are at first difficult to recognise as they fade away into the adjacent normal tissue. They are superficial, irregular and ill defined. When more advanced they have a dirty gray surface. Single erosions are frequently present over the vocal process. Ulcers are more common on the posterior third; they are multiple and coalesce. They may be confined to one chord but are commonly bilateral.

VENTRICULAR BAND: According to some observers affection of these is very common and is one of the early manifestations. Here also it is more marked over the posterior third and the swelling may hide the vocal cords. Ulceration is common in the later stages but never reaches the thyroid cartilage.

THE EPIGLOTTIS: This is least infected in the early stages. Sometimes infection may occur in relatively early cases in young subjects in good general health and with slight symptoms in the chest. Usually it is only seen in advanced cases of pulmonary tuberculosis. The infiltration here may be only on the lingual surface or may be localised; usually the infiltration is more or less uniform, the epiglottis swells to several times its ordinary size, and may even hang over the larynx. Its movements during phonation, deglutition and respiration are diminished. Ulceration usually takes place along the margin and even the whole epiglottis may be ulcerated, though necrosis is exceptional.

THE TRACHEA: In a certain number of advanced cases the trachea is involved. But affection of the trachea alone is exceedingly rare. The disease prefers the membranous portion of the tube. When present the disease is too extensive for any possibility of arrest.

DIAGNOSIS: Correct diagnosis is very important for two reasons. First, on account of the local condition and secondly, because a laryngoscopic examination may settle the diagnosis of some obscure pulmonary infection and is valuable with regard to prognosis in tuberculosis of lungs. The conclusive evidence of the presence of tubercle should not be waited for. Tubercle bacilli are not present in all cases. Then again when laryngeal tuberculosis is present lung symptoms may be minimised; X-ray examination also is important. It will indicate whether the lung condition is acute, quiescent or arrested. But it must be borne in mind that in some cases the disease may be active in the larynx without corresponding signs in the lungs. The subcutaneous injection of tuberculin has a limited value. The absence of reaction does not exclude the disease. It also fails to distinguish between arrested and active lesions. The test may also do harm in unskilled hands. The Mantoux test may be of more value. As in other forms of tuberculosis the sedimentation test is of value in estimating the progress of the case. If a simple laryngitis is intractable and cannot be explained by any condition of the nose or pharynx, is unilateral or more marked on one side than the other, is associated with ulcer or deposits and if suspicious general symptoms are present, it should suggest the possibility of tuberculous affection. In leprosy the skin and nasal chambers are affected first, ulceration occurs late, the deposits are round, firm and fleshy and there is no pain. The chief symptom is hoarseness. Later on there may be dysphagia.

In syphilis there is no difficulty in the secondary stage or of gumma. But when there is ulceration the task is

difficult. The epiglottis is rarely attacked primarily by tubercle but syphilis has a marked predilection for it. Syphilis is more common than tubercle in the anterior part of the vocal cords. Syphilitic ulcers are chronically inflamed. Tuberculous ulcers are pale, shallow and thickened. The edges of a syphilitic ulcer are definite, punctured out and fleshy and the floor is dirty grey with thick pus or necrotic tissue and there is no attempt at granulation. In tubercle the edge of the ulcer is irregular and yellowish and the floor is shallow, granulating and coated with much mucus and little pus. The syphilitic ulcer is more limited than tuberculous. It extends more in depth than in surface. It is more active than tuberculous ulcer. The syphilitic voice is strong and painless. In tubercle it is hollow, low, weak and painful. Syphilitic ulceration is improved by administration of Pot. Iodide but tuberculous ulcer becomes worse. It should however be borne in mind that the two conditions may exist together or the one may follow the other; so a Wasserman reaction though helpful is not conclusive.

Simple and malignant growths are rare in the posterior part of the larynx and their appearance is characteristic. Even apart from this a microscopic examination will settle the diagnosis.

PROGNOSIS: In 1880 Morell Mackenzie said "The prognosis of laryngeal phthisis is always extremely unfavourable and it is not certain that any cases ever recovered." The advance in the treatment of tuberculosis and general progress in medicine make us take a less gloomy view. Still laryngeal tuberculosis is a really serious complication. This is as a matter of fact evident from the reluctance with which these cases are taken into sanatoria. The average duration of the life of these patients used to be 12—18 months but now you see them living comfortably even for over five years. Prognosis really depends on the virulence and extent of the disease in the lungs and the resistance of the individual and on the situation, extent, depth, age and progress of the laryngeal disease. It is generally recognised that the more a

patient is over 40 years of age the better is the outlook. Syphilis makes the prognosis worse. Early diagnosed cases have a better prognosis. It should be understood that lasting and complete cure is possible. But the presence of a laryngeal lesion considerably darkens the prospect of recovery in any case of pulmonary tuberculosis. Sudden death from asphyxia hardly ever occurs. Laryngeal tuberculosis may precipitate a fatal termination by dysphagia and starvation and by the mental depression and anxiety it causes.

TREATMENT: This may be of three forms (1) to obtain complete arrest of the tuberculous infection both in the lungs and in the larynx, (2) to cure it in the larynx and (3) to relieve the symptoms.

The question of climate depends on the patient's general and pulmonary condition. It is really more important how a patient lives than where he lives. The best climate without care is not so good as an indifferent climate with the best of other advantages. There is no foundation to the objection to high altitudes if there are no complications.

The case must always be looked upon as secondary to pulmonary infection. The general care and hygiene of the patient is therefore really important and this is best carried out in an open air sanatorium. If this is not possible, attention must be paid to diet, exercise, rest, constant exposure to unvitiated air and regular medical supervision. Tobacco and alcohol must be abandoned and no violent exercise should be taken. Cod liver oil and maltine may be given and arsenic and some cresote preparations. Under this treatment some cases of laryngeal disease will heal spontaneously. This can also be promoted by rest to the larynx which is best secured by complete silence. If within six months of strict silence the laryngeal condition does not improve it means that local treatment is necessary. Still in all cases the larynx remains clean and more comfortable if talking is reduced to a minimum and cough is suppressed.

Improvement usually proceeds on parallel line in larynx and lungs. It must however be remembered that a larynx may heal while tuberculosis advances in the chest; while the contrary never happens. Immobilisation of the lung by artificial pneumothorax, phrenicotomy or thoracoplasty is definitely indicated in laryngeal tuberculosis except in the miliary type. Some authorities even believe that a successful pneumothorax safeguards the patient against laryngeal tuberculosis.

Pain and dysphagia will usually subside under vocal rest and suitable diet. The food should be soft and well masticated. Abundance of milk, cream, butter and eggs should be taken. Liquid diet may be taken in what is known as Wolfenden's position. Here the patient lies prone on a cot with the face over the end and sucks the fluid food through a glass tube from a cup on the floor. Relief may also be obtained by insufflation of orthoform or anaesthesin especially before meals. But this relief is apparent when there is ulceration. Pain may also be relieved by injection of novacaine in alcohol into the superior laryngeal nerve but the results really are disappointing. Spraying of cocaine and insufflation of morphia should be reserved for hopeless cases. Where there is marked dyspnoea and stridor, a median tracheotomy should be done under local anaesthesia.

LOCAL TREATMENT.

Sprays: The condition is relieved by cleansing alkaline sprays.

Insufflations: as treatment are not useful as they cause irritation.

Inhalations: are useful. The perforated zinc inhaler of Burney Yeo moistened with a volatile antiseptic is useful.

Chemical caustics: are useless.

Curetting: This can be done for broken down, granulating or fungating

areas. Even this method need hardly be adopted as better results can be obtained by the use of the galvano-cautery.

Galvano-cautery: This, in reliable hands, is a valuable method of cure. Its good results do not depend so much upon the diseased tissue being destroyed as on the local antiseptic action, the stimulation of reaction, and of the limiting of fibrosis. It should be never used in acute cases.

Tracheotomy: As a remedy this is rarely used now because strict silence will assure almost as complete rest to the larynx. It is indicated in progressive or established stenosis.

Thyrectomy, laryngotomy, hemilaryngotomy and complete removal of the larynx need hardly be considered.

Artificial paralysis of the recurrent laryngeal nerves is reported to have given good results.

Finsen Light Baths: Cures have been effected in 53 per cent of cases in Copenhagen. About 86 baths for 2½ hours each on alternate days are required. This treatment can be combined with the galvano-cautery.

Treatment with Tuberculin injection is not favourably reported on.

Treatment of Complications: Associated syphilitic infection in the larynx needs stricter general treatment in the way of hygiene, diet and rest. Pregnancy must always be looked upon with anxiety. Induction of labour and premature labour are contraindicated as the disease advances equally rapidly when the uterus is emptied as when it is allowed to go to full term. Pregnancy should be avoided and nursing should not be allowed.

Acute miliary tuberculosis of the larynx is exceedingly rare and when present it is not limited to the larynx. It is found on both sides of the epiglottis usually with the appearance of the disease on the soft palate and uvula.

Abstracts.

THE VALUE OF THE ELECTROCARDIOGRAM IN DAILY PRACTICE*

A Non-Technical discussion of the help which may be gained from its use by the General Practitioner.

BY

HARRY PLUMMER ROSS, M.D., RICHMOND, INDIANA.

This discussion will be under three general headings, namely, the value to the patient, the value to the physician, and the value to medicine.

THE VALUE OF THE ELECTROCARDIOGRAM TO THE PATIENT.

For the vast majority of patients seen by the average general practitioner in his daily routine practice the use of the electrocardiograph has little to offer. However, it is our impression that, to any patient who has reached the age of forty or more years, and more especially to males who belong to this group, at least one routine electrocardiogram during the course of a physical health audit has much to commend it; and this taken regardless of presence or absence of symptoms referable to the cardio-vascular system. With the increasing prevalence and recognition of cardio-vascular disease or conditions adversely affecting the cardio-vascular system, an electrocardiogram taken with the express purpose of establishing an individual's normal tracing and filed for future reference, in order that it may be compared, without delay, with another electrocardiogram taken upon the first appearance of symptoms which may be questionably referable to the cardio-vascular system, may be of value in many conceivable ways; it might be the means of determining that patient's whole future behavior. To the patient who has definite cardio-vascular pathology and especially to the one with clinical coronary artery disease an electrocardiogram gives a graphic record of

his heart's action at the particular time the tracing is made and it will serve as a basis for the consideration of the amount of permissible activity in almost any field that he may pursue in the future. To the patient suffering with a so-called psycho-neurosis an electrocardiogram may well be the very practical means of getting him back on his feet and back to work. To the patient acutely ill or convalescent from an infectious disease or from a fever of undetermined origin an electrocardiogram, by showing the existence of cardiac involvement which is detectable by no other method of examination, may well save the patient from doing irreparable injury to his cardio-vascular system. To the patient who is a candidate for surgery an electrocardiogram often furnishes reliable evidence to help appraise the amount of risk involved and to show him the presence of one or even more associated pathological conditions. To any patient we may say that the electrocardiogram is of value in that it is a graphic record of the electric currents which have originated in his heart during its successive contractions at the time the tracing was made.

THE VALUE OF THE ELECTROCARDIOGRAM TO THE PHYSICIAN.

This value may be estimated as directly proportionate to the inquisitive nature or to the "index of suspicion" of the physician.

Its chief value may well be stated thus, it is another laboratory aid in the thorough analysis of any patient's condition

as he presents himself at that particular moment. It should be realized by the general practitioner that, in electrocardiography as in every other branch of medicine, one laboriously mills through lots of chaff in order to get a few perfect kernels; at times it seems so much so that one is tempted to altogether discard the use of the instrument. When one discovers an unrecognized heart block or the presence of an unrecognized, unsuspected coronary artery disease and is thus enabled to intelligently direct that patient's future activity and probably save him from serious trouble, then the laborious hours and expense, which have seemingly been spent to no avail, are all forgotten.

That there is a wide diversity of opinion among eminent medical authorities regarding the value of the electrocardiogram to the general practitioner is evidenced by a perusal of the literature. Wolferth states, "One extreme position is held by those who talk and write about 'common-sense' diagnosis. The 'common-sense' is always a bit difficult to define. Most of us have the comfortable feeling that we possess it but we may be a little bit dubious about the other fellow. Those referred to above seem to mean that it is a 'common-sense' procedure to get along without laboratory aids in diagnosis. One need not quarrel with this point of view so long as the limitations of available clinical procedures are clearly recognized. The other extreme position is to advocate electrocardiography in all patients having cardiac abnormality or suspected of having it and in addition all individuals beyond the age of forty years.

"Electrocardiography is not now and probably never will become a lazy man's short cut to diagnosis. Those who are attempting to extend the practical usefulness of electrocardiography must utilize clinical and other methods, including X-ray, to the fullest extent.

"In the ordinary practice of medicine when the patient is referred for an electrocardiogram there should always be a close liaison between the referring physi-

cian and the man who reads the electrocardiogram. The reader should always know all the important clinical data and details of treatment, even though he does not himself make a complete examination of the patient. He should not attempt to interpret electrocardiograms without such data. He is not qualified to discuss their clinical significance with the practitioner unless he has a sound clinical training in cardio vascular disease.

"A final point to the credit of electrocardiography is its educational value to the physician who is willing to utilize this procedure. It helps to sharpen his clinical concepts by uncovering some of the otherwise obscure phenomena during the course of heart disease. No small part of our present clinical diagnostic prowess in cardiology, modest though it still is, has been made possible by electrocardiography."

Gunther says, "The greatest value of the electrocardiograph lies in its ability to teach the clinician the manner in which he may train his finger, his eye and his ear to detect the irregularities of the heart at the bedside. After a period of time where close checks are made on the clinical studies by the electrocardiograph the clinician may learn to accurately diagnose or strongly suspect more than ninety per cent of these irregularities without having to resort to mechanical aids. The general practitioner should acquaint himself by means of the electrocardiograph the mechanism of any tachycardia before starting the administration of digitalis."

Katz makes the observation that, "The amount of abnormality of the electrocardiogram is not parallel to the amount of heart damage. The heart like the brain has many silent areas, extensive involvement of which may lead to little or no change (in the electrocardiogram). On the other hand, slight localized lesions on one of the bundle branches will lead to extensive alteration of the electrocardiogram."

Clayton J. Lundy calls attention to certain abuses to which the electrocardiograph is often made a part,—"Diagnoses are often made by men who do not

* Read at a meeting of the Union District Medical Society, at Eaton, Ohio, April, 1939.

see the patient. This may be alright for the diagnosis of arrhythmias, several kinds of heart block and in the differentiation of various types of dextro-cardia. Another abuse is the use of the electrocardiograph to take the place of a thorough physical examination."

Samuel A. Levine states, "Electrocardiography has become an essential part of our methods of examination of the heart. By its use the diagnosis, prognosis and treatment of heart disease has been considerably improved. At present, conditions can be recognized and treatment can be more intelligently directed, which were entirely beyond the scope of the most experienced physician a generation ago. This does not mean that the older and simple methods of clinical examination have lost any of their usefulness. An able clinician who knows nothing about the string galvanometer can still do better work than an expert in electrocardiography who has limited bedside experience and inadequate clinical judgment.

"There are several main purposes in the study of clinical electrocardiography. Of first importance is that with a clear understanding of the subject it becomes less and less necessary for the physician to depend upon it.

"When first introduced into clinical practice it quickly clarified all the irregularities of the heart beat. It has taught us how to recognize them at the bedside and, when in doubt, it serves as a final check in deciphering disturbances in the mechanism of the heart beat. More recently it has thrown a great deal of light on disease of the coronary arteries and myocardial infarction. This information can be of tremendous importance for there may be no other way of ascertaining it. Occasionally it aids in a more accurate diagnosis of valvular disease. Finally there are certain conditions in which it is indispensable in directing proper drug therapy. *The time has come when all physicians even those who will never be directly engaged in the technical work, should have some understanding of the subject.*"

(Italics mine, H.P.R.)

J. Bailey Carter, of Chicago, Illinois, sums up the following situations where a physician can benefit his patient by having an electrocardiogram made.

"1. With sudden onset of substernal, precordial or upper abdominal pain.

"2. With an irregular pulse.

"3. With coronary occlusion. A series should be made to follow the progress.

"4. With a pulse rate persistently 50 or below or 100 or above.

"5. One who is undergoing digitalis medication or quinidine medication.

"6. One past fifty years of age with symptoms referable to the heart.

"7. One who is a prospective mother, the integrity of whose heart has been questioned.

"8. One who is contemplating major surgery, in whom the integrity of the heart has been questioned.

"9. One in whom a full and complete appraisal of the heart is necessary.

"10. One with a cardiac neurosis, to distinguish functional from organic heart disease and to convince the patient that his heart is normal."

THE VALUE OF THE ELECTROCARDIOGRAM TO MEDICINE.

Any procedure that enables a patient's physician to give a more accurate appraisal of his exact status in any system of the patient's body will give that patient a higher regard for that physician in particular and for medicine as a profession and science. The use of the electrocardiograph with the necessary carefulness, thoroughness and patience exercised in making an electrocardiogram followed by the physician taking time to explain the results represents one method of contrasting the services modern medicine makes available with those services made available by those outside the ethical practitioners.

TABULATION OF VALUES OF ELECTROCARDIOGRAM TO GENERAL PRACTITIONER

Diagnosis

1. Differentiates arrhythmias.
2. Differentiates degrees of heart block.
3. Localizes the site of ectopic contractions.
4. Usually gives typical graphic record for recent coronary occlusion.
5. Aids in appraising state of nutrition of myocardium; especially useful in cases of hypertension.
6. Typical tracings are obtained in Congenital dextrocardia, pulmonary stenosis, and patent ductus arteriosus.
7. Typical tracings in digitalis intoxication (overdosage).
8. Almost uniformly typical tracing in cases mitral stenosis.
9. Aids in diagnosis hyperthyroidism or myxedema.
10. Aids in diagnosis of pericardial effusion.
11. Aids in diagnosis of pulmonary embolism.
12. Of great value in diagnosis of carotid sinus disturbance (Hoerner's syndrome).
13. Aids in diagnosis of ventricular hypertrophy and which ventricle is involved.
14. Often means for differentiation of gall-bladder colic, herpes zoster, intercostal neuritis, perforated gastric ulcer, pleurisy.
15. Of great value in detecting pre-clinical damage of any heart.
16. By giving negative information often of great value in diagnosis of angina pectoris.

Prognosis.

1. Of inestimable value in determining outlook for a patient suffering from a recent coronary occlusion; series of tracings indicated.
2. Due to an accumulation of records and data over a period of years of patients with heart block we can rate life expectancy in this condition with almost mathematical precision.

3. In men or women carrying positions of great responsibility—business, family, or otherwise, tracing allows physician to more intelligently advise regarding travel, exertion, earning livelihood, legal aspects of certain problems, etc. What to do in case railroad engineer where safety of many other lives is concerned.

4. Serial tracings aid outlining convalescence period needed in case of patient with acute infectious disease.

5. Useful in determining outlook in patient with neuro-circulatory asthenia.

6. Useful in determining outlook for patient with symptoms that are atypical but suggestive, of cardio-vascular disturbance.

7. Useful in outlook in case of any arrhythmia.

8. Provides precise prognostic-index check on the bedside diagnosis and the clinical judgment of the physician in charge of any cardiac condition.

Treatment.

1. Helpful in outlining treatment of coronary occlusion or coronary artery disease.

2. By serial tracings aids in watching myocardial damage in cases of hyperthyroidism, hypertension, myxedema, and right or left ventricular preponderance, and determining that patient's response to therapy and indicating changes when needed.

3. Evaluation of drug therapy, *i.e.*, digitalis, quinidine.

4. Aids in managing convalescence from acute infectious disease.

5. Aids in managing patient with neuro-circulatory asthenia.

6. Often chief determinant as to course to pursue in managing patient with cardiac neurosis.

7. Of great value in the management of so-called "border line" cases in which the patient may be made aware of some definite, though slight damage, to the heart as shown by the electrocardiogram and a proper, though slight, modification of his ordinary habits may permit him to live a comfortable and useful life over a long period of time.

(The Journal of Medicine, March 1940.)

MY IMPRESSIONS AT THE BALLOT-BOX, BEFORE AND AFTER.

By

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Member, Madras Medical Council.

ANDHRA—MALAYALEE ALLIANCE.

My responsibilities relating to the Madras Medical Council Elections cannot cease with the lead given by me in my capacity as the faithful worker of the profession which resulted in a triumphant victory to the team which was returned to the Madras Medical Council with a thumping majority. The value of the appreciation of team work is all the more when it is known that the agents of the candidates who were the rivals of the team all from the Northern Circars, had recourse to all sorts of devices to prejudice the Electorate against me. Not being satisfied in attempting to enrage the electors of the Northern Circars against me, they were able to make an alliance with an official Malayalee in the Andhra Medical College who, along with a private Andhra practitioner got into the Medical Council without a contest and sent a whip to all the Malayalee voters, official and non-official, asking them not to vote for me particularly. For this purpose they did not mind to risk all scruples of decency and twisted facts and arguments put forth by me in a private letter addressed by me to two amongst the six agents of my rivals relating to the controversy of Dr. Gurumurthi's abandoning the team after Col. Shastri took part in the elections. By way of argument, I expressed in that letter that I guarded the interests of the Telugu speaking Districts by having in the team three Telugu speaking candidates in strict adherence to the principle conveyed by the resolution passed by the VIIIth Andhra Medical Conference which met at Vizianagaram on the last week of last February, whereas in the choice of a candidate to represent the Andhra Medical College staff, the Andhras were not mindful of Andhra interests which they were very particular to guard relating to the general constituency. I never

suggested that the Malayalee official who was returned without election did not deserve to be in the Medical Council. All the same I do reiterate once again the view expressed in the Editorial columns of The Medical Practitioner that the Principals of the Medical Colleges are most fitted to represent the interests of the Medical Education and next to them are the Professors of Medicine. I did also point out in that letter that there were in the Andhra Medical College Andhra members in the staff who were not inferior either in rank or status to the person who was fortunate to be returned without a contest. While expressing my arguments to convince those who questioned me for the selection of seven candidates in my original team, I based my arguments on actual facts and had to point out that I took more care to protect the interests of Andhras than the few Andhras who questioned my selection of the team did relating the representation to the staff of the Andhra Medical College. It is usually said that plain speaking brings one many enemies. This was too true relating to me. But fortunately the verdict given by the Electorate indicates without any shadow of doubt that my friends are in a very large majority and that my enemies are very few. If I had sufficient time after Drs. M. V. Krishna Rao & Co. broadcasted malicious statements against me making all sorts of insinuations, I would have been able to convince even the few who might have been prejudiced against me temporarily about the motives of Drs. Krishna Rao & Co. I could know from at least one of the Andhra Candidates who is my personal friend, though a rival in the elections who told me frankly that if I had him in the team instead of Dr. M. J. Samuel, the Andhra from Ceded Districts, I would not have had so much opposition from even the few Andhras. The opposition launched against me was artificial and not real and I

hope that Dr. Krishna Rao and his team who took the role of pleaders of the rivals of the team will treat me as their friend, as after elections when the verdict was finally announced there can exist no rivalry and as Drs. Krishna Rao & Co. had to plead not for themselves but for their clients.

VULGAR JOKES.

Dr. M. V. Krishna Rao, would have done better service to himself if he contested the elections outside the small electorate of the Academic Council of the Andhra University and tested his popularity. I am prepared to vacate my seat if he does his to give him this opportunity. There was no need for a collusion of five more all from Vizagapatam Headquarters having their office in Maharani-pet from which post office I received three self addressed covers by bearing post sent by me to the voters, the contents of which displayed the depth of vulgarity of those who were the authors of the contents. I cannot for a moment say that these covers were sent to me by Dr. Krishna Rao or any other member of his team but I could say the covers came from the voters at Maharani-pet who reacted to the 'Private and Confidential' broadcast of which Dr. Krishna Rao and his comrades were the authors. The noble profession must feel ashamed of these three voters. If they were convinced with the attacks made against me by Drs. Krishna Rao & Co. they might have displayed their wrath against me by saying openly "we do not vote for Dr. Kamath". My purpose in bringing to the notice of the members of the profession these unhappy incidents is to appeal to my erring brethren that our actions for whatever purpose should be as clean as our surgical instruments, thoroughly aseptic so that even if by mistake a cut is made ignorantly or inadvertently in a place where it was not necessary, the injury could heal by first intention without giving rise to sepsis with a foul smelling wound and all other disastrous consequences. Every action of ours good or bad has to be answered for. There was no need for Drs. Krishna Rao & Co., to plead on behalf of the candidates when the candidates were expected to demon-

strate the capacity of their pen or tongue and such a demonstration might have brought more votes for them than were secured by their pleaders.

UNDUE INFLUENCE.

Drs. Krishna Rao & Co., least thought that they were taking shelter in a glass case while pelting stones against me. Such of the voters who received the so called 'Private and Confidential' appeal which Drs. Krishna Rao & Co. broadcasted, might remember that one of the attacks against me was for my having given my address, C/o D. M. Os during my tour throughout various districts in connection with the elections. The insinuation was that I was seeking the help of District Medical Officers. I did approach everybody I could think of not excluding the District Medical Officers who were the electors, to all of whom I appealed to support the team. But I challenge Dr. Krishna Rao and his comrades in his team to prove that either I or anybody else in my team approached any official requesting him to use his influence in favour of the team. Whereas every voter should know that there was at least one District Medical Officer who openly interfered with the elections and many medical officers and subsidized practitioners would tell Dr. Krishna Rao and his friends that they received whips from the respective District Board Presidents under whom they were serving, to support the candidature of one of the five candidates from the Northern Circars for whom Drs. Krishna Rao & Co. had been so vehemently pleading. Even in the City of Madras one of the clients of Dr. Krishna Rao through his local agent attempted to approach the voters in a hospital through the Superintendent but was sadly disappointed. I trust Dr. Krishna Rao would at least now realise how unsecure was his position and that of his comrades in their mud-slinging campaign. If, as expressed by me above, there was sufficient time for me to answer the malicious insinuations against me levelled by Drs. Krishna Rao & Co. during the course of elections, I would have answered them. My capital to command the confidence of the

enlightened Electorate was not my wealth nor undue influence brought to bear on voters through officials or non-officials having official control over voters. If I did win with my team on my shoulders, it was due to the good wishes of the members of the medical profession who have tried me and known me as their trusted comrade and as a faithful worker for the cause of the profession. I only wished to wash the stains of mud thrown by Drs. Krishna Rao & Co., in collusion with the High Command at Masulipatam and which I had no time to wash during the elections. It is my desire to enter the Council without any stain so that Dr. Krishna Rao might not remember in the Council chamber what he did during the elections by looking at the stains of his creation.

ACTIVITIES IN THE CITY.

Having said so much about the agents of my rivals, I wish to narrate briefly the activities of the rivals by themselves an intelligent understanding of which will convince even the very few electors who did not for some reason or other like my ideals of team work that even in elections, team work was the ideal. After all the team safeguarded all varieties of interests, the most important being the interests of the entire medical profession. The activities of two of my rivals were conspicuous in Madras which had exactly a fifth of the number of all voters in the Medical Register. Even here I had to stand the brunt of the attack having to contend against two or three licentiates in Madras who in their zeal to serve another licentiate candidate whom I believed to be the best candidate amongst the nominated to represent the Northern Circars, had been slinging mud behind my back but with little or no effect. The citadels which attracted the candidates in Madras were the teaching medical institutions and the institute of research at the southern end of Madras and a Government Hospital in between. Candidates had to buzz around and inside these Government institutions as the bees do round the honey-comb. These institutions were considered forbidden to me during elections being the Editor of a journal popularly called by

the inmates of these buildings as the "Yellow Peril". I cannot say which institution takes the credit for this denomination, which is a research in itself, being a product of one of the research laboratories, belonging either to the Madras Medical College or the laboratories of wider fame located in Guindy where research is still experimented by at least some upon private patients though private patients cannot find a place in these laboratories as per the orders of the owners of these institutions. My comrade, Dr. Narayanamurti, who spent early part of his career in these laboratories rightly diagnosed that he was the fittest person to suck the votes from these institutions for my team as he was more conversant with the laboratory methods of research and practice than my humble self whose knowledge of these institutions in an other sphere of my activities earned for The Medical Practitioner the name, the "Yellow Peril". All the same I raided these institutions excepting the one at the southern end of Madras. I am thankful to my comrade and much more to the research workers in all the Government Institutions that my team did not after all fare so badly as my humble self. I thought at the time and have to think still in future if The Medical Practitioner deserves the epithet 'Peril' as the colour, 'Yellow' is considered so auspicious in India that the Indian National Congress adopted it when its leaders tested their popularity at the Ballot-Box. The policy of The Medical Practitioner is the distribution of the prosperity of the profession on an equitable basis amongst all the members of the profession and prevent it from being cornered in Government Institutions only on the basis of permanent settlement or permanent lease.

To a few in service, The Medical Practitioner may be a "Peril" and it will be not possible for the journal to serve these few only in spite of Medical Council Elections or even bigger events. It may at times even assume the real colour of "danger" "the red" on account of war conditions and scarcity of the particular colour 'the yellow' and the journal will continue its aims and objects in the interests

of the entire medical profession without minding the Ballot-Box. The fight on the ticket of qualification was in evidence more in Madras even outside the Government Medical institutions, a few graduates were made to feel the sight of five licentiates in my team, who for the time being forgot the total strength of the licentiates in the Medical Register. Such of those who patiently and without prejudice read the Postal Address to the electors, were more reasonable. On the whole I should say the graduates in the city stood by the team of six in larger numbers than I expected.

TEAM—A RED RAG TO A FEW.

One particular graduate who has been very much benefitted by the principles of team work in Government General Hospital where till recently he was an Assistant Honorary and who is still clinging to the benefit of team work in the same hospital revolted at the idea of team in contesting the Medical Council Elections evidently due to the fact that the Editor of the "Yellow-Peril" was leading the team. I admire this gentleman for his open revolt which he tried to spread not only in the General Hospital but also outside the General Hospital in some of the streets of South Madras. But the Ballot-Box revealed though without identifications that yellow colour was not tolerated by jaundiced eyes only. One or two officials in high position told me in person that they had no faith in team work. When I questioned them why they should find team work dangerous in the Medical Council elections only, they could not give me a suitable answer. I went a step further in spite of their silence and told them that the whole work of medical administration and medical relief depended entirely on the spirit of team work, the heads of the institutions being entrusted to select the team to work under them. I added that I, a humble worker who have been serving the profession for the last ten years in the Madras Medical Council and outside might be kindly given an opportunity for selecting a team of workers to co-operate and co-ordinate with me. It looked to me as if the "Yellow-Peril" was asso-

ciated with me as a candidate and it was my presence in the team and not the spirit of team work that troubled the very few who questioned ostensibly the spirit of team work.

BARTERING OF VOTES.

Bartering of votes was a prominent feature in a teaching institution situated in North Madras. It was an admirable surprise to me that a young graduate belonging to the Honorary Service in North Madras was interesting himself more laboriously than the candidate who was his personal friend and for whom he was gathering the voting papers. I was inquisitive to know this ideal friend and did meet him. I was so pleased to hear his frank statement that because his friend helped him in securing votes from the Northern Circars for a particular candidate of his in the recent elections for a seat in the Medical Council of India on the understanding that when his friend contested the Madras Medical Council elections, this Honorary would get him votes from the institution where he was working and also from outside the institution which he did most faithfully. The principle of bartering is commendable in all other transactions especially in a poor country like India but if this principle is adopted blindly in self interest in elections, India would be indeed poorer, and if such bartering is taught in the medical teaching institutions, the consequences will be disastrous. All the same, I admire this faithful friend and wish this young graduate enlarges his outlook of friendship so that he may be a faithful friend of not one medical man but of the entire medical profession, in which case he will turn out admirable service to the noble profession to which he belongs.

FOUL PLAY.

It was possible for a young Malayalee licentiate to capture a few voting papers from a few Malayalee voters in the hospitals and as few talking other languages. He introduced himself as an agent of Dr. V. Krishna Menon, a Malayalee candidate in my team. I came to know about this too late; yet I attempted to pitch out this doctor and I did succeed

though I could not see him till this day with my eyes. As he happened to work in the same hospital where the faithful friend of an Andhra candidate has been working it was possible for me to surmise that Malayalee and Andhra interests were combined in their work, surely not a loss to my entire team though to me and a few unlucky in the team.

TREACHERY IN VOTING.

A Government Andhra Medical Licentiate in a North Madras Government Institution offered to support my team which news I heard from my Madras Andhra comrade. I immediately ran up to the quarters of this licentiate and warned him that Government Servants' Conduct Rules prohibited him from taking part in elections however much he might be well-intentioned. He put on a wry face and said there was no need for him to bother about elections and abruptly left me saying that he had to take up some class. I later learnt from the Superintendent of this institution that one of my rivals from Northern Circars was introduced to him by this Government Licentiate and evidently to all the members of the Staff of the Institution. As this Institution was my Flanders during my election in 1929 and 1934, as this Government Medical Licentiate was in the very institution earlier than 1929 till the last day when the voting envelopes had to reach the Ballot-Box on 21.5.40 and as The Medical Practitioner, the "Yellow-Peril" of City Government Institutions did not change its policy against fixed tenures in these institutions, I had been wondering within myself what attracts this gentleman to be so fond of my team. My surprise was solved when I learnt from another Government Licentiate in the same institution who displayed to me at an earlier stage of elections his scruples for not handing over the voting envelopes to anybody much less to a candidate, told me on 20th May 1940 perhaps inadvertently not remembering his earlier scruples that he and others in the institution would hand over the envelopes to a House Surgeon who would deposit them direct into the Ballot-Box. I was relieved of my surprise still more when I subsequently

heard from two House Surgeons that they were asked to vote for some Andhras including my Andhra comrade in the City and another outside the City and not for me. I was dangerous to a few in the Government Medical Institutions and so even now all know including the Government. Nobody need be told about this even during elections. To the same extent all must know that I have never been treacherous and I could never smile and hit employing subterranean methods. I am indeed consoled that even treachery added to the strength of my team and I too won to the surprise and disappointment of those few who can be treacherous while smiling.

ALLEGIANCE TO TELUGU LANGUAGE.

The spirit of service due to allegiance to a political party displayed by some Presidents of the District Boards was displayed in Madras by one Municipal Councillor to my knowledge who though he could not tolerate a political Brahmin, showed his spirit of allegiance to the Telugu language. This Municipal Councillor persuaded a few Corporation Medical Officers to support his Telugu speaking friend which they did in due respect to the Councillor. All the same my interests and those of my team were safe with all the medical officers in Corporation Service excepting perhaps one or two, as they could not easily forget me as a Councillor of the Corporation of Madras for three terms even when they voted for a Telugu speaking candidate outside my team to oblige the Councillor.

VOTING ANALYSIS.

Having the advantage of knowing all the eleven candidates personally, also a large number of voters in almost all the 24 districts and all the troubles of elections, I had exceptional opportunities of studying the analysis of votes secured for my team of six and my five rival candidates all from Northern Circars. There were all sorts of permutation combinations. Single votes, double votes, triple votes combination of 4 votes, 5, 6 and 7. Drs. Gurumurti and Narayanamurti could be bracketed regarding single votes. I stood

next. Drs. Kanakaraju, Ramakrishna and Suryanarayana Rao, were next to me. Dr. Krishna Menon had a small share. Drs. Samuel, Shetty, Srinivasan and Krishnamurti had none as far as I could see.

In the combination of double votes almost all had their share. I had the good fortune of being combined with all my rivals in the Northern Circars; in my team my companion in this combination was Dr. Srinivasan to a very small extent. Dr. Krishna Menon and Dr. Ramakrishna had also a pretty good share. Dr. Gurumurti and myself, Dr. Kanakaraju and myself, Dr. Suryanarayana Rao and myself have common good friends in Northern Circars. It is likely that a few Tamilian voters pitied me and Dr. Srinivasan being frightened with the language used by Drs. Krishna Rao & Co. in their confidential broadcast and voted for us two only to make up for our loss in Maharanipet and Masulipatam.

The combination of triple votes was shared largely by Drs. Kanakaraju, Ramakrishna and Narayanamurti. This support may be from graduates to graduates, evidently Andhra sympathy. I did share this honour along with Dr. Shetty and Srinivasan. I can be almost sure this also is the safety triple combination on account of the Andhra threat.

The four votes combination was a real permutation. The majority of this permutation combination was in favour of Drs. Gurumurti, Kanakaraju, Krishnamurti, Narayanamurti, very likely from Andhra area. I with three more from my team had a small share of this combination also though not as big as that of the former group. This combination was Drs. Samuel, Shetty, Srinivasan and myself. It is rather hard for me to say the authorship of this combination. It is likely from Christian voters in area outside Northern Circars.

The five votes permutation combination was as varied as could possibly be. It was relating Drs. Gurumurti, Kanakaraju, Krishnamurti, Naaraynamurti and Ramakrishna. In the above order in some cases Dr. Krishnamurti was given up and Dr. Suryanarayana Rao

substituted. The combination with Krishnamurti was from Northern Circars where Vizagapatam District was likely partial to Dr. Krishnamurti as the latter hails from this district and in the other combination West Godavari must have protected Dr. Suryanarayana Rao and not Dr. Krishnamurti. Both these combinations were likely the adherents of Maharanipet and Masulipatam voters who did not join the Malayalee alliance. The Malayalee alliance was prominent in the combinations consisting of Drs. Gurumurti, Kanakaraju, Krishna Menon, Krishnamurti and Ramakrishna and another Drs. Gurumurti, Krishna Menon, Krishnamurti, Narayanamurti and Suryanarayana Rao. The former was in larger numbers than the latter.

Combination of six votes was the largest group in evidence and the votes were entirely for my team of six beginning with my name and ending with that of Dr. Srinivasan. The tabulators had very easy work relating to this combination. When the first name was mine they were almost sure it was a record for the team of six. We should thank the High Command at Masulipatam for the advertisement in The Hindu asking the Andhras to vote for five Andhras only. This had the reverse effect of large losses to the five Andhras in other Districts and even the gain for our rivals in Northern Circars was not so visible as was expected by the person in Masulipatam who spent for the advertisement.

The next biggest combination is of seven. This was invariably my team of six and Dr. Gurumurti or Dr. Suryanarayana Rao. In about a few combinations Dr. Ramakrishna appeared in the place of Dr. Suryanarayana Rao. Evidently the latter papers were from Madras.

SOCIO-POLITICAL HARMONY DEMONSTRATED.

The above analysis though it may indicate to a negligible extent that "blood can never be thinner than water", it may be safely said that on the whole, the electorate minded principles more than persons as was evidenced by the final verdict. It may look as if the graduates leaned more towards graduates while the licentiates respected the

principles set forth in the Postal Address to the electors and voted for one graduate only in my team. I feel really proud of my licentiate brethren and do not at all feel sorry that my graduate comrade in the team had the benefit of team work more than the rest in the team. Ordinarily the world consists of a large number of persons with a more balanced and unprejudiced mind than the few with a narrow field of vision. So, the total effect of team work has to be reckoned by the success of the entire team and not by small gains of a few individuals or as small losses of others in the team. The recent elections where the members of the medical profession were the electors, did amply demonstrate to the public and much more to the Government that the only profession that could be depended upon for solving problems relating to society and especially the political society now in great turmoil and even a barrier for India to enjoy political and social freedom, is the noble medical profession. The glorious success of Dr. M. J. Samuel, a member belonging to a political minority community proved that the medical profession does not recognise castes and what more—there was absolutely no bad feeling between the Brahmin and Non-Brahmin practitioners though these two communities are ever quarrelling in the political field. The most striking feature was that the bitterness of Andhras who are now keen to have a province of their own due to their alleged political sufferance, was not demonstrated to the extent this feeling was fomented by a few interested Andhra practitioners amongst whom could be counted a member of the Indian Medical Service who I regret to say took the leading part. The opposition led against me by Dr. Krishna Rao & Co. could be roughly measured by the 25 votes scored by my Andhra comrade, Dr. Narayanamurti more than I did, both of us being uniformly voted for by the electorate. The medical profession demonstrated amply that their interests are international and cannot be based on castes, creeds or even on the languages their members may speak. All this could be demonstrated on account of the elections being fought in team spirit.

HOLLOW OPPOSITION.

Personally I did not count much Lt. Col. Shastri's interference in the elections openly or of other officials secretly as I had been accustomed to much more severe opposition when I was a candidate for Medical Council elections in the years 1929 and 1934. In 1929 the Returning Officer was the Registrar of the Madras Medical Council and the clerk in his office was so kind to one of my rivals that the voting papers which my rival required for those who wanted to vote for him could be had by him for the mere asking and it was indeed a miracle to all concerned that I headed the poll with a thumping majority. In the next election in 1934 though my constituency was then limited to medical licentiates only, a prominent official in the institution where licentiates were trained, who is himself not a licentiate gave me lot of trouble. Yet I got over 1,500 votes and my rival propped up by this official got only 60 votes or very near that number. I had as many as seven candidates to contend against in that year. The then President of the Council who must have pitied my lot during the course of my election, was so much surprised at the result of the election that he thought that it was desirable that a deposit should be demanded from the candidates as in political elections so as to prevent candidates from contending elections merely for the fun of it. Accordingly the candidates for the recent elections had to make a deposit of Rs. 50—a procedure not adopted as yet in the elections for the Provincial Medical Councils anywhere or even for the elections relating to the Medical Council of India. I wish the Government take notice of what had happened during the course of recent elections so that the candidates for future elections will not have to suffer from the undue influence either of the officials or non-officials of the position of Chairmen of the Municipalities, or Presidents of the District Boards who could easily influence the medical officers under their control.

My action, in selecting a team was questioned on various grounds, the chief amongst them being that I did not consult the existing medical associations in

the Presidency. The Secretaries and the Presidents of all the Medical Associations in this Province do know as a matter of fact that I in my capacity as the Editor of The Medical Practitioner have been always consulting them on important problems affecting the profession and they could also vouchsafe what poor response I had from them.

It was just possible that I would have had much better response relating to the subject of Medical Council Elections and with the response the number of prospective candidates would have multiplied and with it the difficulties of the selection of candidates to form a team. This fact was demonstrated at the Andhra Medical Conference by the very proponents of the suggestion, for consulting the Associations.

The complaint against me was the loudest and as hollow from Maharani-pet and Masulipatam (my Flanders in elections). Those who complained knew that the plea for Andhra representation was first raised at Ellore early in 1938 when the Andhra Medical Profession met in conference for the 7th time. This plea was reiterated in Vizianagaram on 25th or 26th February 1940 by the VIII Andhra Medical Conference when the Government notification about the several dates for the proceedings of the Madras Medical Council Elections were notified. It was expected as the name implies that this conference must have had representation from all districts speaking the Telugu language. I could at least say that Lt. Col. Shastri and his friends at Maharani-pet were at Vizianagaram on the 25th and 26th February 1940. I know that this assembly was unable to select its three nominees as candidates for the Medical Council Elections. The surprise should be all the more when Dr. P. Gurumurti who had by this time given his consent to me to be a candidate to represent the six districts in the Northern Circars and who presided over the Conference was also unable to give a lead on this subject or at least tell his brethren my views and

arrangements for the representation for Telugu speaking districts of which Dr. Gurumurti knew on 12-2-40. If I were an invitee to the VIII Andhra Medical Conference or even otherwise if I knew that a resolution on the Medical Council Elections was likely to be considered by the Conference, I would have run up to Vizianagaram and attended the Conference as an uninvited guest which I did for attending the Kistna District Medical Association meeting held at Masulipatam on 20-3-40. It is now evident that the few Andhras who could not get over their real weakness, attacked me most uncharitably trying to hit me above the belt and behind my back. I stood this onslaught though I was physically unfit.

MY GRATITUDE.

All credit of my survival and the success of my team goes to the members of the medical profession including the readers of The Medical Practitioner who rightly trusted me as a reliable worker to serve them judging me by my past activities and not by the twisted facts and false arguments hurled against me. I am really most humiliated by my success and cannot even for a moment feel puffed up with pride even in my dream. I assure my friends and the well wishers of the profession that all of them did keep me and the team selected by me under a deep debt of gratitude which we cannot repay. The confidence the electorate did repose in me and my team will not be betrayed by me and I thank all most sincerely for their support and assure my opponents who were really not the four candidates, for all of them did approach me to have them in my team and I did betray them to a certain extent, not in my interests but in the interests of the profession and selected Dr. Gurumurti instead of any one of the four and it was perhaps an ironical fate that I had to suffer on account of the bitter onslaught against me by a team of six who are very good friends of Dr. Gurumurti and whom I shall now embrace as good friends of mine as Dr. Gurumurti has always been my trusted friend.

NOTICE

Subscribers of The Medical Practitioner are requested to note their registered numbers appearing on the postal wrapper of the Journal while corresponding with the Managing Editor.

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[No. 8

MADRAS MEDICAL COUNCIL ELECTIONS.

VERDICT FOR TEAM WORK.

I have advisedly left the Editorial Chair to convey the glad news to all concerned in the recent Madras Medical Council Elections that the enlightened electorate out of which 3,040 registered practitioners exercised their franchise gave a verdict by a very large majority that team work is the ideal to be followed by the members of the medical profession and the selection of the members of the team originally conceived by me is the best. I do not say that there are not more competent practitioners in the Madras Medical Register to represent the entire medical profession in the Medical Council than the seven who are now selected from out of eleven that were nominated to contest the elections. I can only endorse the verdict that the seven elected out of eleven nominated have the confidence of the Electorate basing on the authority of 3,040 practitioners who took part in the elections. I could now at least say that I knew the heart of the electors more than the few practitioners in Northern Circars who misjudged me and my honest purpose in the team work. If Dr. Gurumurti did not leave the team depending upon those few who acted as his agents after that fateful

meeting of the Kistna District Medical Association, I was sure that there would not have been a contest at all and even if there were one, the four other candidates in the Northern Circars would have been left alone by even their friends on whom they depended. This was the opinion gathered by me after an extensive tour in Northern Circars soon after I attended the meeting of the Kistna District Medical Association at Masulipatam on 20th March 1940. Later when it was definitely known that Dr. Gurumurti would not join the team I could conceive the troubles I had to contend against for the final victory of the team, which I knew was ours from the day I made up my mind to contest the elections with the team in spite of the campaign of villification engineered against me on account of which myself and at least one of my comrades in the team who chanced to be born in South Kanara suffered most not only in Northern Circars but to some extent at the hands of Malayalee voters especially in the official circle. With the kind help of those who personally knew me as a faithful worker I pulled up the team more powerfully and gave the benefit of my exertions to the team more visibly than the team of six agents of the five candidates in Northern Circars could do for propping up their five candidates by broadcast-

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ing the so called, "Private and Confidential" appeal to the Electorate as could be judged by the final verdict. It is needless for me to say that in case I did not conceive the idea of team work in contesting Elections and minded my personal interest and not of the profession by asking for a vote for myself it would have been possible for me to secure almost all the votes from out of 3,040 and I would not have had added a few more to the list of my bitter brethren in the profession in the official circle and as few belonging to the non-official medical circle who have to depend upon the goodwill of these few officials whom I have been criticising and will still continue to criticise not for my personal gain but to raise the prestige and status of the noble profession and at the same time to secure prosperity and contentment for the members of the entire profession to serve whom I have dedicated the rest of my life. In the electioneering campaign I was as conscious of my strength as much as I knew my weak spots. Some of my Andhra friends did tell me that if I did not make any reference in the Postal Address to the electors about the part played by me and Dr. Gurumurti relating to the team, I would have had better support in Northern Circars than what I actually got for me and the rest of my comrades in the team. If I served myself and the time and not the team and its future services to the profession about which I made mention in the Postal Address, there would have been real danger to the success of all the members in the team though I might have certainly topped the poll. I would have also condemned myself if I minded my artificial glory and the Electorate outside Northern Circars would not have been as discreet as they were in solidly voting for the team of six and their votes would have been so divided that

one or two in my team would have been missed. In any team work a few are bound to suffer. But the sacrifice made by these few in the interest of the success for the entire team, is bound to be applauded and the individual members of the team cannot and will not count their popularity indicated by the votes individually. I am not sorry for the contest though I originally thought innocently and as ignorantly that the team of seven representing all interests would likely prevent a contest. Soon after I came to know that there would be a contest I did attempt to educate the electorate and I am really thankful to the Electorate in educating me in return. If there was no contest I would not have had the need of personally coming in contact with a large number of voters throughout the Presidency including the City of Madras and would not have had the benefit of knowing the grievances of individual practitioners or of a group of them either in the city or outside. Everything has happened for good and the Elections did teach me many lessons which I have narrated elsewhere under the caption, "My Impressions At The Ballot Box, Before And After."

Now that the elections are over let us all proclaim peace, forget all we did and forgive each other remembering what I said in the concluding paras of the Postal Address to the Electorate which runs thus:—

"1. Though it has not been possible for Dr. Gurumurti to be in the team, in spite of our sincere and honest efforts, the other six members in the team will show their hands of good-will to whomsoever that is elected from amongst the five candidates that are contesting the elections from Northern Circars and the seven returned by the General Electorate, will merge themselves with the three members returned by three Medical Colleges and with the two returned by two Universities and the twelve elected members with the help and co-operation of the three nominated members jointly work like a happy

family with the Surgeon-General with the Government of Madras as its head and will maintain the honour and prestige of the profession and at the same time guard the rights and privileges of the registered practitioners fearlessly.

2. The team will utilise the statutory power and influence of the Medical Council and enable all Registered Practitioners to enjoy equally the rights and privileges conferred on them by virtue of their being registered without invidious distinctions basing on official position or qualifications whether it be in regard to granting of medical certificates or relating to any privilege to be enjoyed by the Registered Practitioners.

3. The team will agitate and attempt to afford reasonable facilities to the medical licentiates aspiring for higher medical qualifications either in India or in foreign countries.

4. The team through the Medical Council press to the notice of the Government the recommendation of the Megaw Committee on medical education that the licentiates who have undergone five years course of study should be given the status of graduates in regard to their entry into Government Service.

5. Outside the Medical Council the team will serve the entire medical profession in all possible ways so that its members evolve into a contented and prosperous fraternity: and for this purpose attempt to introduce a system of medical relief similar to the Panel system, obtaining in Great Britain so that the rank and file in the medical profession may not struggle for existence.

6. The team will agitate in the Madras Medical Council and outside to get recognition to the Andhra M. B. B. S. degree with retrospective effect and for bringing all registered practitioners in the Provincial Medical Registers within the purview of the Medical Council of India Act and in case the team does not succeed in their attempts, agitate for the abolition of the Medical Council of India which instead of obtaining honour outside for the Indian Medical Profession and efficiency at home by including the medical licentiates within the purview of the Medical Council Act, has been actually dishonouring itself by being dictated to by foreign countries that the reciprocity of the Medical Council of India should depend upon the recognition of such reciprocity by the General Medical Council of Great Britain and has been obstructing efficiency in the medical profession by not recognising the qualifications of the medical licentiates.

7. The team will agitate to bring about Synthesis of all Indigenous Systems of Medicine with the Scientific System of Medicine and thus prevent the growth of a Hybrid System which

has thrown into the field of medical practice, over 22,000 practitioners recognised by the Madras Government by the creation of a Medical Register brought into existence by their administrative authority and not by a Statute (as the Madras Medical Registration Act is) which Statute could let in so far only 7,000 practitioners (approximately). By so doing the team will safeguard the glory of ancient Systems of Medicine and indirectly put an end to quackery now recognised by the Government to the detriment of the welfare of the public."

I am first thankful to God and then to the Electorate who by a large majority did not only approve the idea of team work but also selected Dr. Gurumurti as the seventh member in the team, thus enabling me to realise my vision which I conceived in the best interests of the profession at the very commencement of the Elections. I trust that Dr. Gurumurti would not now hesitate to clasp the hands of six brethren of his who did not close their fist and are ever anxious to pull him into the team so that all of us could sing the song, 'We are Seven.' The work of the team will not end with the Elections. The choice of the team is only an introduction of the successful candidates to the medical profession and the public as the rightful representatives of the entire profession and the pledges given by the team would be worked out not forgetting the spirit and ideals of team work. I appeal to all my brethren in the profession most earnestly to co-operate with the team and help it in its future struggles to keep up the prestige of the noble profession and at the same time to find out new fields for doing service to the suffering humanity, which in its turn will find more employment and bring prosperity and contentment to the medical profession.

V. RAMA KAMATH.

VERDICT OF THE ELECTORATE IS FOR KAMATH'S ORIGINAL TEAM

Consisting of:

DOCTORS V. RAMA KAMATH, V. KRISHNA MENON, K. NARAYANA-MURTI, M. J. SAMUEL, M.L.A., T. S. SHETTY, P. S. SRINIVASAN M.L.A., AND P. GURUMURTI.

News and Comments.

Private Practice and State-Paid Practitioners: It is reported to us from almost all districts including the City of Madras that restriction of private practice by State-paid practitioners to only consulting practice is at present obeyed only in breach. It is also said that the present Government are responsible for such a breach as the original G.O. passed by the Congress Government made it compulsory that their medical officers should keep an account of the cases seen by them in consultation and pay the Government 3 per cent of the fees collected by them and the recent G. O. modifying the previous order cancelling the last two obligations, has made it possible for the medical officers not to mind the restriction. While it may be necessary to investigate into the allegations made relating to the breach of the Government Order, we cannot agree that the breach was made possible due to the modification of the original Order of the Congress Government. For, an erring officer may also err to keep a correct account. The sense of British justice is so sharp that it is really a hard task to detect any offending medical officer unless there is unimpeachable evidence for proving the offence. Unfortunately the history of corruption is so old and the ways employed are so methodical that corruption has assumed such a conventional routine that its heinousness is not felt either by the giver of money or its receiver. We should say that the public are solely responsible for corruption or else it would not have assumed such a vicious turn as to be unfathomable though seen or heard even by the Government. This should not be an excuse but should serve as an eye opener to the Government to rectify matters so that medical relief in Government institutions does not assume the dimensions of trade which will convert the temples of service into devils' workshop. If the concession of consulting practice is misused and a patient is treated outside hospital, there may not be as much harm either to the profession or the public as that now found within the Government Medical Institutions and in the institutions which are imparting medical education one

could imagine the seriousness of the harm done when it is known that wicked things need not be taught to the young and good things even if they are taught are ever forgotten and not practised at all. To mention but one example of corrupt practices a medical officer working in a special department may be consulted by a patient who though, well-to-do, would like to get special work done in the Government Institution at much cheaper cost than if he has to go to a private institution where the practitioner has to charge a reasonable fee to maintain himself and get a reasonable return to the capital and running expenditure. The Government Medical Officer gets his salary and has nothing to worry to maintain himself; the capital and running expenditure of the institution where he works come from public funds and what he gets by a private consultation will not necessarily be proportionate to the benefit earned by the well-to-do. The well-to-do patients will have earlier and better attention than the one who really deserves charitable treatment at the cost of public funds. Such abuses have been a matter of routine and not exception. It was rightly thought that after the ban on unrestricted privileges of private practice by state-paid practitioners the danger of the Government institutions going to disrepute would be far less but alas! the G. O. has been working otherwise. Instances have not been wanting in the past that even at well equipped institutions the findings varied relating to a particular item of investigation purposely labled as if from different patients (for testing the veracity of reports) though the item for investigation sent, belonged to the one and the same patient in another Government Institution. The surprise might be shocking when it is said that the officers who tested the accuracy of findings belonged to the same Government who run all the institutions. What are the causes for such surprises? They cannot be scientific curiosities. May we suggest the cause of such results? The person who is allowed to act for the scientist in these institutions is an attender or a technician who has assumed the responsibilities of his scientific master whose

attention is naturally required by those who pay him inside the institution for the private work done. He may be made to pay a tithe to the institution to escape detection by the Departmental Head. If questioned he would beat about the rules and regulations so cleverly that he could argue why he should not be benefitted when the Government is paid what is demanded for the work done within Government Institution especially when he is allowed consultation practice. If such cut-throat unwholesome competition is permitted under the garb of consulting practice, one could imagine the harm done to private practitioners and this is the reason why private enterprises of public utility cannot thrive in India with the disastrous results to the evolution and growth of scientific medical profession. The gravity of the situation is so startling in the Government Institutions where by a specific order the Government did totally prohibit private practice including the consulting practice and yet some officers working in these institutions have been escaping detection by the Government. The love to serve in particular Government institutions by particular officers has grown so much that officers in lower grade of service refused and have been refusing to go out of Madras even on promotion to a higher grade. Higher pay does not attract them to the extent private practice does and in spite of such glaring reasons Government did permit these officers to stay on and consequently they have taken such deep roots in the tenure of permanent settlement that they cannot be shaken at all. Even the Governors of Provinces are not permitted to stick to a province for a period more than five years and yet the servants of the Government could afford to be unremovable. It is a pity even some most honest officers have become dupes to the theory that permanent settlement is best suited in teaching institutions. They forget that those doing work in teaching institutions do private work though paid as full time officers an anomaly not heard of in any other civilized country. There are at present two Medical Colleges belonging to the Government and a third is just sprouting—to rise or to fall time has to

decide. All the three teaching institutions have full compliment of highly qualified staff. A five year change will be conducive to the well-being of the teachers as well as the taught. The profession at least just at present does not feel the competition from European members of the I. M. S. and it does not matter they are fortified securely. Unless the Government have recourse to the help of the C.I.D. to detect the erring medical officers paid or honorary and apply the healthy rule of transfers existing in all other Government Departments, the profession is likely to grow ignoble. Surely the Government, especially the present Emergency Government who are above politics and personal considerations due to politics and who have at the helm of the Medical Department a very shrewd officer with as amiable a temperament who to our knowledge has a retentive memory of facts and persons, could do more to stabilise the growth and evolution of scientific system of medicine than any popular Government either in the past or in the future who, in spite of their popularity or to maintain their popularity with their party members, are at times or many a time go against the dictates of a God-given-soul to satisfy the dictates of the political-soul.

War Service and Licentiates: The Military Medical Department, being in urgent need of medical sub-ordinates for war-service, is calling applications from medical licentiates. It is said that though there is response from Northern India, the response from Southern India especially from the Madras Presidency is very poor. We were rather inquisitive or even anxious to know why war-service did not attract the Madras Licentiates and we interviewed a few of them fresh from the school. They compared their lot to that of the nurses in military service and said it was most derogatory that when nurses working under medical men get a start of at least Rs. 105/- or very near this amount and could reach a maximum of Rs. 350/- or a little over this amount with all the other privileges such as free rations, dress, quarters etc., the licentiates were given a pay ranging from Rs. 70 to Rs. 140. In addition they pointed out that they had

undergone five years course akin to the University standard of medical education unlike the licentiates in other parts of India and therefore the pay ranging from Rs. 70/- to 140/- per month offered to them was not at all attractive especially so on account of war risks. There was reason and sense in the statements made to us by the Madras Licentiates. All the same even supposing the Military Medical Department recognises better merit in the Madras Licentiates it will not be possible for this Department to give more pay to the Madras Medical Sub-ordinates unless the Madras Licentiates are recruited as Military Assistant Surgeon. The introduction of the five years course for the Medical Licentiates was due to the labours of a Committee on medical education appointed by the Madras Government some 12 years ago and presided over by the then Surgeon-General Major-General, Sir J. W. D. Megaw. The Committee unanimously came to the conclusion that in the interest of efficient medical relief, the best quality should be a more wholesome ideal than the large number of medical men of lower standard of medical education. The Committee was also of unanimous opinion that such of those licentiates who underwent five years course, if they had intermediate standard of general education to their credit, should be treated equal to medical graduates for the purpose of recruitment for Government Service. The Madras Government have now a splendid opportunity of carrying out the wishes of the Megaw Committee by recommending to the Military Department to entertain the licentiates of Madras who have undergone five years training with the Intermediate standard of general education as Military Assistant Surgeons. In the meanwhile as war-service is an emergency, the Madras Government may make a gesture without any risk by assuring such of the medical licentiates who join the emergency war service that in case of recruitment to the Madras Medical Subordinate Department those having war service at their credit would be preferred depending upon the service rendered by the applicants during the war. It is very likely that in spite of

the policy of the Government to enlarge the scope of Honorary Service, the Government will soon be forced to recruit sub-assistant surgeons to serve in Agency tracts and also in Jails where Honorary Service is not a practical proposition. The sooner the Madras Government make this gesture the better.

T. D. D. Diploma: The selection of the six candidates recently made by a Selection Committee consisting of the Surgeon-General with the Government of Madras, Principal, Madras Medical College and the Director of the Arogyavaram Sanatorium has caused resentment not only amongst the medical licentiates (none of whom being in the selected list), but also amongst the graduates (all the selected candidates are graduates). We are in possession of arguments and facts from both sides and have to express at the very outset that the Selection Committee was as fair as it could possibly be under the prevailing circumstances. All concerned should know that the very systems of medical administration and medical relief in India are fundamentally at fault and not the persons who may be in charge of these systems for the time being, consequently any criticisms levelled against the selection of candidates for the new T. D. D. diploma or against anything else relating the medical profession are necessarily not on persons.

All credit for launching the campaign against tuberculosis should go to that beneficent lady, Marchioness Linlithgow who rightly took advantage of her position to do the mighty humanitarian work for saving India from the ravages of tuberculosis. Workers in tuberculosis whom she had to choose as her associates to do the actual field work majority of whom are specialists in the treatment of tuberculosis without the hall mark of specialisation must have felt the necessity of artificially specialising an army who they thought should have the badge of T. D. D. diploma to be recognised as specialists by the public and for this purpose they have adopted the British method of specialisation by examination. Outside British Isles, medical

men evolve as specialists by actual professional work lasting several years and not one year or a few months of cramming or coaching. In India especially in Government Service the real work of specialisation is learnt after the hall mark of specialisation is obtained by examination. It cannot be otherwise relating to the T. D. D. Diploma. At the same time it has also to be said that the magnitude of campaign against tuberculosis is such that artificial methods have to be employed to start with. People in India seem to be by nature more credulous and a certain amount of risk seems to be inevitable. This risk is certainly much less than the risk of tuberculosis patients going for treatment to the practitioners who are self styled specialists having attended the wards of a tuberculosis hospital or sanatorium for a period not exceeding a month or utmost a couple of months. The medical licentiates complain that none of the licentiate candidates were asked to appear before the Selection Committee and their merit was decided in *absentia*. Both the licentiates and graduates are suggesting that such of them who have been working in the Madras Government Tuberculosis Hospital for a period more than that is required for the prospective T. D. D. course they may be exempted from the practical course of six months at the Arogyavaram Sanatorium and permitted to appear for the T. D. D. examination. This is really a modest and reasonable suggestion worth the consideration of those who are in high command relating to the campaign against tuberculosis. The bigger the army the greater the chances of success. Even in actual warfare the Allies or the blood thirsty Hitler depend upon actual training and not on mere hall mark in entertaining men for field service. Why should not the same test be adopted in the war against diseases especially against a disease like tuberculosis which has been making rapid strides in human destruction?

A Good Administrator Retires: Rao Bahadur Capt. P. Krishnaswami, M.B., C.M., M.R.C.P. (E) lay down his mantle as the Superintendent, Government Royapuram Hospital on 29th May 1940 having

finished his full tenure of Government Service. Capt. Krishnaswami was born on 30th May 1885 and was entertained as Civil Assistant Surgeon in 1909 soon after he finished his career in the Madras Medical College and was posted for duty in the Government General Hospital as an Assistant to the then second Physician, Lt. Col. C. Donovan under whom he served as such till 1912 when he was transferred to the Madras Medical College as the Second Assistant to the Professor of Physiology under the same master, Lt. Col. Donovan. In 1916 when the Great War was raging, young Dr. Krishnaswami volunteered to serve the army which he did till 1921 and retired from temporary I.M.S. as a Captain. He had his reward for War Service and was promoted as District Medical and Sanitary Officer of Agency Tracts where he served from 1921 to 1924 and did also Futuri duty for two years in addition to his duties as D.M. & S.O. His next appointment was District Medical Officer, Kistna for about one year from 11th November 1924 to 23rd August 1925 when he was posted as D.M.O., Nellore in which capacity he served till June 1926. Capt. Krishnaswami's experience gained by him in the early part of his career as an Assistant to the Professor of Physiology stood him in good stead in 1926 when he was made the Professor of Physiology, Vizagapatam Medical College now the Andhra Medical College in which capacity he served till 21st August 1929. He took advantage of the era of study leave just then prevailing in the Madras Medical Department and went to Edinburgh and qualified for M. R. C. P. and returned to India early in December 1931. The Madras Medical College attracted him to serve as additional Professor of Medicine with which was combined the duties of one of the Physicians of General Hospital. Thus he virtually occupied the place of his old Master, Lt. Col. Donovan an eventuality which perhaps Capt. Krishnaswami and others like him did not dream at the time he entered service as an Assistant Surgeon. After he served in the latter capacity from 3rd December 1931 to 24th February 1935 he was transferred to Government

Royapuram Hospital as its Superintendent and Lecturer of Medicine, Stanley Medical School now a College. From September 1939 till his retirement he served in addition as the Surgeon, First District, a post which was till a few years ago enjoyed by an Indian Member of the I.M.S. The five years period of service of Capt. Krishnaswami at the Government Royapuram Hospital was an epoch of transformation of the building accommodation of that institution on account of which the hospital can now boast of separate blocks for various special departments of Medicine such as Eye, Ear, Nose, Throat, Orthopaedics etc. In addition we now find separate blocks for the treatment of social diseases such as Tuberculosis, Venereal diseases and Leprosy. Other minor wants did not escape the notice of this zealous worker and he enlarged the clinical laboratory, increased accommodation in the Out-patient Department. He did mind the comforts of Nurses and the menial staff by providing additional accommodation for them. In fact, he was daily surveying the institution under his care with the eyes of an eagle and from the operation theatre to the latrines and in between any inch of space did not fail to attract his daily attention. All this was possible for Capt. Krishnaswami to do with avidity as he was a Physician of the right type who must have had the conception in him that all other departments in a hospital are the auxiliary necessities to do the work of a Physician. We cannot fail to mention the laborious work of this officer in providing a large surgical block which we had the pleasure of seeing under rapid construction. We admired the simplicity of this building which will add to the grandeur of the existing buildings of Government Royapuram Hospital and will be a lasting monument of the good work turned out by Capt. Krishnaswami and it will be in fitness of things if the Government call this new block after Capt. Krishnaswami's name, consistent with the policy followed in the same institution and elsewhere. We wish Capt. Krishnaswami a long life of usefulness during his days of retirement.

First Indian F.R.C.P. (Lond.) Outside I.M.S.: It must be a source of

pride for the members of the Indian Medical Profession that Dr. Bhaskara Menon now Professor of Pathology, Andhra Medical College has been recently selected as a Fellow of Royal College of Physicians, London, an honour which is as most covetous as it is hard to attain even by those born, bred up and educated in the British Isles. Dr. Bhaskara Menon is the first amongst the members of the Provincial Medical Service to get this recognition and the first Indian medical man outside the cadre of the Indian Medical Service who was honoured with this distinction recently. Dr. Menon got the M.B.B.S. Degree of the Madras University in 1921 and got distinction in Pathology a subject which Dr. Menon has been adhering to all through his career and it was quite right that the Government appointed him as the Professor of Pathology in 1931. Dr. Menon has been an ambitious young man who attempted to rise high and higher and did succeed in achieving what he aspired for. Five years after he passed his M.B.B.S. Degree, he went to Great Britain and passed the M.R.C.P. (Lond.) and after his return to India in 1927, joined the Madras Medical Service as the Assistant to the Professor of Pathology, Madras Medical College. He was not content with the qualification of being a member of the Royal College of Physicians and became a Doctor of Medicine of the Madras University in 1928 and acted for a brief period in 1931 as the Professor of Pathology of the Andhra Medical College then known as Vizag. Medical College. Later, he acted as Lecturer in Medicine for a brief period of six months in 1931 in Tanjore Medical School from where he was posted to Royapuram Medical School as the Lecturer of Pathology which position he occupied from 1931 to 1937. Dr. Menon has been a student even when he has been teaching. This is a marked feature in his career and during the period of Lecturership in the Royapuram Medical School, now Stanley Medical College, he mastered his subject, Pathology, went to Edinburgh in 1937 and became Doctor of Science of Edinburgh University which distinction he attained on account of research conduc-

ted by him relating to Spleen. The Edinburgh University awarded him a gold medal as a token of distinction. His work as a Pathologist was recognised even by a foreign Government of the Straits Settlements who awarded him another gold medal in recognition of his work in Tropical Medicine. Soon after his return from Edinburgh as a Doctor of Science with two medals of distinction hanging on his chest, he was appointed as Professor of Pathology of the Andhra Medical College. The Royal College of Physicians, London, must have been watching the career of Dr. Menon though working in a far off land as the

Professor of Pathology and elected him as a Fellow of Royal College of Physicians.

Very few Indians belonging to the medical profession, who came to eminence have been authors of books. It is too true relating to the Madras Medical Service. But young Dr. Menon has been an exception even in this respect. He published a book on Tropical Pathology in 1931. We trust Dr. Bhaskara Menon would make a distinct mark by adding to the lore of wealth in Pathology for which he has the requisite qualifications and facilities. We congratulate Dr. Bhaskar Menon most heartily and wish him a long life of usefulness.

PHONE No: 3034

Dr. S. R. BHAT

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

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To

EDITOR,

Sir,

I have been using almost as a specific for Amoebic Dysentery a decoction made out of the external rind of pomegranates, the outer layer of the rind which is yellowish green or yellowish red being scraped out for the purpose. Till now I have not got a single case of failure. I have tried in all in 42 cases. Only in three cases I had to give this medicine for more than four days. Whether the fruit is tender or ripe, the effect is uniformly satisfactory. If you kindly enlighten the profession about this experiment of mine you will be doing distinct service to the profession as well as to research. I feel confident that this preparation of pomegranate will excel Emetine in its usefulness for Amoebic dysentery. I do not know the exact composition of this bark and hence I request you to enlighten me through the columns of your journal.

(SD.) V. GOPALAKRISHNAMURTI,
Rural Medical Practitioner.

Narpala.

GOVERNMENT OF MADRAS.

Abstract.

Act—Madras Medical Registration Act, 1914, Term of office of members elected under Section 5(1) (c) to (e)—Alteration of—Proposal to be placed before the new Council.

Education and Public Health Department.
G.O. No. Ms. 1421 P.H., dated 5th April 1940.
Read the following paper :—

From Sri V. Rama Kamath, Member, Medical Council, and Managing Editor, The Medical Practitioner, No. M.C. 3/113 dated 8-2-1940.

From President, Madras Medical Council, C-1-40, dated 21-2-1940.

From Surgeon-General, No. 2960-2M dated 18-3-1940.

ORDER.

Sri V. Rama Kamath, Member, Madras Medical Council and Managing Editor, "The Medical Practitioner" suggests that the Madras Medical Registration Act, 1914 may be amended so that members elected to the Council under clauses (c) (d) and (e) of sub-section (1) of section 5 of the

Act may cease to be members of the Council, on their ceasing to be members of the staff of the Medical Colleges concerned. The President, Madras Medical Council and the Surgeon-General support the suggestion. The President, Madras Medical Council is requested to place the proposal before the new Council as soon as it is constituted and to communicate its views to the Government at an early date.

G. H. COOKE,

Secretary to Government.

(By Order of His Excellency the Governor)

Government of Madras.

EDUCATION AND PUBLIC HEALTH
DEPARTMENT.

(Public Health)

G. O. No. 1080, Dated 16th March 1940.

Medical institutions—Rural (subsidized)—Form of agreement to be executed by medical practitioners—Clause 12—Amended.

Read—the following paper :—

From the Principal, Indian Medical School, dated 1st August 1939, No. 23231-1.

Order—No. 1080, P. H. Dated 16th March 1940.

Under clause 12 of the form of agreement prescribed for execution by rural medical practitioners (G. O. No. 3510, P. H., dated 4th October 1938), a local board should before terminating the agreement entered into with a medical practitioner give six months' notice in writing if it is unable to maintain the dispensary on account of financial stringency. In the event of an alleged breach of the agreement or of any alleged unsatisfactory work or gross misconduct, the board should frame definite charges in writing, obtain the explanation of the practitioner in writing and then proceed to pass orders in the matter.

2. The question has been raised whether the action contemplated above should be initiated by the board or by the president. As the agreement is between the district board and the medical practitioner, the Government consider that the question of closure of the dispensary on account of financial stringency and the issue of notice to the practitioner should be decided by the board. Where his service is proposed to be terminated for other reasons, the president should after consulting the District Medical Officer frame charges, against the rural medical practitioner and obtain his explanation in writing. He should again consult the District Medical Officer and then place the matter before the board for orders, together with the views of the District Medical Officer.

3. The following amendments shall be made to the forms of agreement prescribed for rural medical practitioners in G. O. No. 3510, P. H.,

dated 4th. October 1938, as subsequently amended:—

(By order of His Excellency the Governor)

G. H. COOKE,

Secretary to Government.

(The amendments appearing in the above G. O. have been omitted as without them the order indicates their contents.—Ed.)

**GOVERNMENT OF MADRAS.
EDUCATION AND PUBLIC HEALTH
DEPARTMENT.**

G. O. No. 2017, 13th May 1940: Medical Institutions—Rural—Closure during the temporary absence of the Medical Practitioner—Avoidance of—Instructions issued.

READ the following papers:—

From the President, District Board, North Arcot, dated 24th February 1940. R. O. C. No. 12034/39.

From the Principal, Indian Medical School, dated 15th March 1940, R. O. C. No. 533-1/P.L./2-40.

From the Surgeon-General, dated 19th April 1940, R. O. C. No. 3990/Hospital.

Order—No. 2017, P-H., dated 13th May 1940.

The President, District Board, North Arcot, has raised the question whether servants employed in rural dispensaries may be paid

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(By Order of His Excellency the Governor.)

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Secretary to Government.

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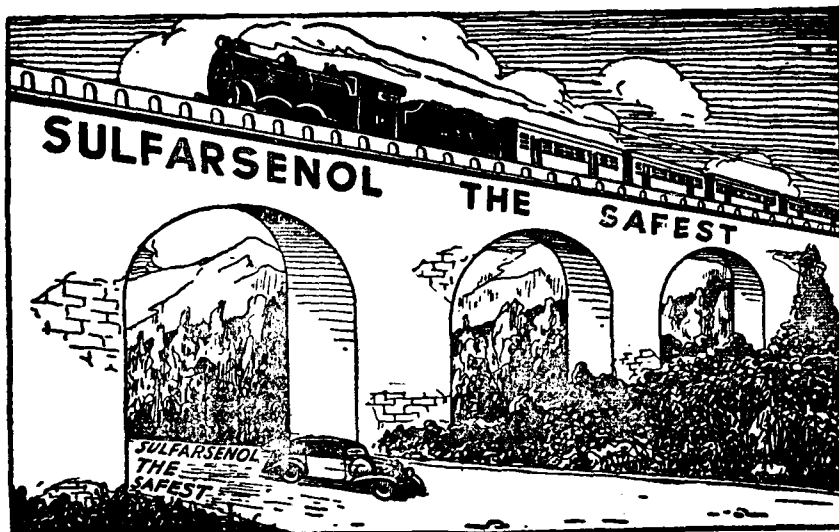
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Original Articles

**PATHOLOGY, LESIONS AND PRINCIPLES OF TREATMENT OF
SURGICAL TUBERCULOSIS.**

By

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Tuberculosis is the most important killing disease and 1/7 of the deaths in the world is due to this condition. The statistical figures for Surgical Tuberculosis are difficult to obtain even for Madras.

The term "Surgical Tuberculosis" is a misnomer in so far as it involves any suggestion of operative treatment as the rational or even legitimate treatment. Tuberculosis, wherever situated, is a general disease presenting local manifestations, and as such demands treatment directed towards the improvement of general health. Such local treatment as is necessary must in no way counteract this indispensable 'disinfection' of the body.

Infection by Tubercle Bacilli is of two types (1) Bovine Type, and (2) Human Type.

MODE OF ENTRANCE:—(a) *Inhalation—for Pulmonary Tuberculosis:*

1. Inhalation as dust etc.
2. Droplet infection.
3. Sucking by infants.

(b) *Ingestion by Tubercular milk for Tuberculosis of alimentary tract and the Lymph nodes which drain it.*

(c) *Through Skin: Regional Lymph nodes affected—no general infection.*

(d) *Congenital through placenta: Very rare.*

Tonsils are the first organs exposed to and affected by the infection. Five per cent of all Tonsillar infections are tuberculous. The bacilli are taken up by mononuclear phagocytes and carried through the lymphoid tissue of the mucosa into the sub-mucous coat and thence to the nearest lymph-node. To begin with, tubercle is a local disease affecting the lymph-vascular system.

BOVINE TYPE: Ingestion of milk from infected cows, hence young children are infected.

PRIMARY LESION: Is in (a) Tonsils, carious teeth and secondary infection of cervical nodes.

(b) Peyer's patches of small Intestines and secondary infection in the peritoneum and lymph-nodes.

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(c) Dissemination in any body tissue, particularly the growing ends of bones and joints.

Incidence of Bovine type which is said to produce Surgical Tuberculosis in Madras and India, is according to Dr. Mathews 5 per cent and is milder than Human Tuberculosis.

HUMAN TYPE: There need be no breach of surface for infection. Usually by inhalation—organisms get caught in the crypts of tonsils, pharyngeal lymph nodes or in carious teeth, whence they infect the cervical lymph nodes or pass down and infect the bronchial or mediastinal nodes. Lung infection is not from alveolar surface, as was formerly thought that bacilli were implanted in the alveoli and at once caused a lesion of the parenchyma, since insufflation of massive doses of tubercle bacilli into the lungs of animals frequently failed to produce any disease.

Pulmonary tuberculosis in adults is due to Human type always. In children the Bovine type owing to the consumption of the large amount of milk, is the cause of diseases of bones, joints and of glands, but figures of incidence vary in Edinburgh 55%; England 20%; Germany 5%.

In adults the Human type is responsible for most cases of bone and joint tuberculosis.

In healed tubercular lesions with fibrous tissue formation, inoculation experiments reveal the presence of living tubercle bacilli.

Primary infection always occurs before puberty as shown by skin tests (Vonpirquet).

Tuberculosis as it occurs in adults is due to reinfection as the more or less chronic course pursued by the disease in adults is an indication that the patient has already been partially immunised in childhood. Natural resistance is of great importance as the removal of an infected fallopian tube or kidneys will remove all symptoms of peritoneal infection or of bladder ultimately.

INGESTION OF TUBERCLE BACILLUS: In virtue of its fatty capsule, it can survive exposure to the gastric juice even for a period of hours and thus reach the intestines unharmed. The point of entrance is the *Ileum*, the most absorptive region.

AGE GROUP: Affects all ages—young children, adolescence and old age (senile tuberculosis of lungs, knee, shoulder and spine are not uncommon).

PREDISPOSING FACTORS:—(a) Catarrhal diathesis, chronic catarrh of mucous membrane as diarrhoea, bronchitis. Infection always takes place through a mucous membrane.

(i) Membrane of respiratory tract commonest.

(ii) Membrane of digestive tract—next common.

(iii) Membrane of naso-pharynx including middle ear.

(b) Generally poor state of health (after puerperium, infectious fevers in childhood, and malnutrition).

(c) Unhygienic surroundings especially close association of children with tuberculous patients.

(d) Migration from village to city. Unimmunised groups of people go to infected places, as in the case of Gurkhas and Indians into France in the last War—Indians in England.

(e) Extremes of life—In children recovery is the rule. In senile cases prognosis is grave.

TUBERCULOSIS IN CHILDHOOD.

The mortality in the first three months after birth is small and as life goes on, the mortality rises rapidly reaching its maximum at about the second year. After that age it declines pretty fast. By the fifth year of life 50 per cent of all children and by the fifteenth year 80 per cent show a positive cutaneous reaction. (Vonpirquet). Protection of children against

infection in later years by B. C. G. Vaccine does not give promising results. Boil all milk before giving to children, as during the first year the child runs the risk of the mild bovine type of infection. The susceptibility to infection is at its greatest when the child is about a year old and a child who becomes infected at or below that age is certain to develop that disease. As age goes on, the incidence of active tuberculosis gets less, either because the very susceptible individuals have been killed off or some degree of immunity is established in most children; as a result of repeated slight infections, so that it requires a massive dose or exceptional conditions such as diminished vitality on the part of the child to give the bacillus a chance of establishing itself and producing the disease.

There is considerable evidence that the visceral manifestations of tuberculosis seen in adult life owe their origin to the recrudescence of infection acquired in early life, rather than to an infection acquired later.

Spread of the Disease: The enlargement of glands in the first instance is produced mostly by Non-Tuberculous infections of the mucous membrane. The subsequent tuberculous infection and caseation is due to the ease with which the inflamed and pathologically enlarged glands fall an easy prey to the tubercle bacillus. In children with an exudative diathesis showing seborrhoea capitis, eczema, nasal catarrh, bronchitis, follicular conjunctivitis, colitis, and vulvovaginitis, the resistance to all forms of infection is low. A large proportion of them develop that attenuated form of tubercular infection, which remains localised in the lymphatic glands, as only pathologically enlarged glands from some persistent source of infection fall an easy prey to tuberculosis. It is by increasing the resistance of the child to the usual minimal infections and by shielding him from those massed infections, which no resistance can overcome, that we can protect the child, rather than by destruction of very source of infection. One of the chief methods of prevention in

children is to guard against catarrhs of mucous membrane as after measles, pertussis and the convalescence after infectious diseases. This convalescence must be as complete as possible by change of air to sea-side if possible, so that if there has been any infection by tuberculosis, the child may be in the best condition to overcome it.

In the majority of cases the disease is usually arrested in the lymphatic glands without producing a local lesion in the mucous membrane or lies latent, in the glands awaiting a further opportunity to become active when there is a decline in the health of the child after a debilitating disease. The child is not freshly infected but the latent infection is lighted up.

In normal healthy tissues, tubercle bacilli does not flourish but in tissues whose vitality is lowered by (a) recent slight injury; (b) presence of long standing chronic inflammation and fibrosis, the organisms multiply enormously.

The tissues most commonly affected are:—lymph glands, lungs, bones, joints, spine, brain, eye, intestines, peritoneum, fallopian tubes, kidneys, bladder, testes and the skin.

The thyroid, heart and skeletal muscles are immune.

Lungs show definite evidence of resistance.

Meninges always shows no reaction.

Kidneys—Paradoxical. May excrete tubercle bacilli for a long time without being affected. When it is affected, it is destroyed and never heals. Suprarenal is seldom affected but offers no resistance.

The characteristic initial reaction is a proliferative one allied to tumour formation than an exudative reaction such as associated with inflammation. Since the tubercle bacillus is acid fast due to the fatty envelope and thus resists digestion with trypsin and body tissue fluids, it has little or no antigenic power, but when the fatty envelope has been removed, it

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displays active antigenic power. But the severe local reaction with infiltration and sometimes necrosis which follows the ingestion of dead tubercle bacilli is dependent on the irritation produced by the lipoid bodies and not on the specific antigenic proteins.

PATHOLOGICAL ANATOMY.

Whatever the situation or tissue invaded the lesion due to the successful lodgment of bacillus tuberculosis is the same in all situations.

Miliary Tubercle—caseation—liquefaction—chronic abscess—with a wall, abscess encapsulation, calcification—absorption—encapsulation in fibrous cicatrix are the usual features. There is always liability to secondary infection as there is little or no local resistance.

The initial reaction is almost always the Miliary Tubercle, occasionally it may be a more diffuse reaction; *e.g.* tuberculous granulation tissue. Two types of reaction are met with in human tubercular lesions: (a) For the first time, if the infection is not too heavy, pure cellular proliferation, neoplastic in type not the parenchymatous cell but reticulo-endothelial cell. (b) Secondly an overflowing of Leucocytes and serum and is of an exudative or inflammatory type.

In the *first type*, epitheloid cells which are longer than leucocytes and possess large vesicular nuclei and clear cell-bodies with processes which anastomose with many of the neighbours thus giving rise to an apparent reticulum which is known as epitheloid reticulum, are present.

Second type: These are tiny grey translucent nodules called Miliary tubercle on account of the size of a millet seed and a clump of bacilli can be demonstrated in the middle of the tubercle.

Giant Cells: These are formed by the fusion of epitheloid cells and it is possible that both types of cells represent a reaction against a fatty and waxy envelope of the bacilli which cause them to be treated as foreign bodies.

Sometimes tuberculosis takes a slow and chronic form in which the lesions are made of epitheloid cells only with no giant cells or other evidence of tuberculosis. In the first few days the tubercle consists entirely of the phagocytic epitheloid cells and giant cells, although in cases where a very large dose of bacilli has been injected the irritation may be so great as to cause the temporary outpouring of a flood of polymorpho-nuclear leucocytes.

By the end of a week lymphocytes make their appearance probably derived from the cells of the perivascular lymphatic sheath or other lymphoid tissue. They probably form some important protective function, for, if the lymphoid tissue of an animal is damaged by X-Rays, the disease will progress much more rapidly. As the tubercular reaction is a non-vascular cellular proliferation, caseation is very easily produced. By the end of the second week there occurs in the centre of the tubercle caseation, which is a coagulation-necrosis, partly due to lack of blood supply and partly to the action of bacterial toxins. Even though tubercle bacillus does not produce any exotoxin, on disintegrating, it liberates an endotoxin which causes a necrosis of surrounding tissues. This disintegration is effected by the action of the cells which make up the tubercle follicle.

Von-Pirquet's Test: The type of reaction to an injection of T. B. when the animal already suffers from tuberculosis is a rapid response and is essentially inflammatory and exudative. There is an outpouring of leucocytes and serum owing to the animal being in a state of allergy. The chief manifestation of the allergic state is this immediate inflammatory response, as is shown in skin inoculation tests. In the course of two or three days the inflammation subsides and is surrounded by a slow cellular proliferation which results in the formation of tubercle. This is the course of events in the spread of Human tuberculosis throughout the body, for once the initial lesion has become established, the patient is in a condition of constant allergy. One of the most important differences between primary

infection and reinfection is seen in the tissues of the guinea pig. There is a much greater tendency to breaking down in the latter condition than in the former and is called Koch's phenomenon (1891). The object of this manifestation of allergy is to rid the body of the invading micro-organisms and is a diffuse reaction. If the tuberculous tissue breaks down and is discharged on the surface, large quantities of bacilli are expelled from the body.

Calmette: "For every bacillary reinfection, the already tuberculous organisms react in a more intense and rapid manner to expel the invader. It becomes more and more intolerant of the bacillus, which constitutes for the cells a more and more virulent poison. This intolerance and the increasing hypersensitiveness manifest themselves by a tendency to more rapid caseation, to purulent softening of the tubercles and to prompt expulsion of the contents." This protective reaction may become extreme and the patient may succumb, despite or rather by reason of the immunity which he has acquired. The subsequent course of events depends on the balance between the forces of destruction and conservation.

The sequence of events may be one of the following:

(1) New tubercles coalesce and large tubercles are formed as in brain.

(2) The irritation is very great due to heavy infection; inflammatory reaction is the result as in tuberculous meningitis and acute pneumonic phthisis.

(3) In some cases there is an intermediate condition with the production of *granulation tissue without caseation*, identical with that of ordinary inflammation save for the presence of numerous tubercles. This is seen in synovial membrane of joints, hyperplastic tuberculosis of caecum.

(4) The reaction on the part of the tissues may be sufficient to limit the spread of the disease. Fibro-plastic reaction may invade the follicle and calcification may take place. Bacilli may live in it.

In Lungs and mediastinal glands, calcification is seen.

Spread of infection occurs in four ways:

1. Permeation; 2. along natural passages; 3. lymph spread and 4. blood stream:—

1. Permeation is the chief means of local extension—phagocytes transport bacteria along tissue spaces; in many organs the lesion is of irregular shape but in brain it is a mass.

2. Natural passages seen in bronchi and ureter.

3. Lymphatics. Most important route.

(a) Regional lymph nodes.

(b) If not arrested, thoracic-duct-blood stream.

(c) Blood stream by tuberculous process involving the wall of a blood vessel.

(d) General miliary tuberculosis, the rapid growth and breaking down of the bacilli resulting in severe toxæmia and death in the course of a few weeks.

Tuberculous Pus: Typical caseous material is dry, granular and cheese like. It is high in unsaturated fatty acids which inhibit the action of proteolytic ferments. When these acids become saturated, either through the administration of iodides or as the result of a natural process, the ferments have free play and produce rapid softening and liquefaction of cheesy material and a thick creamy fluid is formed called "cold abscess".

Cold Abscess: The wall of the abscess is lined by granular caseous material which may contain tubercle bacilli. The outer layers consist of granulation tissues in which caseation has not yet occurred.

Giant Cell: Large cell of irregular shape and often ill-defined at its margin. It contains numerous small or rounded nuclei which typically are situated near one edge of the cell or are disposed in a horse shoe formation. Commonly one or more such giant cells occur in a single

follicle and are usually situated near the margin of the region of the endotheloid cells. They are believed to be derived from an endotheloid cell in which amitotic division of the nucleus has been unaccompanied by corresponding cleavage of the cytoplasm. They are regarded as foreign body cells of the special type.

Caseation is a form of coagulation necrosis affecting the endotheloid cells near the centre of the tubercle and is due to the action of the toxins set free from the bacilli around which the tubercle has formed.

The endotheloid cells become swollen and lose their outline, their nuclei become faint and disappear and eventually the cells fuse in a dry, granular mass of debris which from its naked eye resemblance to cheese, is called caseous.

From its inception a tubercle is completely avascular, due to the action of bacillary toxins which effect a necrosis of the capillary walls and an obliterative endarteritis in the larger vessels of the surrounding tissues and thus reduces the frequency of hæmatogenous infection.

Hypertrophic tuberculosis: The response to tuberculous infection of the tissues not resulting in typical follicles, but in the form of a diffuse overgrowth of granulation tissue and young fibrous tissue. The so called hypertrophic form, is seen in cæcum, joints and salivary glands. Microscopically caseation is lacking and giant cell system is scanty or even absent. It is of interest to note that many of the organs specially prone to syphilitic infection such as heart, blood-vessels, pancreas, liver and spinal cord are rarely the seat of gross tuberculous lesions.

Differential diagnosis from the following other granulomata has to be made and is dealt with under affections of individual parts:—

- (i) Syphilis.
- (ii) Actinomycosis.
- (iii) Foreign bodies.
- (iv) Osteoclastoma.

(v) Rapidly growing sarcoma.

(vi) Lymphadenoma.

Chronic pyogenic infection and post-traumatic lesions always have to be excluded. Frequently tubercle supervenes on these affections. Suppuration in the neighbourhood of an artery or by the weakening produced by tuberculosis in the wall of an unsupported artery which traverses a tuberculous cavity causes serious pulmonary hæmorrhage. This is due to the rupture of a small aneurysm usually miliary in size.

Clinically always, suspect a tuberculous focus especially in children and old persons: when (1) a diffuse swelling is present in the tissues with (2) a slight general increase in the local temperature (3) history of gradual onset (4) no redness is present (white swelling).

General Principles in examination and diagnosis:—

(1) Thorough examination for the presence of tubercle elsewhere.

(2) Diagnostic use of tuberculin.

(3) Injection of infected material into guinea pig.

DIFFERENT TYPE OF ACTIVE DISEASES IN CHILDREN.

- (1) General or miliary tuberculosis.
- (2) Tuberculosis of the bronchial glands.
- (3) Pulmonary tuberculosis.
- (4) Abdominal tuberculosis.
- (5) Meningeal tuberculosis.

These types are convenient for clinical purposes but they are not to be regarded as sharply demarcated.

General Tuberculosis: There are no physical signs characteristic of it. There are the usual evidences of tuberculous infection as wasting, rise of temperature, fretfulness and general malaise. There are no physical signs so long as the tubercles are not broken down, there is no

evidence of their presence. In lungs they are too small to produce dullness and unless they break down there are no moist sounds on auscultation. In addition to facial appearance there are a few small shotty glands on the inner wall of the axillæ. The pulse is out of proportion to the temperature and the tubercles of the choroid may also be seen. The younger the child, the more apt is the disease to be generalised and to assume this form.

Tuberculous Bronchial glands: Intrathoracic tuberculosis in the child affects the glands mainly and primarily unlike the disease in the adult. If the lungs are involved at all it is only secondary to the glands and comparatively late.

Symptoms in Tuberculosis of the Bronchial Glands:

(a) General symptoms of tuberculosis.

(b) Special symptoms: brassy cough as in the whooping cough due to pressure upon nerves or upon the bronchial tubes, exerted by the enlarged glands.

(c) Physical signs of enlarged glands.

(i) Dullness over the upper part of the sternum and under the right clavicle.

(ii) Dullness over the inter-scapular region behind with whispering *pectrology* heard as low as the sixth spine (D'Espine's sign).

(iii) X-Rays.

Post-mortem evidence shows that a greater or lesser degree of tuberculous infection of bronchial gland is an extremely common thing. It localises itself and the glands become calcified, and no permanent harm ensues. The adult types of pulmonary tuberculosis is rare in the child. (A positive cutaneous test is of value only in the first few months of life; a negative test in the first few months of life excludes tuberculosis). The cases diagnosed as *Phthisis in childhood* are either (a) cases of dyspepsia (b) or fibroid lung due not to the tubercle but to a chronic pneumococcal or other infection usually following from broncho-pneu-

monia. There are three forms of tuberculosis affecting the lungs in early life:—

(1) Miliary tuberculosis (no physical signs in lungs—resembles typhoid fever—may be mistaken for bronchitis.)

(2) Tuberculous Broncho-Pneumonia is the second and commonest form of pulmonary tuberculosis in childhood: this resembles broncho-pneumonia but there is a steady downward course more rapid wasting and tubercle bacilli are found in sputum.

(3) The third form in which tuberculosis affected the lungs is where the disease spreads out from the bronchial glands so called hilum tuberculosis. In such a case the right lung is more affected than the left, because there is a gland situated close to the right bronchus which is very apt, when it becomes infected with tubercle to ulcerate into the bronchus and lead to infection, which spreads on to the right lung and thence upwards and downwards producing a marked dullness below the clavicle resembling an Empyema: there will be dullness over the corresponding interscapular region.

This type is not uncommon and X-rays is useful for diagnosis.

Radiological Examination in Surgical Tuberculosis: It is important to remember that

(1) the extent of a tuberculous affection is usually greater than a purely clinical examination would lead us to suppose.

(2) After the complete disappearance of clinical symptoms changes concerning the transformation and recalcification of bone have still to be carried out. Radiological signs always lag considerably behind the clinical.

Radiography does not help us to decide whether a lesion is primarily osseous or primarily synovial. It is most often difficult to exclude tuberculosis. A considerable space of time separates the primary hæmatogenous infection of the periostenum, bone or joint and the appear-

ance of the lesion on a radiographic plate. Small tuberculous nodules in the marrow may become caseous and tuberculous infiltrations and granulations may be already fully developed, without any sign of change appearing on the radiographic plate.

Blood Sedimentation Test: An increase in the rate of sedimentation of red blood is a clear good evidence of some serious disease. The rapidity of fall is parallel to the amount of tissue involved and the intensity of pathological processes. The sedimentation rate is increased in the following conditions: (a) Extensive acute inflammation e.g., salpingitis, pelvic cellulitis; (b) active chronic inflammation as tuberculosis, (c) advanced malignancy, (d) in the last four months for pregnancy (e) in anaemias. The actual cause of increase, in the sedimentation rate is unsettled probably "excessive fibrinogen due to tissue destruction".

This is a test which is useful in estimating the prognosis and the progress of these cases.

GENERAL PRINCIPLES OF TREATMENT.

This is a notifiable infectious disease in all its forms. Tuberculosis, whatever its situation, is a general, rather than a local disease and treatment causing of improvement in the general health of the patient is our best means of combating pulmonary as well as surgical tuberculosis and its manifestations.

The fact that tuberculous lesions of bones, joints and glands are but local manifestations of general disease, is well illustrated by the not infrequent occurrence of multiple lesions. In the majority of cases operative measures can offer little more hope of cure than in a malignant tumour which has already given rise to numerous secondary deposits.

As the treatment of surgical tuberculosis is lengthy, because in the majority of cases, it is necessary not only to heal the multiple and widespread local manifestations of the disease, but also to build up a healthy constitution out of the material

seriously damaged by tuberculosis and by other poisons viz., malaria, alcohol, syphilis and poverty, the patients mental condition, endurance and courage are constantly called into play.

With the exception of certain synovial types of knee joint infection and of genital tuberculosis, prognosis is as good in adults as in children.

Tuberculous meningitis is a rare cause of death. Mixed infection is invariably present when a case terminates fatally. Amyloid degeneration and cardiac failure due to toxæmia being the commonest cause of death. Museum specimens of amyloid degeneration are extremely rare in Madras.

In childhood as the treatment of fully developed tuberculosis is not satisfactory it must be prevented. Essential points in the matter of prevention are:

(a) to guard children from contact with tuberculous adults,

(b) by the boiling of milk to prevent them from infection of the bovine type.

(c) to keep the body-health at a high level so that they can deal with an initial infection.

(d) after an illness to take great care to make convalescence complete, which is best done by ensuring a sufficiently long stay at sea-side.

Restore the child's appetite and digestion.—Fresh air, sunlight and good feeding are our allies. There are no specific drugs excepting Cod Liver Oil.

N.B.—Tuberculin is not required.

The combination of hot air and sun is bad for any form of tuberculosis and is particularly dangerous in the pulmonary variety.

(1) Ample food, general rest and plenty of pure air are very essential.

(2) Conservative treatment of complete rest for six months after all signs of active disease are passed off.

(3) If progress is unsatisfactory—search for the cause, the results of conservative treatment are as permanent as from any other treatment leading to the incomplete source of rest. As muscles waste sufficient immobilisation is not obtained when the plaster should be removed and put on again.

Persistent septic focus carious teeth, tonsils, adenoids, vermin etc., should be noted.

(4) Failure of efficient conservative treatment is indicated by presence of pain, and rise of temperature and enlargement of tuberculous abscess.

The surgical procedures are:—(a) Excision of the whole focus, (b) Aspiration, for persistent sinus—excision of the whole track with its fibrous walls, (c) if the skin over an abscess is bluish and thin, excision of the skin, (d) excision of the ulcers. No drainage operation on any account.

(5) X-Rays and Ultra Violet Rays: heal (a) superficial lesions of tuberculosis, (b) U. V. rays exhibit marked improvement in joint and peritoneal injections that is cases of mixed injections and sinuses.

(6) Local treatment should only supplement absolute immobilization.

HELIO THERAPY.

The action of sun-light :

(a) The effect on metabolism is seen in Rickets.

(b) A distant effect may be produced in the neighbourhood of a tuberculous lesion by insolation of a distant part of the body as exposure of the feet in cases of tracheo-bronchial adenitis and tuberculous peritonitis. In Heliotherapy the radiations absorbed by the blood, cause an increase in the reactions of the body to the tubercle bacillus, and its toxins or any increase in the absorption of the latter.

(c) The trophic action of sunlight is chiefly seen in the skin and muscles.

Effect of sun-bath :

(1) After exposure from 5 to 20 minutes some degree of visible hyperaemia.

(2) Much increased activity of sebaceous and sweat glands.

(3) Mild general symptoms like pyrexia, nervous irritability may be seen in children.

Sunburn of skin: If the general reaction is marked in comparison with the local lesions, it is no longer a case of sunburn, but of thermic action which is predisposed by alcoholism and general debility. If Heliotherapy be undertaken at a low altitude and in a more humid atmosphere, the avoidance of these complications will require more caution than is necessary when treatment is taken in the mountains and patients are exposed to direct sunlight only in the early hours of the morning.

(4) Solar eczema or urticaria.

Careful dosage during the initial stage of treatment is required. When pigmentation has taken place, there is no further danger of acute sunburn because by this time vasomotor mechanism has recovered and the functional activity is sufficient to enable the patient to be comfortable throughout wide variations of temperature.

The connection between pigmentation and prognosis is so close that when a patient for some unexplained reason refuses to pigment, the suspicion of a latent lesion at once arises. Pigmentation is closely associated with the resistance of the body to other diseases than tuberculosis.

Subjective local reactions: Patient feels pleasant beneficial warmth in the neighbourhood of his lesion; this sensation is most marked in cases with lesions in the joints or abdominal cavity. If the lesion be active, the affected region becomes tense and uncomfortable, and if exposure be continued, an acutely painful reaction will result.

Objective reactions: (1) Changes in volume (increase in volume) especially in

joint lesions, (2) in the case of cervical glands apparent enlargement, (3) a similar phenomenon occurs in deep abscesses. Increase in volume takes place in closed lesions, the converse taking place where sinuses are present.

(2) Localised perspiration.

(3) Colour of skin-pigmentation.

(4) Change in temperature—Rise in temperature in the neighbourhood of the lesion is a constant accompaniment of Heliotherapy. For some hours after insolation the joint feels cooler and more comfortable than usual. This period of comfort often increases gradually until pain and heat, the two characteristic symptoms of tuberculous arthritis, have permanently disappeared.

(5) White swellings of joints increase in tension during insolation while tuberculous masses and glands become softer and even fluctuating. The poorer the general health of the patient, the more active will be his reaction towards sunlight. This hypersensitivity shows itself by excessive general as well as local reactions. A lesion in highly vascular tissue (lungs, peritoneum) at some distance from the skin will react more violently than one situated in a less vascular structure (synovial membrane of the knee) quite near the surface. Make a thorough examination of the patient, *i.e.*, his nervous system, respiratory, circulatory systems haemoglobin and leucocytes and blood pressure.

The patient must be trained to live in the open air; the periods of open air are gradually increased until the patient spends the whole day outside. The tuberculous lesion is also exposed to the air but not to the sun, for a few minutes each day. The fresh air treatment is the indispensable forerunner and accompaniment of Heliotherapy. Feelings of well being and exhilaration should both accompany and follow the sun-bath; lassitude, headache, vertigo and excessive irritability are symptoms which show that insolation has been too long or badly applied.

If one or two days after the sun-bath, the temperature remains a few tenths of a degree above normal, and the frequency of the pulse continues, it is an indication that insolation has been too long or that other conditions have been favourable. With fair patients cover the exposed parts with a layer of gauze; without this precaution, the reaction may be violent to cause bullous dermatitis, insomnia and nervous irritation.

Technique of the Sun-bath:

(1) Begin always with feet; both legs and arms before exposing the abdomen and thorax.

(2) Use short periods 10 to 13 minutes alternating with periods of rest (5 to 10 minutes).

(3) In cases complicated with pulmonary tuberculosis, even slower progress is necessary. Protect the head and nape of the neck by a white linen hat, which is lined with green gauze and dark glasses for the eyes.

(4) When the patient is well pigmented, three hours a day is the maximum for the majority of the people.

(5) Insolation should only be practised when the air is relatively cool. Early morning—6 and 7 A. M.—U. V. rays are at their maximum intensity between 11 A. M. 12 Noon; but it is too hot.

Heliotherapy in open tuberculosis is much less certain and much slower in action than in the case of closed tuberculous lesions. The first result of sun treatment is an increase in the discharge; spicules of bone and even considerable sequestra being sometimes eliminated with the pus. It raises the resistance of the body, greatly reduces the chances of subsequent manifestations of the disease. Surgical intervention leaves behind disfiguring scars and removes the first line filters and also a lot of well functioning tissues. A strikingly large proportion of cases of bones and joints etc., show the traces of previous operations for the removal of glands. In these cases the

omission of general treatment has permitted the disease to progress in spite of the operation. Tuberculous adenitis arrested by non-operative heliotherapy has much more chances of being durable since it is obtained by raising the resistance of the whole organism. Tuberculous trachea-bronchial adenitis manifests a strong tendency to spontaneous cure and early treatment is essential.

Contra-Indications for Heliotherapy:—

(1) It should be done with great care in young infants and aged (2) a moderate degree of arterio-sclerosis is no contra-indication, (3) absolute contra-indications:—

(a) Nephritis even mild, *i.e.*, patients with renal insufficiency.

(b) High fever with toxæmia is always a contra-indication.

(c) Uncompensated V. D. H., severe arteriosclerosis, advanced myocarditis.

(d) Tuberculosis of kidney with early uraemia.

(e) Severe pleural effusion with fever. Do not give heliotherapy till the temperature is normal.

N. B.—No greasy application should be applied, all traces of fat should be carefully removed before the next exposure, as vaseline for instance is quite opaque to U. V. Rays. Marine treatment is preferable to older patients with chronic disease and with sinus formation. For children under five years, avoid the sea altogether.

RADIOTHERAPY.

This is useful in lymph adenitis, peritonitis and epididymitis. Tuberculous tumours of omentum and fungating lesions of other parts.

The reaction produced by X Rays consists of cellular necrosis, as the tuberculous tissue is destroyed and subsequently replaced gradually by connective tissue. The most resistant element of the tubercle appears to be the giant cell, which is however gradually invaded by connective

tissue and finally destroyed. Larger caseous foci are rarely more than partially destroyed, but are encapsulated by fibrous tissue. In order to have the desired effect, X-Rays must be directed on to the tuberculous granulation tissue itself; for since their action depends on cellular lesions absorption and tuberculinization, they do not act on purely symptomatic effusions in joints, tendon-sheaths or serous cavities; small foci within bone with little granulation tissue do not give favourable results with radiotherapy.

It causes the liberation of tubercular from the infected focus when once the process of encapsulation and fibrous transformation have begun, it will continue spontaneously under the influence of improved health. Hence do not give large doses and too frequent repetitions. Intense irradiation of tuberculous affections always involves the danger of starting Miliary tuberculosis and the irradiation of an active lesion with strong doses is certainly unjustifiable. The surrounding tissues should not be irradiated as it may have harmful effects on lymphocytes, diminishing their number which demonstrates diminished resistance to Tuberculosis.

Tuberculous cervical glands: An active condition demands general and not local treatment. Such patients should be immediately sent to the countryside to improve their general health and mobilizing their resources. Heliotherapy is useful. When the disease has become quiescent and when the general health has improved, then advise Radiotherapy, as with Heliotherapy, the glands become discrete, separate from one another, diminish in volume and harden. It is absolutely useless to continue the irradiation of these small hard mobile glands since finally they contain nothing but connective and cicatricial tissues. Tuberculous glands regress slowly and after numerous irradiations so when a gland or mass of glands regress rapidly after two or three applications of X-rays, doubt the tuberculous nature. Caseous and purulent glands break down rapidly under the influence of X-Rays, making re-

peated aspirations necessary. In bone and joints disease,—Radiotherapy has no action on sequestra. Hip, spine, knee and sacro-iliac joints are not treated with Radiotherapy. It gives the best results in small and superficial joints where the synovial type of the disease is present, but when there are osteomyelitic tuberculous granulations also, along with synovial disease, the results are problematical. X-rays are useful for *tubercular peritonitis and tuberculosis of female generative organs*. Widespread infiltrations in the fibrous adhesive type often disappear rapidly under the influence of X-Rays and complications caused by adhesion disappear at the same time. Very acute cases of tubercular peritonitis with fever do not as a rule yield to Radiotherapy.

Ileo-caecal tuberculosis, in the form of a tumour is influenced by X-rays and heliotherapy. Do not omit general treatment; it is useless to cure tuberculous peritonitis, a metastasis, when the primary infection of pulmonary tuberculosis is untreated and the patient succumbs to it later on. This wave of conservatism is due to the serious post-operative complications of these cases of tuberculosis in the form of faecal fistulae, and of milary tuberculosis and also to a 10 per cent mortality after the operation as short circuiting operative procedures are required to relieve symptoms; a careful follow up of some cases lead one to this conclusion. Mercury vapour lamp in lupus and quartz lamp are used in peritonitis.

Contraindications for Ultra-Violet light treatment:

1. Patients with general pyrexia.
2. In Acute local infection, the rays should not be applied locally, nor should general treatment be given if the body temperature is raised.
3. If pus is present, evacuate it before beginning the treatment.
4. Failing Heart.
5. Bright's disease.
6. Very old people.

7. Menstruation.

8. Highly nervous and neurotic people; they suffer from a grave "psychic reaction".

9. Do not give in pulmonary tuberculosis except in quiescent phthisis.

INDICATIONS FOR SURGICAL TREATMENT.

Conservative treatment is the essential method in children. In adults, when the general health has improved up to a good level, operative measures are indicated to eradicate a local focus of disease or to prevent recrudescences and relapses. In all ages aspiration of cold abscesses with aseptic precautions is indicated.

Phrenic Evulsion, A.P., are regarded as parts of conservative treatment.

Operative intervention is required as under:—

1. For large extra articular sequestra in the diaphysis (rarely).
2. In septic cases (no curetting; but only drainage).
3. Excision of joints in cases of tuberculosis of the knee, elbow joint and torpid cases, in which ankylosis is inevitable.
4. In all unilateral cases of tuberculous kidney (nephrectomy).
5. Torpid cases of tuberculous disease of the epididymis leaving isolated fibrous nodules which are not further absorbed should be opened by the thermocautery and the wound left open and exposed to heliotherapy or ultra violet rays.
6. Extra articular arthrodesis by large grafts taken from the ilium in cases of recovering types of hip joint diseases; osteosynthesis by large grafts taken from the tibia in cases of healing or healed tuberculous disease of the spine are sound procedures.
7. Amputations are required when other efforts have failed; senile tuberculous joints are amputated at an early stage.

Be careful not to injure the surrounding tissues, as in them reconstruction must take place, recurrence being more liable to occur in damaged tissues. 75 per cent of spinal caries with sinuses (septic) die as the result of secondary infection of the sinuses and the focus of the disease.

Every care must be taken to prevent the formation of new sinuses.

From the above indications it would be readily seen that surgical procedures are

indicated when only conservative procedures have helped the patient to build up his health, to localise the disease manifestation, and to promote healing process. There is no use operating on patients with poor health.

The co-operation of the general practitioner at every stage of the disease is required for early diagnosis and a thorough programme of conservative or surgical treatment and for continued after-care.

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CERTAIN CONDITIONS OF THE EAR, NOSE, THROAT AS MET WITH IN GENERAL PRACTICE.*

By

DR. T. S. SHETTY, M.D.; D.O.

This is a vast subject and if one decides to be exhaustive, there is material to speak for hours or to write a book. Without being very detailed or too technical, I shall touch upon only a few conditions that a general practitioner is likely to come across pretty frequently. Some of these conditions he may treat successfully while certain others, he must be able to diagnose and direct to a specialist if need be. Knowledge of certain conditions will be very useful to the practitioner and to his patients especially in the mofussil and ignorance of certain small details in the treatment may cost the life of a patient.

THROAT CONDITIONS.

Speaking of the throat conditions, there are some pretty common ones like acute tonsillitis, the treatment of which during the acute stage is rest, inhalations of medicated steam, antiseptic spraying locally, certain sedatives internally and hot gargles at frequent intervals. When once there has been involvement of the tonsil, it is better to have it out but it is always safer to defer the operation for at least a month after the acute stage has subsided.

Most of the throat conditions may be accompanied by cough and if acute, pain and difficulty to swallow, are the common symptoms. In all affections of the throat, never fail to make a thorough examination of the area in good light preferably reflected by a head mirror with the tongue well depressed with the handle of a spoon, if no special tongue depressor is at hand, ordinary electric light, or battery light or when both are not available, reflected day light serves the purpose equally well.

If the condition is acute, it may be acute tonsillitis, a peri-tonsillar abscess, an ulceration or diphtheritic condition. There is no use asking your compounder to touch

the throat with Mandel's or giving something to gargle unless you know what exactly is wrong locally.

If it is an unruly child, it is necessary to use a mouth gag as it is almost impossible to get a correct idea of the lesion, unless one is able to keep the mouth open and the tongue depressed well enough. Whitehead's pattern of mouth gag is best suited for this purpose. Failure to make a thorough examination may cost a patient's life in certain conditions because one would miss a correct diagnosis without which no treatment can be called scientific or proper.

Just over six weeks ago, the only living child of the four born in a Brahmin family, in a remote village about hundred miles off my clinic, was brought to me after about twelve days of illness with hoarse throat, refusal to eat food, slight cough, vomiting and slight fever. The child was four years old and was taken to a local doctor who treated the child for three days for cough and fever, not even once examining the child's throat as per the version of the mother. Finding no improvement the relatives took the child to another doctor who also prescribed after examination of the chest but not the throat. As the child was becoming worse, they came all the distance to my clinic. On examining the child, I found it to be a case of advanced diphtheria.

It was too late to do anything for the case. The child died in less than twenty-four hours after I saw her in spite of all efforts. I have in my records a few more cases of diphtheria, the diagnosis of which was missed in proper time by the practitioners, only because the local examination was not done.

I have heard some doctors say that diphtheria is never seen in our country

specially in the south. This is not a correct impression. If a routine examination of throat lesions is made, if bacteriological and cultural methods are availed of, you will find it is not so rare a condition as you may now believe, though I admit, it is not a common disease.

If the disease is in the nose, and nasopharynx, you will find foetid bloodstained discharge and the typical false membranes may not be visible. When it is in the fauces, you will have to differentiate it from lacunar form of tonsillitis. In diphtheria one sees the typical, false membrane leaving a readily bleeding surface, if one attempts to remove it, the membrane not being limited to the tonsil alone, but extending to the soft palate, to the uvula and to the posterior pharyngeal wall. The colour of the membrane may be white, yellow, or brown though usually it is greyish. If pharynx is involved there may be enlarged glands at the angle of the jaw and in the neck.

In this article it is impossible to go to the details of treatment. One point, however, I like to impress is, when there is strong suspicion of diphtheria, take the suspicious membrane for bacteriological examination, but without waiting for the results, give a proper dose of anti-diphtheric serum immediately.

Acute lacunar or follicular tonsillitis is a frequent condition any general practitioner comes across. This should not be mistaken for diphtheria, which it may sometimes closely resemble. Here the crypts of the tonsil are involved and in an inflamed, congested and swollen tonsil one sees whitish spots of a sort of fibrinous matter of various sizes many of which, may coalesce and resemble diphtheritic membrane. It is important to know that these can be easily removed leaving no bleeding surfaces underneath as in diphtheria. Moreover, they are limited to the tonsillar surfaces and do not extend to the palate or to the uvula or the pharyngeal wall, though inflammatory symptoms may extend to the surroundings of the tonsil.

One of the commonest and most painful of the ailments of the throat, is

acute peritonsillar abscess, usually called 'Quinsy', generally a disease of the adult and seldom of children. It is characterised by pretty high fever, difficulty to swallow, dribbling of saliva and a thick muffled voice on account of the swelling and retained secretions in the throat. Due to inability to open the jaws well, examination is not easy. When well developed, the whole of the tonsillar region is swollen, highly congested and the uvula and the palate are oedematous. The uvula is often pushed to the opposite side.

As the name suggests, the lesion is extra tonsillar and the tonsil may not be visible due to the enormous swelling. The cervical glands on the affected side are slightly enlarged and painful. The condition is almost always due to infection spreading from a septic tonsil.

When pus is present, which may be seen on or about the fourth day, an incision is to be made to relieve the agonising pain. It is however important to know some details of this procedure as any practitioner may be called upon to deal with this condition in the mofussil practice.

Any ordinary bistoury is good enough but its blade should be well protected with adhesive plaster with the exception of half an inch of its tip. A superficial incision may be made with a sharp gum lancet as well and the pus is best evacuated by opening the wound with a sinus forceps or artery forceps. No special anaesthesia is necessary. Novocain infiltration is neither useful nor necessary, but spraying or swabbing the area with 1% pantocain or 4% cocaine will be useful for incising the abscess with little or no pain. In almost all the cases, the abscess is on the upper and outer pole of the tonsil and just outside its capsule.

The site of election for the incision is just internal to a point midway between the base of the uvula and the last upper molar tooth. The sinus forceps should not be pushed very deep or far externally, but should be directed towards the middle line. In the quiescent period, it is better to suggest enucleation of the tonsil.

* Paper read before the Tanjore District Medical Association on 30-3-'40.

Irritative dry cough may be very troublesome affair in some of the patients as we see in general practice. Of the many causes, one should not forget that sometimes elongated uvula may be at the root of the trouble. The cough in these cases is sometimes very annoying and for nights together the patient may not be able to sleep as the cough is worse during sleep in these cases. It is not unusual to see such cases going from dispensary to dispensary, all because the attending physician often fails to see the throat and trim the uvula. Granular pharyngitis is also common enough and the cough may sometimes be very chronic and troublesome. If cauterising with 5 10% silver nitrate for some days does not relieve the condition, one may use mild fine pointed electric cautery.

Due to unhygienic surroundings mostly in the poor classes we see enlarged tonsils and adenoids. Constant running nose, pigeon chest mouth breathing are usual symptoms of marked adenoid vegetations. Operative treatment for such marked cases is the line of treatment. A change in the surroundings, fresh air life combined with iron and arsenic and calcium in some form or other will do good for mild cases of adenoid vegetation specially below five years of age. After a trial with the above line of treatment, if no improvement sets in, surgical intervention may be had if the case requires it.

Pathological and progressive change in the normal voice: Though there are many other conditions of the throat one has to know, there is one condition which I feel a general practitioner very much neglects. I have had a number of cases who have come after varying periods of treatment for what they call husky voice or a change in the voice or mild degrees of aphonia. This change in the voice is due to interference in the normal functioning of the voice apparatus. There may be physical obstruction with or without anatomical changes, in the structure of the vocal cords as a result of pathological ulcerations, tubercular, syphilitic or malignant in nature. There may be paralysis, partial or complete of one or

both the cords due to involvement of the recurrent laryngeal nerves. This may be the only symptom of tumour of the oesophagus or mediastinum, or there may be some slowly developing benign growth in or around the cords. When, therefore, a patient presents to you with a progressive pathological deterioration of the voice, make a thorough examination of his throat and nose by laryngoscopy, and posterior rhinoscopy if you can, or send the case to a specialist. Make a blood examination for Wasserman and Khan, take an X-ray of the chest anteroposteriorly and sideways, with special attention to the mediastinum and when necessary, the picture of the Oesophagus also should be taken in both the positions with a barium meal. All these methods may be needed to clinch the diagnosis in some cases.

Certain cases come to the doctor with a history of *difficulty to swallow*. This may be a mild, temporary trouble or a progressive and chronic ailment. There may be serious organic lesions in or around the Oesophagus. If you do not take early attention of these cases, it may be too late. In these conditions also, the blood is to be examined for signs of syphilis which may be the cause of ulceration and stricture in the Oesophagus. Take an X-ray of the chest and see if there is an aneurism, or tumour in the mediastinum or stricture of the Oesophagus by using barium meal.

NOSE CONDITIONS.

I shall deal with only a few common conditions of the nose. One of the most troublesome, yet too frequent symptom a general practitioner has to prescribe for, is *headache, unilateral or bilateral acute or chronic, occipital or frontal*.

It is so common a condition that a practitioner often fails to think seriously about it. Of the innumerable factors that produce headache, which one should not fail to think of are the possibilities of nasal spurs from a badly deviated septum pressing on the turbinates and of inflammatory changes in the nasal accessory sinuses. Examine the nose in good light with the help of a speculum and a reflector to detect any abnormality if present.

History of sinusitis, presence of pus in the nose, tenderness or pain in the region of the frontal, ethmoidal or maxillary sinuses, may give a clue to the underlying condition though further examinations by X-ray and transillumination may be needed for confirmation.

Epistaxis is a pretty common condition. Though in certain cases like high blood pressure, it has the effect of a safety valve. At times epistaxis is very troublesome and has to be attended to urgently.

It is a symptom of a large number of diseases, local or general and not a disease by itself. In children with large adenoid vegetations, epistaxis may be the only symptom. Certain eruptive fevers may produce it. Certain chronic general diseases like that of the liver, heart and kidney, may induce it. High blood pressure may show this as the only symptom. It may be a symptom of a malignant growth in the nasopharynx or nose or due to ulceration of the septum tubercular or syphilitic in nature. In children frequent bleeding may be due to an impacted foreign body in the nose. I have had a number of such cases in my practice without any history of foreign body, the mother being ignorant of it and the child too young to inform about its presence. Therefore while giving temporary relief do not fail to make a thorough examination to find the root cause of the trouble. In general, bleeding is not much but sometimes, it is frightfully profuse and urgent attention is imperative. Though it is very difficult to locate the exact site of bleeding, in a large percentage of cases, it is from the lower and anterior portion of the septum about half an inch behind the tip of the nose. It is called the Keeselbach's area by the German school and Little's area by the English school. To whomsoever the first credit is due, we are concerned to stop the bleeding from this area in a large majority of the cases, by plugging the anterior nares with sterile gauze soaked in hydrogen peroxide (three parts to one of distilled water). This will effectively check the bleeding. The plug can be left for about

forty-eight hours. In some cases the bleeding may be so severe as to need haemostatic serum in addition to the plugging. Posterior plugging is recommended in others but my own view is that in cases where the bleeding is from the posterior part of the nasal cavity, it is useful, since plugging the nose anteriorly may not be effective in such cases. In a large majority of cases, however, where anterior plugging has failed, it is doubtful if posterior plugging will improve matters. Of course, each case has to be treated on its own merits. There is certainly no idea in repeated plugging when a foreign body is the cause.

EAR CONDITIONS.

Of the ear conditions, the most abused is *foreign body ear*. I had within the past few years, five serious cases of foreign body ear, four of them in children and one in a grown-up man. Carelessness on the part of the attending physician cost the life of a child by purulent labyrinthitis and in another case, I had to perform mastoid operation due to a mastoiditis resulting from careless handling of the case. Only a few days ago, I removed a small stone from the middle ear of a child, the foreign body having been driven there due to improper and meddlesome surgery.

It must be the principle of every practitioner, never to use an instrument to remove a foreign body in the ear, unless he sees what he does and that is only possible when a head mirror is used and an ear speculum is inserted and proper fine instruments are at hand. To add to this, he should have full knowledge of the local anatomy. If these conditions are not fulfilled, it is a grave mistake to meddle with instruments in the ear, specially in a child that is bound to be restless and unsteady. Try to remove by mild syringing with warm boric lotion. If you fail, send the case to a specialist, unless you can remove it yourself under a *general anaesthesia* and by the help of a head mirror.

Suppuration in the middle ear, is an extremely common affair in daily prac-

tice. To dive into the details of treatment will be beyond the scope of this subject, but the reader is requested to refer to my articles in the issue of The Medical Practitioner of February and March 1939. One thing, however, I like to state is about the advisability of incising the drum when there is a bulging of the drum with strong suspicion of pus in the middle ear, in acute otitis before there is natural perforation. This procedure in proper time, with proper care by instillation of 8 per cent. cocaine for ten minutes and with a thorough knowledge of local anatomy, is a factor much to be recommended and has a great influence in the further course of otorrhoea. The principle "*do what you see and know what you do*" is to be strictly adhered to, in all manipulations.

Facial paralysis is a symptom for which general practitioners are pretty frequently consulted. The routine treatment is application of blisters below the pinna of the ear and drugging with potassium iodide and other medicines. Very few take the trouble to find out the cause of the condition. Whatever the prognosis of the symptom, one should not fail to go to the root causes. Amongst these chronic middle ear suppuration is one. Always ask for such a history and if one is forthcoming, send the case to a specialist. A mastoid operation may be indicated in this case to prevent further dangers.

Sinus Thrombosis: If a case of mastoiditis under your care develops a high rise of temperature with rigor and perhaps vomiting, never fail to think of sinus thrombosis. An ordinary uncomplicated case of mastoiditis has hardly a temperature above 100°—101° F. Immediate blood examination may be needed to exclude malaria which it resembles and a grave error of diagnosis may cost the patient's life. In malaria there is leucopenia and specific parasites are present, whereas presence of high temperature with chill and vomiting in a case of mastoiditis with the blood picture showing leucocytosis and absence of the specific parasites should put one on guard.

Patient V. achy aged 45 was operated for what was a very benign small growth in the external ear a few weeks ago by a general practitioner. It was too small an affair to require any special notice. There was some bleeding which was stopped easily. In three days the patient had oedema near the mastoid region. There was high rise of temperature on the fourth day with rigor and vomiting and accompanied by severe vomiting. Antimalarial treatment was tried as the symptoms were almost typical of malaria. On the eighth day when I was called to see her the condition was very grave and she died within two hours after I saw her.

In another case it was reported that there was a cord like mass the thickness of a lead pencil extending from the tip of the level of the mastoid to the level of the sternoclavicular joint. There was a history of bloodstained stools. There was a boggy swelling of the mastoid region. The blood stained stools were not due to malaria or dysentery but due to embolism in the mesenteric vessels detached from the thrombus in the jugular vein. This case had passed through another specialist who found her too late for operation.

In a case of suppurative otitis media, if there is a sudden rise of temperature resembling malaria, do not fail to think of sinus thrombosis. In a country rampant with malaria, a general practitioner can be excused if he fails to think of this not too frequent a condition, but knowledge of this may help the practitioner to revise his opinion in certain grave cases which may be mistakenly diagnosed as cerebral malaria.

Polyyps and granules are not infrequent maladies of the ear in general practice. To go into the details of the pathology of this condition will be beyond the scope of this subject, but a few words of warning are necessary in their treatment. The polyyps do not, as a rule, give any trouble except for a little bleeding once in a way and slight deafness of varying degrees in proportion to the extent of the destruction of the tympanic structures caused by the otitis media to which polyyps and granules owe their existence.

I would advise a general practitioner never to treat these cases surgically in spite of the fact that in most of the cases, it is harmless procedure to pull them out with a polyp snare. Not long ago, at one of the professional meetings, a learned colleague said that the treatment of polyyps of the ear is the easiest and can be done by any medical man. I have to disagree with this statement. That it is easy in over 90% of cases, I agree. That every doctor can treat it, I do not agree. It is no doubt simple, but once in a way what we think is simple is fraught with grave danger if one only knows that careless handling of the case may set up labyrinthitis and cause the death of the patient in a few days. It is no use ascribing the death to some other vague causes. In all cases of polyyps, it is necessary and imperative to make a test of the cochlear and labyrinthine functions before one decides to remove them by snares. When the functional test shows normal condition, the treatment is easy but if the result indicates involvement of the labyrinth and cochlea, it is not permissible to do anything to the polyyps by way of the external meatus. I therefore believe that the polyyps of the ear should not be treated by a general practitioner very lightheartedly, if he is not well versed in the local pathology of the condition. Where doubt exists as to the nature of

the polyp, it may however do no harm to do mild cauterising with silver nitrate but no pulling is permitted.

In general however, removal of a pale, oedematous polyp is not dangerous and this fortunately is the case in over 90% of the cases of polyyps. This type of polyp comes from the tympanic ring, whereas removal of the red, readily bleeding, highly vascular polyp may be dangerous as this type usually comes from the inner tympanic walls, having close connection with the labyrinth. I have neither been too detailed in the treatment of any particular condition nor have I exhausted all the diseases of the ear, nose and throat in so far as it effects a general practitioner.

CONCLUSION.

I have merely mentioned a few points with regard to the differential diagnosis and treatment of only certain conditions without being elaborate. Specialists are very few in our country in any branch of medicine. The responsibility of a general practitioner is greater in this country than in the west, where the patients choose their own specialists for all special diseases, whereas in our country most of the cases have to pass through a general practitioner. Knowledge of certain conditions is therefore a necessary factor in the interest of the practitioner himself and of his patients.

NOTICE.

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IDENTIFICATION OF INDIAN MEDICINAL PLANTS.

By

DR. B. S. ACHARYA, B.A., L.M. & S., F.I.M.

Major B. D. Basu in January 1914 spoke of the importance of proper identification of Indian Medicinal plants in the following words:—

"Our indigenous system of medicine is discredited not so much for its votaries lacking in proper knowledge of their art, as for the prescribed medicines not being supplied to their patients. Indigenous drugs have not been carefully and systematically studied. . . . The first step in the proper study of the subject is, as I have said before, the identification of plants."

Lt.-Col. Kirtikar in his presidential address to the Vth All India Ayurvedic Conference at Muttra in December 1913 expressed the difficulties experienced in the collection and use of the correct drugs by Vaidyas as follows:—

"The duty of a vaidya or physician is not only to examine his patient, not merely to diagnose the disease, but subsequently to treat him with what pills and potions, chemicals and herbals he can obtain from his surroundings. For administering herbs he must have the correct herbs, the genuine roots or leaves or barks of correct plants. As we stand at present we are left to the tender mercies of a Gandhi (herbalist) or the itinerant druggist.....the Gandhi oftener than not, being himself illiterate is deceived by the jungle collector of herbs, following the tricks of his trade, giving the wrong drug for the right, the wrong plant for the required one, thus cheating the ignorant or credulous needy customers. I am speaking from experience. I shall substantiate my observations with a few instances,"

Even now, after a quarter of a century of progress in Ayurvedic medicine, the problem cannot be said to have been satisfactorily solved, although in the intervening period institutions such as

the Hindu University of Benares and the Government School of Indian Medicine at Madras have come into existence, which are considered to be model ones established and conducted for the scientific improvement of Indian Medicine.

Brevet Colonel R. N. Chopra in his address at the annual meeting of the National Institute of Sciences in January 1940, after describing India as 'a veritable emporium of drugs' said:

"One of the chief difficulties in connection with our work on medicinal and poisonous plants, has been the proper identification of the material to be investigated. The descriptions of plants given in the literature on indigenous medicines are meagre and vague and this has resulted in considerable confusion."

It was recently announced that a systematic study of Indian medicinal plants has been undertaken and is being carried out under the 'Indigenous Drugs Enquiry Scheme.' In this connection, one would have expected that the Government School of Indian Medicine, which has been in existence for the past 15 years, would have contributed something towards the study and would be taking some part if not the leading role in the research on Indian Medicinal Plants. But it does not appear that the School concerns itself seriously with this important investigation.

No further evidence is necessary for this conclusion than a publication by the Government. Under the authority of the Government School of Indian Medicine a book has been published under the name, "List of raw drugs and medicinal preparations for use in Institutions of Indian Medicine." (1936). It is easy to find out from this publication that the authorities of the School are themselves hopelessly confused relating to identification of plants.

It is indeed most disappointing that the Government School of Indian Medicine, in which all the systems of Medicine, Ayurveda, Siddha, Unani and Allopathy are dealt with for more than 15 years, is not in a position to throw any light on the problem of even the identification of plants which concerns it most.

One glaring omission in this publication is that though the corresponding names of the drugs are given in three parallel columns for Ayurveda, Siddha and Unani, (in Sanskrit, Tamil and Arabic or Hindusthani), no attempt has been made to give the names of any of the drugs in modern scientific nomenclature, and not in a single instance has the botanical name of the plant been given.

In view of the fact that the same name in Sanskrit or the vernacular is used to denote more than one plant or drug and very often the same plant goes by different names in the same language in different districts of the same lingual area, it would appear that the only proper and safe way to fix the identity of the plants, is to link the names of the plants in the several languages to the Botanical names, which are based on definite morphological descriptions. In the absence of such a correlation of the names of the plants in different vernaculars with a standard definite scientific name, it will lead to confusion worse confounded.

Among several others the following six instances will suffice to bring out the present position of the knowledge of Indian medicinal plants obtaining in the Government School of Indian Medicine, as revealed in the publication above referred to which is intended as a guide for all the institutions of Indian Medicine and all practitioners dealing in indigenous systems of medicine.

In these columns, A is the abbreviation for Ayurveda, S for Siddha and U for Unani.

1. Amlavethasam (A) is said to be the same tree as Korukkappuli (S) Jangli Amla (U)—(pages 1 and 19 items No. 121 and 132 respectively). From this it is

clear that Korukkappuli is identified with Amlavethasa. Korukkappuli is a common thorny tree in South India of about 30 feet in height. It is known botanically as '*Pithecolobium Dulce*' (leguminosæ). Lindley & Moore (1866) in their book 'Treasury of Botany' describe this tree as hereunder:

"It is a large tree, native of the hot regions of Mexico, produces cylindrical irregularly swollen pods curled at the top, containing a sweet edible pulp. . . . The Spaniards introduced it into the Philippine Islands, whence it has been carried to India, and is now planted along the lines of Railway in the Madras Presidency where the fruit is known as Manilla Tamarinds."

Thus it will be seen that the tree called Korukkappuli is not indigenous to India and it cannot be 'Amlavethasam' which is mentioned even in the most ancient Ayurvedic literature, 'Charaka Samhita.' Amlavethasam is a very sour drug (*atyamiam*) and is as described in Bhava-prakasha so sour as to dissolve a needle inserted into it (*loha-sochee-dravatvakrit*) whereas Korukkappuli is not sour but sweetish in taste. It is difficult to guess what made the authorities of the Indian Medical School identify this sweetish Korukkappuli as Amlavethasa; perhaps, the ending 'puli' (=sour or Tamarind), must be the sole basis for this identification.

Amlavethasam is stated by V. G. Desai in his Oshadhi Sangraha to be a variety of Citrus which is found in Nepal, Bhutan, Kumaon and other places. The plant is getting rare and the fruit of the plant resembles *Citrus Medica* and is so acid that if a needle is inserted into it, it is acted upon by the acid present in the fruit and converted into an iron salt. On account of its rarity, substitutes are being used as in Bengal and Punjab.

2. Dusparsa (A) is identified as Kanjori (S)—page 2, item No. 71. Again Kanjori (S) is said to be the same as Duralabha (A)—page 28, item No. 671. From this it is seen that Kanjori is identified with Dusparsa which is synonymous with Duralabha.

Again, Duralabha Patram (A)=Chiru Poonakkal Elai (S)=Bargai Kanchukuri (U)—(pp. 9 No. 500)

Chiru Punaikkanchori (S)=Duralabha (A)=Burghai Kanch Kuri (U)—(pp. 26 No. 547)

From the above it is seen that Chiru Poonakkal and Chiru Punaikkanchori are the same as Kanchukuri in Unani and Duralabha in Ayurveda which is the same as Kanjori as stated above.

In South India the following two plants are found to exist Sirukanjori or Poonakkanchori, botanically *Tragia Cannabina* and Kanjori, *Tragia involucreta*; both the above plants have stinging hairs, which produce intense itching and irritation when they come in contact with the skin. On account of this property, they may be called in some places Dusparsha, Duralabha, Dulagondi, etc.

Do Duralabha and Dusparsha denote two different plants or are they merely synonyms for the same plant as stated by the authorities of the Indian Medical School? Is Kanchori synonymous with Chirupoonakkal and Chirupunaikkanchori and Kanchukuri of Unani?

Are these South Indian plants Kanjori and Sirukanjori—the two *Tragias*,—the same as Dusparsha or Duralabha of Sanskrit writers?

It is evident that there is an all round confusion relating to the above names in the publication.

According to Bhavaprakash the following names are synonymous Yasa, Yavasa, Dusparsha, Dhanvayasa, and the plant denoted by these names is different from Duralabha, whose synonyms are given as Duralambha, Samudrantha, Rodani, Gandhari, Kacchura, Anantha etc. The properties of these two plants are stated to be similar. Therefore Dusparsha (=Yavasa) and Duralabha cannot be the same plant—Kanjori or any other—but are different plants.

In Ashtanga Hridaya of Vagbhata Chap. V verse 49, mention is made of a

substance called Yasa Sarkara, and its properties are stated to be similar to those of some other varieties of sugar Matsyandika etc. According to all the three commentaries available, this Yasa Sarkara or Yavasarkara is prepared from Duralabha. Now what is this Yasa Sarkara? Do the plants Kanjori or Sirukanjori yield any substance resembling sugar? Without taking into consideration all these points, it would be unsafe to identify Dusparsha or Duralabha as a *Tragia*. Ayurvedic practice and literature had their origin and existence not in a single province like Madras or Malabar, but extended as far as Central Turkistan and had contact with Persia and other foreign countries and adopted for use several foreign drugs. Under these circumstances, the tendency exhibited by some provincial minded persons whose range of mental vision cannot extend beyond the limits of their limited knowledge and who confuse the names of Ayurvedic drugs with some plants or drugs grown in their own locality, is likely to do harm to the indigenous systems of medicine and such a tendency should be nipped in bud.

In the 'Treasury of Botany', it is said:

"A manna like substance is produced from some of these plants in Persia and Bokhara and is collected by merely shaking the branches. It is an exudation from the leaves and branches of the plant, only appearing in hot weather in the form of drops which soon harden by exposure to the air. Camels are very fond of it. *Alhagi Maurorum*, the plant mentioned as producing it, certainly does not do so in India".

To the plant *Alhagi Maurorum*, Dr. Desai gives the following synonyms, Yavasa in Sanskrit, Yavasa and Javasa in Hindi, Duralabha in Bengalee and Javaso in Guzerati. He states that the plant is abundant in upper India.

Whether one agrees with the above identification or not, Kanjori or Sirukanjori cannot be either Duralabha or Dusparsha of Sanskrit literature. The terms Vrischikali and Kasaghnai have been

mentioned as those of Kanjori and Sirukanjori by early South Indian writers.

3. Musumusukkai (S) is identified as Burghai Musmusa—(pp. 26 No. 580). Elavaluka Patram (A) is said to be Musmus Elai (S) and Bargai Musmusa (U)—(pp. 9 No. 504).

The Ayurvedic drug Elavaluka is identified as Musumusukkai. In Bhavaprakash, this substance Elavaluka is described as very fragrant (Sugandhi), and Aileyaka is given as one of its synonyms. The word Aileyaka occurs in several prescriptions in Ayurvedic literature, e.g., in Rasa Ratna Samuchchaya of Vagbhata, as Aileyaka Tailam, Aileya Sarpi, Chap. XXI 184 & 192. In these formulae, the commentators after stating that the fragrant substance Elavaluka is indicated, advise the use of Ela or cardamoms as substitute.

Now Musumusukkai is a well known plant no part of which is even remotely fragrant, on the other hand all parts of the plant are bitter. Then how is it that this plant is identified as the fragrant Elavaluka of Ayurvedic literature?

4. In a previous edition of this List of raw drugs etc. (1932), it was stated: Adutheendapalai (Tamil) is the same as Ajasringi (Ayurveda) and Bakrinainkhathe-so-patha (Unani)—(pp. 40, item No. 10).

Meshasringi or Ajasringika is a plant mentioned in Ayurvedic literature from the time of Charaka onwards. It is plain that this plant was by mistake identified as Adutheendapalai which is the well known poisonous plant Kidemari (*Aristolochia bracteata*). In the present revised edition, therefore we find:

Adutheendapalai (S)=Ajasparisaha (A)=Bakrinainkhathe-so-patha (U)—(pp. 25 No. 495).

Now it is doubtful whether the name Ajasparisaha occurs anywhere in Ayurvedic literature. While trying to correct the mistake of the earlier edition, this name seems to have been coined by the author.

ties in charge of this publication to give some name in Sanskrit to Adutheendapalai in the same manner as the Unani name Bakrinainkhathe-so-patha, which is a literal translation of the Tamil word Aduthinnapalai.

In this later edition, the Ayurvedic plant Ajasringi or Meshasringi is left altogether out of consideration and we find on pp. 6 No. 342 Aja Sringam (A)=Attukombu (S)=Bakrika Singh (U).

Thus the identification of the Ayurvedic plant Meshasringi is now shirked or is it intended that horn of the sheep should be used for Meshasringi or Ajasringi?

The Sanskrit name Dhumrapatra or Patrabhanga is given for *Aristolochia bracteata* (Adutheendapalai) by several previous authorities.

5. The most glaring of all the instances of confusion made in this unique publication is the following, for which there can be no justification whatsoever:

Anasa Phalam (A)=Anasa Pazham (S)=Ananus (U)—(pp. 13 No. 711).

Anasa Pushpam (A)=Anasa Pu (S)=Gulai Ananus (U)—(pp. 13 No. 671).

Annasi (Poo) (S)=Annasa (A)=Gulai Annanus (U)—(pp. 29 No. 715).

Gulai Ananas (U)=Anasa Pushpam (A)=Annas Poo (S)—(pp. 38 No. 447).

From a study of the above it is plain that Annasa Poo in Siddha is taken to be the flower of the plant Annas or Ananus from which the well known fruit Annasi pazham is obtained viz., *Ananas Sativus*. Such an error could not have been made by any one who has seen the drug Annasipoo sold in the bazar and the plant which yields the fruit which is a common garden plant or by one who had taken the least trouble to refer to any previous work on the Indian Medicinal Plants.

Now what is Annasi Poo of the Tamil literature? From the 'Treasury of Botany,' we have the following:

"Illicium anisatum, the Star or Chinese Anise, the Badiane of the French is a shrub growing 8 or 10 feet high. It is found in China and derives its name of Star Anise, from the stellate form and odour of its fruit (and not flower), which is about an inch in diameter. The fruit forms a considerable article of commerce amongst Asiatic nations and is likewise sent to Europe, though not in very large quantities. . . The native physicians prescribe it as a stomachic and carminative."

This Star Anise was official both in the British and Indian pharmacopoeas. In the 'Pharmacopoea of India', it is described as the fruit of *Illicium Anisatum* (Habitat China) "which is an inch and a quarter or more in diameter consists of about 8 foliicles arranged in a radiate form. . . They have an agreeable odour resembling that of aniseed."

This error in an authoritative publication of the Government is likely to mislead the drug collectors and shopkeepers and even the bulk of the practitioners of Indian Medicine, especially of Malabar and Ceylon where the plant is very abundant, to collect and offer for sale and use the flowers of the plant *Ananas Sativus*, for the real drug Annasippoo, and in course of time the genuine drug which is imported from China will become unobtainable as Annasippoo. Have the authorities in charge of this publication realised the far reaching consequences of their misleading identifications of this nature, which has the authority of the Government of Madras?

6. Velan (elai) (S) = Babbulla Patram (A) = Barghai Babool (U)—(pp. 27 No. 613).

Velan (pattai) (S) = Babbula (A) = Chalai Babool (U)—(pp. 27 No. 652).

Velan (pazham) (S) = Kapitham (A)—(pp. 29 No 756).

Thus the well known Kapitham (*Feronia Elephantum*) is confused with Babool and is stated to be the fruit of the tree 'Velan' from which the leaves and bark are obtained. This confusion is further

aggravated when the Ayurvedic equivalent for Vila (Tamil for *Feronia elephantum* Kapitham) is given as follows:

Vila (Elai) (S) = Mirunadam Patram (A) = Burghai Kaveet—(pp. 27 No. 617).

Vila (Pattai) (S) = Mirunadam (A) = Chalai Bailphal (U)—(pp. 27 No 656).

For Vila the real Kapitha, the Ayurvedic name given is Mirunadam. One can search the whole of Sanskrit literature and fail to come across this word. If the authorities who compiled this book know that Vila in Tamil meant the same as Kapitha in Sanskrit, what made them invent a new word Mirunadam in preference to the well known common word Kapitha? And what made them use the word Kapitha for Velan (Babool) Pazham (fruit)? Or do they mean that Vila of Siddha literature denotes something else than Kapitham and if so, why do they use the name Barghai Kaveet for Vila Elai?

Moreover the use of the terms Barghai Kaveet and Chalai Bailphal for the leaves and bark of the same tree 'Vila' shows that there is confusion between Kaveet and Bailphal in the Unani names given above.

This confusion between the well known Bael and Kaveet (wood apple) is not new to this revised edition of 1935, but is a persistent one from the previous edition of 1932, which contains on page 51, the following:—

Item No. 742. Vilam pazham (Tamil) = Kapahula phalam (A) = Belphal (U); Item No. 743. Vilam pattai (Tamil) = Kapitha Twak (A) = Chalai Belphal (U); Item No. 745. Vila Elai (Tamil) = Kapitha patram (A) = Barghai Kaveet (U); Item No. 746. Vilva pazham (Tamil) = Vilva phalam (A) = Maggai Belphal (U).

The gross confusions thus made between Velan, Vilva and Vila, Babool, Kaveet and Bailphal constitute a vicious circle of wrong identifications and the introduction of a new word Mirunadam to denote the well known Kaveet is really most amusing.

There is no need to multiply instances of such confusing identifications perpetuated in the pages of the book. The use of the word 'Thenai' to denote honey, Mattu Nei for cow's ghee, Basu Pal as the Siddha term for the tail of a cow and mattu pallam for its teeth, the Ayurvedic word Govalam for the tail of a cow and Valukam (sand) for Kuruver, all these go to show clearly that the book has been prepared by those who did display ignorance of both Tamil (Siddha) and Sanskrit (Ayurvedic) languages depending upon imagination and not upon proper investi-

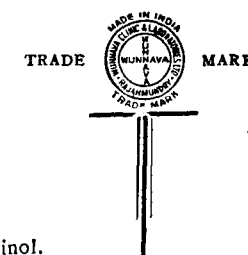
gation. They did not bestow any thought on the significance of the terms or names used not realising the seriousness of such unscientific method of dealing with the important subject of identification of Indian medicinal plants and drugs, which should form the basis of any research in Indian Drugs and Indian Systems of Medicine. Those who are responsible for the publication did not foresee the serious consequences of their mistakes which unfortunately have the authority of the Madras Government.

Statement of Receipts and Charges of the Madras Provincial Subsidized Rural Medical Practitioners' Association for the month of May 1940.

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			17 12 9
		Cash Balance: Rs. A. P.	
		With Savings Bank 4 3 7	
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[No. 9

ALL-ROUND INDIFFERENCE.

Some practitioners who took lively interest in the recent Madras Medical Council Elections are surprised and have been writing to us to explain the disparity that though the Electorate was 6,623 in number only 3,040 registered practitioners exercised their franchise. A subsidized practitioner in Tanjore goes a step further, compares the result of a recent political election for a seat in the local Legislative Council when out of 696 voters, 538 exercised their franchise and points out that there were no invalid votes whereas 87 votes were declared invalid in the Medical Council Elections and says amongst other things, "If we compare Madras Medical Council Elections with the Legislative Council Election, what is it to be inferred of the medical men of this Province? Hope you, yourself will explain the contrast through your journal."

Before venturing to give our views on the subject we wish to mention at the outset that the affairs of the Madras Medical Council are such that a large majority of those who have anything to do with the Medical Council do not seem to have realised the utility of this Statutory Body and we are at times surprised to hear from even some of its members that the Council does not serve any purpose at all much less the purpose attributed to it by the Madras Medical Registration Act. Yet when elections to this body are notified there are contests at times very keen and the recent elections

demonstrated that the contest eclipsed the methods usually employed in political elections and we will not be surprised that in case the authorities continue to be as indifferent as they have been all these years relating to the elections to the Medical Council, it is likely that the scenes one hears and sees at Pondichery during elections may be repeated during the Medical Council Elections and the scenes will be likely enacted in the teaching institutions which are considered to be the citadels.

Convenience of those who ran the recent elections and not the spirit and principles underlying the purpose of elections was seen so conspicuously as to cause despair. It looked that those who were responsible to fix the dates of several items of procedure in the conduct of the elections did so without foreseeing the effect of their decisions with the result that though voting was very poor the expenditure incurred to keep up the show of the requirement of rules was disproportionately exorbitant in the inverse ratio to the expenditure incurred by the Medical Council. For example, there are in the Medical Register a little over 114 practitioners now residing in foreign countries and as good or perhaps a larger number residing in the remote corners of India, Burma and Ceylon who, even in case received the voting papers without delay in transit and despatched them by return of post, such voting papers could not have reached the Returning Officer in time under any stretch of imagination.

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Yet voting papers were sent to all of them because they had to be sent according to the rules. The indifference must look more culpable when it is said that while fixing the dates such a contingency was pointed out to those who fixed the dates but to no purpose. Consequently 114 votes and many more were wasted with them a large amount of money of the Medical Council.

As many as 580 voters appear in the Medical Register as "Address not known" and 117 voters whose names and address are found in the Register have since been reported by the postal authorities as dead. 343 covers sent to voters have been returned by the post offices with the endorsement, as "Not known." We have information from almost all districts that a large number of practitioners even those in Government service did not get their voting papers. Some of them wrote to the Returning Officer and were supplied fresh papers. Others did not get the papers in time to be able to return them in time. Dislocation of train service both S. I. Ry. and M. & S. M. Ry., due to heavy rains in the third week of May was yet another handicap and we know as a matter of fact that over 100 voting papers which were handed over to agents in the mofussil stations and which were sent to Madras for depositing in the Ballot-Box did not reach Madras in time and were sent again to the Returning Officer in bundles after 21-5-1940. The notice published by the Returning Officer in newspapers changing the date of scrutiny and counting of votes from 23rd to 27th May did confuse many voters who sent their voting papers after due date either by registered post direct to the Returning Officer or to the agents of the candidates in Madras for depositing the papers in the Ballot-Box as they

thought they could send the papers till 27-5-40 the last day for the poll. The Returning Officer was likely to get over fifty covers on account of this confusion and the agents of the candidates treble this number roughly. From the above calculations 1,154 (114 voters outside India, 580 voters whose addresses were not known, 117 voters deceased, 343 voters whose covers were returned as 'not known') have to be deducted from the list of practitioners appearing in the Register i.e., 6,623. So the exact number of practitioners that actually constituted the Electorate was 5,469. Out of these voters only 3,040 returned the voting papers.

Strictly as per the rules, the Returning Officer is not bound to publish as to how many voting papers were rejected after the opening of the envelopes or before. He has to reject the envelopes if they were not received in time or if they were not sent by registered post. After opening envelopes containing the voting papers they must be rejected for the following reasons:—

- (a) the outer envelope contains no declaration paper outside the voting paper cover, or
- (b) the declaration paper is not the one sent by the Returning Officer, or
- (c) the declaration is not signed by the elector, or
- (d) the voting paper is placed outside the voting paper cover, or
- (e) more than one declaration or voting paper cover have been enclosed in one and the same outer envelope.

Out of 87 voting papers declared invalid by the Returning Officer about half a dozen were actually invalid and the rest ought to have been shown as 'rejected' as per the rules.

Again out of 80 rejected papers, 37 could stand the test of the rules under

"rejection," if the Returning Officer gave liberal interpretation of the rules as appearing in print. Under these rules (c) mentions that the voting paper should be rejected if the declaration paper does not contain the signature of the elector. The rule does not say that if the elector omits to write his name in the place assigned for the purpose, the voting paper should be rejected. Yet the Returning Officer gave his ruling that the 37 voting papers which were in order in all other respects, should be rejected. Fortunately the difference between the votes scored by the successful candidates and the unsuccessful candidates was in hundreds and thousands and so the results of elections could not be vitiated by the narrow interpretation of the rules. So it is not quite correct to say that 87 voting papers were invalid. Only about half a dozen were invalid as per the rules under this head and the rest should be treated as "rejected voting papers". The Returning Officer ought to have shown the rejected papers not as 80 or 81 deducting the actual invalid papers but should have added to this number all others which he received after time and these will be over 75 as far as we could ascertain. So about 155 voting papers were rejected by the Returning Officer; such a rejection might have been prevented if the enlightened voters read the rules before exercising their franchise. Amongst these enlightened voters could be counted District Medical Officers, Assistant Surgeons, Sub-Assistant Surgeons and also general practitioners all of whom being far above the average of the enlightenment of the political voters.

Judging from the analysis of voting relating to another election where the members of the medical profession took part recently, we mean the elec-

tion to the Medical Council of India, it is not possible to say that the medical practitioners were less election-minded than their lay brethren. It is said that the voters for this election were nearly 2,000 and about 1,500 practitioners took part in the election. This works up at 75 per cent of voters exercising their franchise whereas in the elections for the Madras Medical Council roughly the voting comes to 60 per cent. This disparity may be due to the fact that a large number of medical licentiates who form the bulk of the electorate for the Madras Medical Council Elections who are not in the electorate for the Medical Council of India, who have settled in much larger numbers in the nooks and corners of this Province and elsewhere and who have been migrating from one place to another more frequently than their more fortunate brethren in the profession, did not get their voting papers at all or got it too late. We have evidence for both such probabilities. The other reason perhaps far fetched may be that the practitioners who were originally in the first and second groups of the Madras Medical Register were a bit apathetic. We expect that the future elections to the Madras Medical Council will be more lively.

Apart from the circumstances pertaining to the electorate there were other causes due to inherent defects in the rules and the working of the office of the Madras Medical Council which directly or indirectly affected the elections. The Medical Register being the electoral roll the defects of omission and commission seen in the Medical Register naturally affected the electoral roll. The practitioners who could not take part in the elections especially for want of their present correct addresses, are entirely to blame for not supplying their present

addresses to the Registrar; but the Registrar who is responsible for the preparation of the Medical Register, cannot absolve himself from the blame entirely. He knew the Medical Register is imperfect and he ought to have notified in the newspapers along with the notification relating to elections apprising the practitioners that they should get their addresses corrected. We know that at least one candidate in the recent elections did point out to the Registrar about the necessity of such a notification. He also requested the President of the Madras Medical Council that the District Medical Officers may be requested to supply the Registrar the addresses of the subsidized practitioners whose number is over 500 and also the Chief Medical Officers of the Railways to supply the addresses of their subordinates. The office of the Registrar is virtually the office of the Surgeon-General. There could be no difficulty for the Registrar to get the up-to-date addresses of all the Government officials. As mentioned earlier in these columns those who were responsible to fix the dates for the despatch of voting papers and their return were indifferent. They knew that the voting was by the postal route. They also knew that the Medical Register was in chaotic condition in addition to the fact that a large number of voters were outside India and as large a number who were in India, were in the nooks and corners where postal communications are not as regular as in the urban areas. Even an interval of two months between the despatch of voting papers and the date fixed for their return, would not have been too long a period especially now when a world-wide war is raging.

The other item of indifference that was conspicuous during elections was the consideration of convenience for those working in the office of the

Returning Officer. There are two methods prescribed in the rules by which the electors could return the voting papers; one was by sending them to the Returning Officer by registered post and the other by the deposit of voting papers in the Ballot-Box provided at the office of the Returning Officer. The paragraph of rule 9 pertaining to the Ballot-Box runs thus:—

" Provided that, at his option, the elector may in person or by messenger deposit the envelope in the ballot-box which shall be provided at the office of the Returning Officer on the day and during the hours fixed for the poll."

The word "poll" has two meanings in the Oxford Dictionary: (1) counting of votes, (2) voting at election. What meaning the framers of rules had in their mind, is not clear. If they meant "counting of votes" for the word 'poll' the Ballot-Box ought to have been kept for one day in office of the District Medical Officer, Otacamund where the counting of votes took place on 27-5-1940. If the poll was interpreted as "voting at election" the Ballot-Box ought to have been kept in the office of the Returning Officer wherever it was, whether at Ooty or Madras all the days when the "voting at election" was going on. From the printed instructions to the voters, sent along with the voting paper, it is clear that somebody somewhere for sometime, interpreted the word 'poll' to mean "voting at election". We know as a matter of fact that a few voters in Madras sent their voting papers to the Office of the Surgeon-General which was the Office of the Returning Officer earlier than 21-5-1940 and their servants deposited the same in the post-box hanging outside in Surgeon-General's Office. The Ballot-Box was kept in the Office of the Registrar, Medical Council only on 21-5-1940 between the hours of

11 A.M. and 4 P.M. We take it that the office hours in Madras Government Offices are from 11 A.M. to 5 P.M. The Returning Officer might have been a little generous by keeping the Ballot-Box till 5 P.M. instead of till 4 P.M. and this generous action of his would have brought to the candidates at least 25 more voting papers. In other elections the authorities do not mind office hours and keep the Ballot-Box open from 7 A.M. to 6 P.M. with an interval of one hour for meals. Though the Government and the Heads of Departments were in Ootacamund, the scrutiny and counting of voting relating to an election for a seat in the Madras Legislative Council took place in Madras on 4.6.1940 whereas such scrutiny and counting of votes for the Madras Medical Council Elections had to take place in Ootacamund. Perhaps the Government must have thought that the candidates to the Madras Medical Council Elections being medical men were in need of a change and relaxation on the top of Blue Mountain really not a bad idea. Such amongst the three candidates who went to Ootacamund and who were in need of rest and change, were thankful after the event though at the time they had to open their pockets to pay the train fare they must have cursed themselves for having contested the elections. We will be failing in our duty if we do not mention that the arrangements made by the Returning Officer for the scrutiny and counting of votes were splendid. The Returning Officer could not have thought of these arrangements if the counting took place in Madras in the office of the Surgeon-General, in which case he would have naturally employed the services of his staff. Almost all excepting three who were engaged to help the Returning Officer at scrutiny and counting were the staff from the Office of the Collec-

tor of Nilgiris District under the guidance of the Sheristedar and the Tahasildar both of whom must have had experience in election proceedings of a more exciting nature than they had to deal concerning the Madras Medical Council Elections. The two persons who went up the mountain from Surgeon-General's Office might not have the knowledge and experience to run the elections so smoothly and quickly as the staff of the Collector's office were able to do. These two at times thought like frogs in a well that the whole world did not extend beyond the well they were in. It is said that the work could have been managed quite satisfactorily and with less expense if these two remained in the world where they were. The candidates are bound to be grateful to the Collector for lending his staff and to the staff who did their work excellently well with little or no show of authority which was conspicuous only at the two tables. The Director of Public Health did share the work in helping the Returning Officer by lending his only personal clerk who did his work as smoothly as his friends from the Collector's Office. He had faith in prevention and did not give room for excitement which is rather too uncommon during election proceedings. The Returning Officer who is a medical man cannot be expected to be as election-minded as the occasion demanded yet taking every thing into consideration he did his work very creditably especially the most important and tediously tiresome work of scrutiny, counting and tabulation of votes. That there was all-round indifference in the elections nobody could deny but the results were quite happy and will continue to be happy in spite of these criticisms. Fortunately the existing rules are so worded that any indifference could be covered with impunity.

News and Comments.

Honorary Medical Service: It is said that the Government of Madras now feel that their Order No. 3600 P. H. dated 23rd December 1937 relating to Honorary Medical Service, passed during the regime of the Congress Ministry, has not produced happy results and are contemplating to effect changes relating to the rules for appointment, tenure of office, the desirability of paying the honoraries in non-teaching institutions, especially the mofussil hospitals where honoraries are now being recruited for duty post etc. It is also reported that the Government have consulted two medical associations in the City of Madras on the subject. We are informed that so far none of the mofussil medical associations have been similarly consulted. The broad principles laid down in the G. O., referred to above, are irrefutable though not the details. Any attempt to graft the paid system into the honorary, will add another paid department to the existing Government paid organisations and far from carrying out the aims and objects of the Government as pointed out in the preamble of the G. O. under reference, will bring discredit to the honorary service. The Government should therefore take into their confidence the entire medical profession in the province and not the very few who happen to be the members of the two City Medical Associations. For this purpose the Government will be well advised to call a conference of the representatives of all existing medical associations preferably in Madras and have a heart to heart discussion on all problems affecting the medical profession, paid, honorary and independent. The Surgeon General or the Adviser to the Governor in charge of Medical Department may preside over such a conference. There is a precedence for such a gesture on the part of the Government during the Munuswami Naidu's Ministry when the late Mr. Munuswami Naidu who was also in charge of Medical Portfolio convened a meeting in Madras of the entire medical profession to discuss about the medical school education. In the meanwhile the medical associations may take a hint of

the news conveyed to them through these columns and find out the best means to catch the ears and the eyes of the Government even in case the Government do not think it necessary to go outside Madras to know the views of the medical profession on important problems affecting the profession.

Before closing we may also inform the members of the profession that the Government seem to be rather uneasy about the affairs of their School, the School of Indian Medicine and are said to have referred this question to a Committee. We trust the members belonging to the Scientific section of the profession have realised the real danger to the evolution of scientific system of medicine on account of the existence of the School of Indian Medicine which dabbles with all systems of medicine, now existing. We should say that the members of the profession made a serious mistake in not expressing their views when this school was about to be started more for political purposes than for encouraging the indigenous systems. The fact that the founder of this School preferred to die in the hands of those who belonged to the Scientific System, would prove without any doubt how much this founder relied on the indigenous systems of medicine. By this we do not mean to say that the indigenous systems are unscientific. We complain against the unscientific way they are handled on account of which there is real danger for the scientific evolution of the indigenous systems of medicine themselves.

Will Democratic Medicine Win? In the March 1940 number of our American contemporary, The Journal of Medicine appears a query under the "Editorial Comments", to the effect, "Has Democratic Medicine Won?". The readers of The Medical Practitioner might remember our having brought to their notice through these columns that serious and persistent efforts were being made to introduce in the United States of America some type of national Health organisation. A Bill was actually introduced called after the name of its author, the Wagner Health Bill. All sorts of devices were used

to give publicity to the Bill, by newspapers, magazines, radio and addresses with the sole purpose of canvassing the confidence of the public against Private Medicine which is the main system of medical relief in America. The whole picture seems to have suddenly changed when last December, President Roosevelt announced at a press conference that Wagner Health Bill was "too cumbersome and too expensive". The American Medical Profession believes that further consideration of Wagner Health Bill by Congress is far remote at least on any such scale as outlined in the Bill. The American Medical Association stood the brunt of the opposition against the Bill and had even stood the test of a suit for damages without success. In spite of this, the American Medical Association was able to get at least a partial favourable verdict in favour of its campaign against bringing the American Medical Profession under the control of the politicians.

In India the scientific medical profession has been always under the control of the Government. In fact, the profession owes its very birth and existence to the Government. It is no wonder that there could not be an association in India of the importance and influence of the American Medical Association or its sister association, the British Medical Association. Yet we are reasonably hopeful that Private Medicine, if it organises and unites on Federal Basis wherever it may be either in villages, towns or cities on lines consistent and compatible with their existence as separate entities, will be able to hold its own and command the influence worthy of the aims and objects of the noble profession. It is the tendency of aping to evolve on Western or American lines without first establishing real democracy in Private Medicine, which has been the barrier preventing the evolution and organisation of the Indian Medical Profession. We trust that if the underlying principles of the newly democratised Madras Medical Council are strictly adhered to by at least the Madras Medical Profession and true democratic machinery is made applicable, on Federal Basis there is every hope of the Democratic Medical Profession Winning.

Madras Specialist's Generous Act:

Under the above caption there appeared a Communique last month in a Ceylon Daily, from the office of H. E. The Governor of Ceylon who, it was said, underwent completely successful radio-therapeutic treatment in November last at Dr. P. Rama Rau's Madras Radiological Institute and that Dr. Rama Rau had most generously named a free bed at the Institute after His Excellency. It is also said in the Communique that the occupant of the bed would pay nothing for treatment, boarding and lodging. Nominations for occupancy of the bed will be made by the Minister of Health in consultation with the Director of Medical and Sanitary Services and the Senior Surgeon of the Colombo Hospital. It is also mentioned that "in communicating to Dr. Rama Rau the Minister's grateful acceptance of this amenity for Ceylon patients, the Governor has added an expression of his personal gratification that Dr. Rama Rau should, by naming the bed after His Excellency, have associated His Excellency's recent treatment and complete cure at the Institute with an act of such signal benefaction towards other sufferers in this Island who stand in need of deep X-ray therapy or similar treatment but cannot afford it." That institutions run by private practitioners could conceive the idea of treating the poor at considerable cost, including specialist services, has been amply demonstrated by Dr. P. Rama Rau of whom the independent medical profession should not only be proud but should also encourage such private enterprises of public utility to run which not only special talent but also large sums of money have to be the requisite factors. The members of the medical profession have also to be specially grateful to Dr. Rama Rau for his generosity of rendering help to them at his institute free of charge, a privilege which cannot be availed of by them at the Government Institutions unless they belong to the paid Department of the Government.

Nominations to Medical Council: Lieut.-Col. G. R. McRobert, Dr. Miss Ida Scudder and Dr. R. J. Dyson have been nominated to the reconstituted Madras Medical Council. Dr. Scudder is

the sitting nominated member and Dr. R. J. Dyson had been an elected member in the old Council representing the registered practitioners belonging to the first group in the old Medical Register, being elected unopposed twice and on the last occasion in *absentia*. We are glad that the Government did note the results of elections in the Medical Colleges and considered that the next best person to the Principal for representing a Medical College is the Professor of Medicine. Dr. Scudder is an ideal American

Missionary who has practically adopted the Madras Presidency as if it is her province of birth and we need hardly say that she represents not only women practitioners but all other interests, the most important being the interests of the medical education and medical relief. We congratulate the Government and the Medical Council more than we do the three nominated members and wish the members a useful career in serving the medical profession in the newly constituted democratic Council.

Correspondence, Reports, Etc.

To

THE EDITOR,

Sir,

Dr. Kamath did a good service to the readers of The Medical Practitioner by publishing his impressions about the recent Medical Council Elections in the last issue of the journal. But all of us are at a loss to understand that though the electorate to the recent Medical Council Elections numbered 6,623, only 3,040 exercised their franchise and as many as 87 voting papers were invalid, in spite of the electorate being an enlightened one. An impression is likely to go round that medical men have not realised the power of vote. On 4-6-1940 I read in the newspapers that an election for a seat in the Madras Legislative Council was held and 538 out of 696 took part in elections and there were no invalid votes at all. If we compare Madras Medical Council Elections with this, what is to be inferred of the medical men of this Province? Hope you yourself will explain the contrast through your valuable journal.

Tanjore.

S. R. M. P.

P. S. R. M. Ps.' Association.

MADURA DISTRICT BRANCH.

An ordinary meeting of the Madura District Branch was held at 6 P.M. on 8-6-40 in the Head Quarter Hospital, Madura. Dr. M. Nagarathnam, Vice-President presided over the meeting as the District Medical Officer was engaged otherwise.

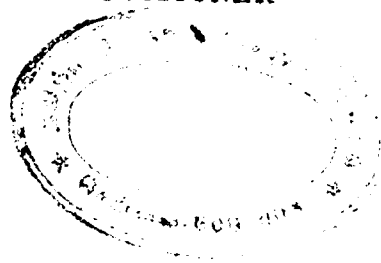
The following resolutions were passed:—

1. Resolved to express our gratitude to the President, District Board, Madura, for having considered our representations in connection with the sanction of the additional subsidy.
2. In view of the increased cost of drugs and as the amount allotted at present is too inadequate, it is resolved to request the President, District Board, Madura, to proportionately increase the allotment towards the cost of drugs.
3. This meeting reiterates its resolution No. 7 passed at its meeting on 17-12-38 requesting the President, District Board, to appoint a male servant in all the Rural Dispensaries where there is an attendance of 30 a day and to sanction a contingent charge Rs. 6 per year (for stationery and postage) and also to allow a uniform dispensary rent for all the dispensaries.
4. This meeting approves of the item No. 2 of the Resolution No. 5 passed by the Provincial Committee at its meeting held at Tirupathi on 26th and 27th December 1939.

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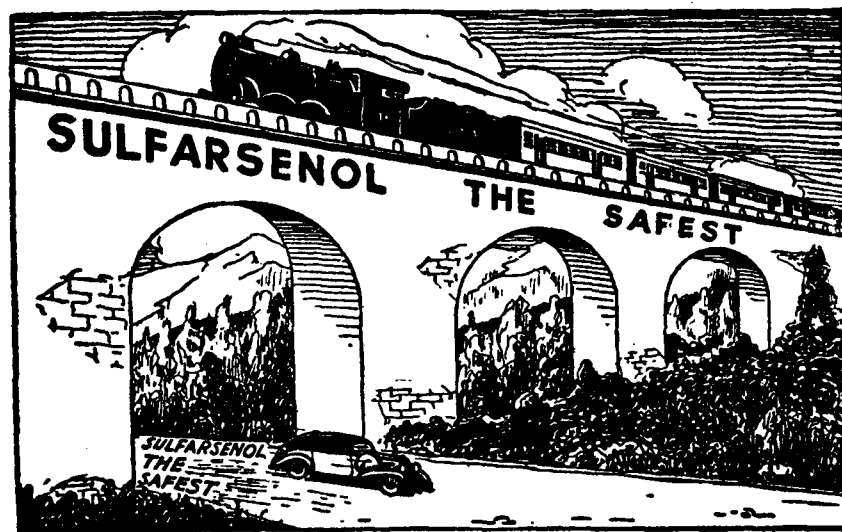


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