The Bulletin
OF THE
South Indian Medical Union.

Vol. II. | NOVEMBER 1930. | No. 11.

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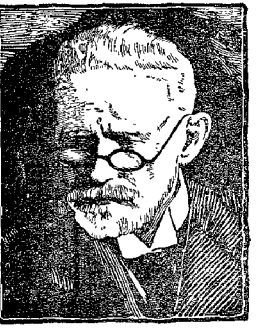
BULLETIN
OF THE
SOUTH INDIAN
MEDICAL UNION.



PAUL EHRLICH

(Founder of Modern Chemo-therapy).

BULLETIN

OF THE

SOUTH INDIAN MEDICAL UNION

MADRAS, NOVEMBER, 1930.

Dear Sir,

In accordance with the desire of a large number of our friends we have, as a tentative measure, issued the Bulletin to our friends among the General Public, especially those who are now engaged in nation-building work. It is quite possible that owing to oversight, the Bulletin might not be reaching all of them and we request ALL who are interested in the Medical relief of the Presidency to kindly inform us their correct addresses, to enable their names being placed on the COMPLIMENTARY LIST.

Speaking about the correctness of addresses some copies of the Bulletin are being returned by the Post office with the endorsement ''left station—no instructions.'' Will ALL MEMBERS OF THE MEDICAL PROFESSION kindly send us their present address and any future change. WE DO WANT TO BE IN TOUCH WITH THEM AT ALL TIMES.

T. Krishna Menon

For PUBLICITY SECTION.

GENERAL NOTES.

We are glad to announce that our President Dr. S. Rangachari and Dr. T. Krishna Menon, late General Secretary of the Union, have been nominated to be members of the Faculty of Medicine of the Madras University.

We offer them our congratulations and trust that they will represent the views of the General Practitioner.

* * *

It is a happy sign of the times that the University has accepted the policy of associating members of the Independent Medical Profession. As things stand now, it is next to impossible for any other than those in the Colleges to enter the Academic Councils. It was the late Sir James Mackenzie who said, that the only people who are not consulted in such matters are those who are vitally interested and affected by any change, *viz.*, the General Practitioner.

* * *

We hope that the rules will be amended so as to enable the non-teaching members of the Profession to serve on the Academic Council and the Board of Studies of the University and effectively influence the policy of the University in Medical teaching. We realise any such attempt here will meet with strong opposition from the *vested interests*, especially of the indigenous variety, but we trust that the University authorities will be able to brush aside such petty-minded obstacles and bring a new orientation in the policy of the University.

* * *

We offer our congratulations to the successful candidates at the recent examinations and offer them a hearty welcome into the Profession and hope very soon to welcome them as members of the Union.

[*Membership forms can be had of the General Secretary, 100, Poonamallee Road, Kilpauk, Madras.*]

* * *

Complaints have been reaching us from students about the unsatisfactory nature of the examinations, the vagaries of the examiners, and how such unhappily repercuss on the results.

Another recent complaint is that the students are 'locked in' by a teacher during the lectures. We hope that it is not true but will not be surprised if such happenings occur under existing conditions.

All these are receiving our attention and we hope to be able to comment on them on the completion of our investigations.

Medical Relief and The Independent Medical Profession.

The great mortality from preventible and other diseases, the economic waste consequent on the existence of a large population that suffers from chronic ailments, which though they do not kill outright, yet sap the energy and the vitality of the victims, and the inadequacy of efficient medical relief have for long been the source of bitter complaint by the Public. The Government has been well aware of the unsatisfactory conditions in this Presidency and it has attempted from time to time to remedy them. It has built new hospitals, established new dispensaries and increased the number of medical schools. It spite of these efforts, there are large tracts where medical help is scarce and hospital facilities are non-existent. And at the present rate of expansion, it looks as though the people of this Presidency

would have to wait some generations before scientific medical help could be available in anything like the measure obtaining in other countries. Realising this, the Government has introduced the scheme of subsidised rural dispensaries with which they hope to afford greater facilities of medical relief to the public, especially in the hitherto neglected rural areas. The scheme, with all its faults, is a step in the right direction. It is an endeavour on the part of this Presidency to fall into line with other countries in the methods of provision of medical help. Elsewhere, medical relief is chiefly through unofficial agency. The State and Local Bodies maintain a service of full-time or part-time medical men only for certain limited purposes as for the navy, the army, public health and infectious fevers hospitals. The rest of the relief is rendered by the Independent Profession, subsidised in some places, as in the National Health Insurance Scheme of England or wholly independent of any state help as in France and America. The predominant part taken by the Independent Profession in matters of medical help in the various countries, has been one due partly to age-long custom, and chiefly to the improbability of the State being able to provide sufficient funds to maintain a paid service of medical men to meet the demands of the entire population of a country. This difficulty is felt even by rich countries. There has been in recent years an insistent demand from the people in England that the State should provide for all medical relief. Yet, the State has not found it possible to accede to this demand, one of the chief reasons alleged being the question of provision of the necessary funds. While richer countries find this difficulty, it is unthinkable that the State with its repeated avowals of limited funds could undertake the task of fully providing this country with medical relief with a paid agency of a large number of medical men and state-equipped institutions. In these circumstances, the State has to rely more and more on non-official agency for rendering adequate medical relief.

If the Independent Medical Profession has to take on this duty, it is essential that its professional efficiency should be of a high level — the highest possible level. This is seen to, in other countries. It is recognised that working in institutions, with a number of colleagues interested in different departments of medicine, stimulates and helps medical men to widen their knowledge and increase their efficiency. With the large number of hospitals, maintained by the State, local bodies, or by voluntary organisations, a greater number of medical men get a chance of working in them for varying periods, short or long as they desire it or deserve it. In America it has been found that about 60% of medical men have appointments in one or other of the institutions there.

Madras needs, and so does every other country, a large number of efficient practitioners of the science and art of modern medicine. But Madras, as every other country, also requires another set of medical men. Most medical men are content to be efficient practitioners. But there are always in every country a set of enthusiastic men who are not content with being efficient practitioners; they also desire to be keen students of medicine right through their active career. These are the men who desire to be masters of available knowledge and then strive to enrich it. It is a well known fact that nothing helps one so much to master a subject as teaching it. And when the teacher also works, *i.e.*, works hard and enthusiastically at the subject that he is teaching, his knowledge is likely to be more and

more profound. Further, the presence of his assistants and a number of young students watching him at his work at the bed-side, in the laboratory or the theatre, compels the physician or the surgeon to keep his knowledge in perfect trim, and to put forth his best in his work. It is on this ground, that the best among the Profession desire and obtain places in medical teaching institutions.

The Drugs Enquiry Committee.

Drugs have always played a great part in the methods and means adopted by medical men in the treatment of patients. In spite of great progress in methods of diagnosis and treatment, there are still many diseases and conditions of ill-health the treatment of which is far from satisfactory. Medical men are fully conscious of their helplessness in these cases. They are therefore ever anxious to welcome and investigate new drugs which are introduced to them, when they offer reasonable hopes of usefulness. On the other hand patients, who after tedious and prolonged treatment by various men find no relief to their trouble, and those who have been told by their doctors that their diseases were beyond human skill, are only too glad to try any drug that is vaunted as a cure for their particular ailments. This state of affairs presents excellent opportunities for the exploiters of human credulity.

Synthetic chemistry has done much to help the medical profession and the sick population all over the world. It has literally delivered some invaluable boons to both of them and it is the hope of all medical men that this new branch of chemistry would continue to produce so many more valuable gifts to lift the gloom which often enters the consulting room and pervades the sick room. But in its wake has come a flood of medicines, most of them useless, and many of them harmful to the unhappy patient who takes them and to the unwary medical man who prescribes them. Apart from synthetic products innumerable number of drugs and combination of drugs or so-called drugs are put on the market with tall claims to cure the most varied conditions of disordered health. It is the common experience of most medical men in Madras that not a week passes without some representative of one or other manufacturing chemist calling on them with samples of drugs, new and old, and leaving behind a sheaf of literature, often unreadable. Every foreign mail brings with it a bundle of cards, folders, blotters, booklets and packets. As a result of this intensive propaganda and advertisement we would not be far away from the mark if we state that more extra-pharmacopoeal preparations are in common use than those which are to be found in the pharmacopoea. This tendency was present to some extent even before the war. But postwar conditions have changed and have considerably worsened the state of affairs. The competition to retain old markets and to capture new ones has become keen. The price of drugs has to be cut if a manufacturer is to make headway in selling them. But price cutting is not always possible without sacrificing efficiency and when the cost of production is higher than before the war, some of the manufacturers have been tempted to place on the market inferior products or products which contain a much smaller proportion of the active ingredients. Another source of exploitation of the profession and the public is the manufacture of injectable products. Because a few of the most useful drugs have at present to be given with the aid of the syringe and the needle, the public has come to have an extre-

mely exaggerated faith in these injections for all manner of disorders. The profession generally has not done much to educate their patients out of this misconception. The amount of quinine that is administered parenterally in Madras is an instance in point. The manufacturer who is ever watchful of his opportunity puts on the market a varied assortment of ampoules and injectules, phials and what not. Serum and vaccine therapy and opotherapy are further happy hunting grounds for the manufacturers. Because a few colloidal preparations have been found to be useful in a limited field, every possible metal is put on the market in what is said to be a colloidal state. Some of these could be seen in lumps in the bottles and ampoules. Because a few endocrine preparations are found to be definitely useful, all the imaginable glands are said to be extracted and served out to the public as if their utility has been assured.

Many of these preparations are vaunted and vended and the poor deluded patient is made to pay heavily for many useless things. Thus money which could be utilised by the tuberculous or the anæmic patient for buying a pint of wholesome milk or a couple of eggs is wasted on drugs and injections which the profession has no reasonable basis to believe would do any good to the patients.

It is thus the experience of all medical men that many proprietary and patent drugs are sold and bought which do not generally yeild benefits in proportion to the money spent. It would certainly be to the good of every one concerned, the physician and the patient, if some means could be devised to prevent or curtail the sale of these drugs. The object of the Drugs Enquiry Committee is evidently to find out the best practical way of achieving this result.

The problem is certainly not easy to solve. The manufacturer and the stockist will not look idly on, when efforts are made to block his profiteering. It is always easy to get a number of sick people and others to protest to the Government that the means of the cure of their ailments are unjustly denied them

Legislation by itself cannot achieve much. The demand for these drugs has been sedulously fostered and it exists. The propaganda and the demand is growing. This vicious circle must be broken before legislation could usefully interfere. One should therefore aim at effecting this breach, which could only happen if the Profession and the State co-operate. A good deal of the use of these drugs arises out of ignorance. The Profession must refuse to make use of any drug or combination of drugs with whose chemical and clinical properties it is not thoroughly familiar. It may be argued that if the Profession adheres strictly to these principles, many of the patients would be denied the use of some very useful remedies whose constituents may be kept secret for various reasons. It is the experience of great physicians all over the world that the suffering public would lose little if all these secret remedies did not exist. The British Medical Association has rendered the Profession an invaluable service by analysing most of these patent and proprietary drugs and publishing them in "Secret Remedies and More Secret Remedies." A perusal of the contents should convince even those who are most optimistic of these secret drugs, that their patients pay much and derive little benefit out of them. The craze for new drugs is very strong among the public, and unfortunately also among the profession. Every new sample or advertisement sheet is availed of to prescribe new drugs to the patients

who happen to seek advice immediately after the receipt of such samples. It impresses the anxious and credulous patient with the "up-to-dateness" of the physician, and the patient anticipates a speedier or more certain cure from a newer drug. The temptation on the part of the physician is great. But we hope that those in the Profession who are looked up to for guidance would give the correct lead to the younger and humbler practitioner by rising above this unwholesome temptation. We do not say that this practice is widely prevalent. But we are unable to deny its existence. It is the Profession that introduces these drugs to patients in the first instance. By greater scrutiny and adherance to stricter scientific clinical methods, the Profession can certainly prevent the sale of many of these drugs.

The State on its side can help to lessen this evil of the deluge of medicine in various ways. Some of the methods that could be thought of are, (1) Enhanced taxation of patent and proprietary drugs, (2) Insistence on the publication by the manufacturer of the active ingredients of "secret" remedies, (3) Educational propaganda among the Profession and the Public against the use of these drugs, and (4) Legislation directed against the importation of admittedly useless or harmful preparations. The first two of these methods might be introduced without much preliminary labour, though we expect some opposition from interested businessmen and a deluded public who may complain that the means of the cure of sickness is made unreasonably costly. But we are not sanguine that these two methods would produce the desired results. There is an impression in the minds of those who generally resort to these remedies that the efficacy of a remedy increases with its costliness, and if additional taxation raises the cost of these articles, there is a danger that some at least of these remedies may find a larger sale. The third and the fourth methods require well equipped chemical and pharmacological laboratories.

The government should investigate such of these remedies as may be referred to them by a body of competent medical men chemically and, if necessary, pharmacologically before they permit their sale or sanction their entry into this country. But legislation can achieve little without the willing co-operation of the Profession. The co-operation should be obtained by publishing the results of the analysis of these drugs and making such publications easily available to the Profession.

The question of purity of chemicals is a much more difficult problem. To analyse all the chemicals that are imported into this country for medical purposes, a number of large laboratories would be required. Even so, it would be difficult to prevent their entry and sale in this country. We have only to depend on the reputation of the manufacturers for the purity of the drugs. The State can from time to time analyse some of these products and publish their results for the guidance of the public. For the present it would be fair for the State to go beyond this. It would lay itself open to the charge of favouring some manufacturers against others.

The Committee has undertaken a difficult task. It is lucky that it has as its President, one of the ablest pharmacologists of India. One may fully hope that out of its labours will emerge some useful suggestions to reduce this growing menace of flooding the Indian market with spurious remedies.

BULLETIN

OF THE

SOUTH INDIAN MEDICAL UNION.

NOVEMBER, 1930.

THE DIAGNOSIS OF OBSCURE FEVER IN ADULTS IN THE MADRAS PRESIDENCY.*

By Lieut.-Col. G. E. Malcolmson, M.D., M.R.C.P.,

Professor of Medicine, Madras Medical College.

In the year 1924 Dr. Oliver Heath read a paper before the Royal Society of Medicine entitled "The Clinical Interpretation of Fever" showing the causes, and in the course of the address he demonstrated a diagram which I am now exhibiting to you. I will give you a description of the diagram in his own words.

"In the lesion, bacteria coming into contact with the lymph neutralize antibody, and the return of lymph to the circulation leads to a gradual lowering of the antibacterial power of the circulating blood.

When the blood is slightly affected a central stimulus excites inflammation.

When the blood becomes seriously affected, *i.e.*, when inflammation has failed to cure, a second central stimulus inhibits intestinal activity and causes malaise and anorexia and a transference of energy from normal functions to those of the defence.

A third stimulus, by causing constriction of the vessels of the skin, produces a sensation of cold which excites production of heat, first by muscular contraction, later by a special fever process which economizes energy; this results in raising body temperature to a higher mean level.

As the temperature rises, increased pulse and respiration rates show that metabolic activity is increased, and the increase is expended on antibody production which is in this way accelerated by the rise of temperature.

In certain bacillary fevers (and perhaps others) a special process of antibody production replaces the normal, specific antibodies appear and output is greatly increased; if the patient react well, the antibacterial power of the blood is now raised above the normal of health, and reduction of both inflammation and fever is associated with a further saving of energy.

Finally, if the blood is reduced too far for safety, tension in the lesion causes pain, which tends to slow inflammation at the same time as the systemic process has increased production of antibody; inflammation and fever are controlled as one combined defence process."

The above is in the nature of an introduction to my lecture and will serve to remind us what we always forget—that fever of a moderate degree is a beneficial and necessary symptom of many diseases.

When your Secretary did me the honour of asking me to address you I demurred as I felt that my time was already so fully occupied that to compress more into it was well nigh impossible and in any case my notes would be incomplete and inconclusive and therefore hardly fit for presentation to your attention.

Shortly after I had accepted your kind invitation and decided on the title of my address, I became overwhelmed by the thought of the magnitude of the task I had attempted. This feeling was not allayed by the

* Address delivered before the South Indian Medical Union, Madras.

fact that within 24 hours of my acceptance I was presented with 3 cases of fever, the nature of which had defeated some of my colleagues. The third of these was the wife of a medical man who said he had eliminated most possibilities but could come to no decision. I said, "this is the third case of obscure fever I have seen during the last few hours; and I have been totally unable in any way to lighten the obscurity of any of these. This is indeed the judgment of God on me for my temerity."

By obscure fever I mean cases of raised temperature which persist say over a fortnight. At the end of a week if we are unable to give a satisfactory explanation of a fever, the obscurity begins, and increases proportionately to the duration. At the period in question I had in my wards a lady who had a practically continuous temperature averaging 101° for 1½ years, and in whom no definite diagnosis has been as yet reached. She had many physical signs, viz., extreme tachycardia, septic tonsils, rhonchi, slight hepatic enlargement and tenderness, moderate anaemia of a secondary type, but there was nothing which give the clue to her condition. The leucocytic count was normal, the Wassermann Reaction negative on several occasions, the urine had been shown to be sterile more than once, X-ray of the chest showed no abnormality, there was no cough, no expectoration, apparently no loss of weight, no abnormal flora or fauna of the alimentary canal could be demonstrated. She certainly had septic tonsils which were duly removed, but the removal had not the slightest influence on the course of the disease and only strengthens my axiom that chronic septic tonsillitis is never a cause of prolonged fever in adults. We investigated her condition in relation to every possible contingency we could think of, not excepting Malta fever, tularaemia, and bacillus abortus infection, but were baffled at every turn. It is true that we did not do the tuberculin test, as we have always found it to be totally unreliable. Finally the patient's friends not unnaturally discontented with the negative character of our observations removed her from hospital with the somewhat unsatisfactory suspicion that she was probably suffering from tuberculosis somewhere, in the bronchial glands or elsewhere.

For the purpose of this lecture it will serve no useful end to classify Obscure Fevers into types. Such types would be:

1. Continuous uniform.
2. Continuous Remittent and Intermittent.
3. Fever of a Relapsing type.

It is true that relapsing fever, or rat bite fever are more likely to assume the relapsing type but they are rare and when met with give fairly clean cut clinical pictures which are not likely to confuse, but most of the conditions which we shall consider tonight are capable of assuming any one of these types.

It is true that a comprehensive study of the subject of the title of my lecture would run into volumes and that in order to condense it into an address of less than one hour's duration, many important omissions will have to be made. And in such a condensation, the personal element must form a very large factor, and I must ask your indulgence where my guillotine has been too drastic. Further although my experience of obscure fever has been a very extensive one, I have not always had this lecture in view and it is possible that some of the impressions which I have gained may have become somewhat warped in the course of time, owing to the absence of accurate

notes jotted down at the bedside or in the consulting room.

And now I will enumerate some of those diseases which in my opinion may be responsible for obscure fever in this presidency and in so doing my object is not to mention all those which may under certain circumstances give rise to a raised temperature, but to concentrate on conditions where fever is, or is reputed to be, a presenting symptom while localising phenomena which might give a clue to the *diagnosis are conspicuous by their* absence. They are :—

Malaria.
Kala.
Amœbiasis.
Tuberculosis.
Leprosy.
Syphilis.
Lymphadenoma.
Typhoid and Paratyphoid fevers.
B. Coli Infection.
B. Faecalis Alkaligen Infection.
B. Gaertner Infection.
Other septicaemias.
Relapsing Fever.
Rat Bite Fever.
Tick Typhus.
Filariasis.
Intestinal Helminthic Infections.
Tonsillitis and Pyorrhœa.
Appendicitis.
Fistula in Ano.
Chronic Cholecystitis.
Infective Endocarditis.
Boils and other skin conditions.
Pyelitis apart from the above infections.
Malignant Disease.

I will now proceed to eliminate those conditions which in my opinion do not give rise to fever of an obscure nature leaving a residuum about which a reasonable discussion might be made.

It is hardly credible that in the present state of our knowledge, with reasonable care, a case either of malaria or kala azar can remain obscure for any length of time.

I have never yet met a case of malaria which was both quinine resistant and in which frequent examination of the blood film proved negative. I have never yet met a case of kala azar which did not in the course of time give an indication by the firm steady enlargement of the spleen. It is true that in an occasional case of kala-azar, both the Gel test and spleen puncture may be negative, but these are few and far between and having regard to the locality of the patient's dwelling, the characteristic symptomless high fever with the double diurnal rise, to the increased pigmentation and the emaciation, mistakes must be few. Where the diagnosis of these diseases is difficult is the later stage of cachexia with a clinical picture of Banti's disease; here a wide field of possibilities are open to us, which are however outside the scope of this paper.

Leprotic fever is a condition which theoretically might cause confusion. Personally I have never experienced any case which did not reveal some unequivocal sign of macular eruption or nervous involvement. Perhaps I have missed such, who shall say? In any case leprotic fever in the absence of the specific organism in the nasal secretion, of cutaneous or nerve manifestation must be excessively difficult of diagnosis.

The same remarks might be made about the Pel Ebstein Fever of Lymphadenoma. I have not yet met a case the true nature of which was not indicated by palpable enlargement of one or other group of lymphatic glands.

As regards the Enteric group, very much the same remarks hold as for

Malaria and Kala-Azar. These diseases are so common here, and so universally suspect, the serum and culture-reactions so well defined that mistakes in diagnosis must be few. Where we are liable to error is in not recognising the true fundamental nature of the disease in the nervous, pneumonic and nephritic types of this group about which I may have a few words to say later.

B. Gaertner infection, which as you know, occurs as a form of food poisoning was apparently the cause of obscure fever in one case under my care.

There are other septicaemias besides the ones mentioned here which may give rise to trouble. Among others I would mention Pneumo-Meningo-Gono-Strepto-Staphylococcus invasion. These however are for the major part very acute conditions, and either have a rapidly fatal ending, or terminate by crisis in a few days, or become localized to certain definite areas in lungs, joints, meninges, peritoneum or valves of the heart when the local presence of the inflammation will advertize itself by the symptoms appertaining to disease of that part.

The next three fevers can be dismissed in a few words: In relapsing fever a careful examination of the blood during the febrile phase of the cycle will invariably demonstrate the spironema. Similarly in rat bite fever, the history, the local inflammation, the adenitis, the characteristic relapse will, even if we fail to identify the spirillum minus, give us the necessary clue. Tick Typhus should not, I think, be included in the discussion. It is a jungle disease and has not so far as I know, been described in the Madras Presidency.

Filariasis as such never gives rise to fever. The febrile manifestations are invariably due to secondary infection of strepto-and staphylococci such as occur in lymphangitis, lymphadenitis and abscess formation. It is however important to be on the lookout for unrecognised or uncommon manifestations of so called Filarial fever. In addition to recurrent attacks simulating orchitis we may get the phenomena of acute mastitis and recently I have seen a case of apparent recurrent appendicitis, the attacks being so severe that we removed an appendix which proved perfectly normal, and the attacks were not mitigated in the slightest. These cases are rendered more difficult by the fact that microfilaria are seldom found in the peripheral blood after the appearance of local phenomena.

As regards the intestinal worms we may ask "Is fever ever the presenting symptom in these infections?" I doubt it. Ankylostomiasis can give rise to a slight or moderate fever lasting over a prolonged period. This, however, rarely if ever, is a presenting symptom.

The older text books used to talk about typho-lumbricosis, a typhoid-like fever which was caused by round-worm infection. Now, one searches in vain for such an allusion. The explanation probably is that round worms form a powerful predisposing cause of Typhoid and in the pre-Widal days the true nature of the disease was not recognised. The fever of Trichiniasis which may closely resemble typhoid is well recognised in countries in which the disease occurs. I have one case on record of fever continuous over many months which was relieved only when a tape-worm was expelled from the bowel. There is no confirmation of this in the literature of medicine.

Chronic Tonsillitis, one of the commonest causes of low obscure fever in children is never so in the adult.

Pyrexia by itself can hardly be such a cause.

About appendicitis, I have nothing to say. It never produces the kind of fever we are discussing to night. The possible confusion with filariasis has already been referred to.

I have met one or two cases of obscure fever in whom no lesions could be discovered except fistula in ano.

Unfortunately I have not been able to put these to the therapeutic test.

Infective endocarditis of the subacute variety is well-known to be a cause of obscure fever. It is a rare disease in this Presidency and I don't think it often causes pitfall here.

And I quote the following case to remind you that many chronic skin lesions of an infective nature may be a cause of fever. An officer lay sick in the Military Hospital for several weeks, the only symptom being a slight fever which rarely rose above 100. On being consulted, I went into his case very thoroughly. All the investigations including the W.R. gave negative results, but he certainly had an extensive prickly heat eruption which did not react to the ordinary remedies. I suggested a transfer to Bangalore, and both the eruptions and fever quickly subsided. Whether this was post-hoc or propter-hoc I will leave you to decide.

Finally remember that malignant disease is a potential cause of fever.

And now we have whittled away the list till we have only the following left :—

Amoebiasis
Tuberculosis
Syphilis
B. Coli and Faecalis Alkaligines infection.
Cholecystitis.
Pyelitis.

Six conditions, if we consider B. Coli and B. Faecalis Alkaligines infection as one, and one of these six will frequently be found to be the cause of prolonged fever of uncertain origin. Now the following special investigations should, if possible, be done in any such case and they may help us to elucidate the cause :—

1. Enquiry into history of Tuberculosis in family. Specific disease and dysentery in individual.

2. White blood count, total and differential.

3. Blood and urine culture, and here it will frequently be desirable to do the culture both on simple media and selective media for intestinal organisms. The blood for culture should be taken at the height of the fever and the media inoculated at once. I have never obtained any assistance in these cases from culture of the stools.

4. The agglutinating power of the serum against B. Coli and B. Faecalis in addition to organisms of the ordinary enteric group.

5. The Wassermann Reaction.

6. Examination of the centrifugalised urine for blood and pus cells, and if pus be present examine for acid fast bacilli.

7. An X-ray of the chest to show the apices of the lungs and the domes of the diaphragm. I have found cholecystography but of little use, although theoretically it is an ideal way of shewing up gall bladder abnormalities. And here I will be dogmatic in order partly to expedite matters and partly to stimulate discussion remembering always that he who dogmatises too much in medicine is riding for a fall.

A polymorphonuclear leucocytosis is chiefly indicative of tuberculosis or amoebic infection.

A history of fever extending over a year is more likely to indicate tuberculosis or a B. Coli infection of the urinary tract, than any of the other conditions.

Although the haematogenous route of infection of the urinary tract by B. Coli is considered by many authors to be the usual one, I have not yet seen a case in which a B. Coli septicaemia has become chronic with involvement of the urinary tract. Nor have I seen a chronic infection of the urinary tract flare up in to a septicaemia. I am therefore of opinion that the conditions for the development of the 2 varieties differ in a way not wholly understood. From the number of positive results of B. Coli culture from the urine which one gets in ordinary routine work, I would suggest that the organism is a comparatively frequent visitor to the urinary tract and that it only requires a comparatively trivial lesion of the urinary epithelium or even a depression of vitality without lesion, as would be seen to occur in the post-febrile cases of B. Coli pyelitis.

The case of the relationship of general miliary tuberculosis to a local tuberculous lesion, or indeed of any other infection is not a strictly parallel one, because the B. Coli has the unique distinction of being a normal inhabitant of the alimentary tract.

A frank haematuria may be due to stone, tubercle or B. Coli Infection or a combination of these; I have met several cases where haematuria was the presenting symptom of B. Coli infection, a fact noted by Sir Thomas Horder in Price's "System of Medicine". I have not found the fishy odour mentioned by the same author of any value in diagnosis.

The diagnosis of B. Coli and B. Alkaligines Systemic Infection depends on either :—

1. The isolation from blood culture, or

2. Agglutination results with absence of urinary infection. Although B. Coli does not as a rule give rise to sera of high agglutination titre, in at least one of our cases the agglutination was positive in dilution of 1 in 200; and I have a chart of a case of B. Faecalis infection which reacted in a similar way. Both infections are severe and roughly resemble typhoid and I would point out the necessity for being on the look out for ketosis in both, and dealing with this complication if present.

I will now briefly quote 3 cases to show the importance of the Wassermann Reaction; and the value of these 3 cases is in no way diminished by the fact that in all of them there was some complication which might possibly be construed as the cause of the fever. I could quote many others without such complication, but time is limited.

1. A Hindu gentleman, aged 37 years, was admitted into the General Hospital on 16th December 1929 for fever and cough which he had had for some 4 months off and on. The cough started a few days after the fever which was remittent or occasionally intermittent. His treatment had consisted of Neobiase and Sodium. Morrhuate injections and also an autogenous vaccine prepared from the tonsil. The fever had been high, at times reaching 103°. He had a certain amount of mucous expectoration.

On examination the apex beat was ½" outside the nipple line and a to-and-fro friction sound was heard at both margins of the sternum. A few crepitations were heard over the left apex anteriorly, and the liver was felt 1" below costal margin in the nipple line.

Urine showed a trace of albumin and a few pus cells.

Blood culture and widal were negative.

Urine culture was negative.

No Tubercle Bacilli could be found in the sputum.

After Prostatic massage there were pus cells in the urethral smear but no gonococci.

X-ray showed the Heart enlarged transversely.

The temperature was raised as shown in this chart and there was considerable tachycardia, the pulse varying below 120 and 132.

Here then was ample cause for fever without further investigation and a diagnosis of rheumatic (possibly tuberculous) pericarditis was made.

Treatment with salicylates however had no effect, nor could we find any radiological or bacteriological evidence of Tuberculosis.

In due course the Wassermann Reaction was reported as being strongly positive.

Anti-specific measures were instituted at once, the fever subsided as shown in the chart, the friction rub quickly disappeared and the improvement in the general comfort of the patient was hardly credible.

2. The next case is that a Hindu gentleman, aged 40, who was admitted on 3rd September 1930, for irregular fever and loss of weight of 24 days duration. He had suffered from Diabetes for some years, as had his father before him, and had been in this hospital some six months ago for chronic bronchitis from which he was at present apparently entirely free. The present attack of fever was mild but persistent, and had lasted 24 days already before admission.

I saw him several times in consultation with Dr. U. Krishna Rao but could find no cause for the fever. As he had a moderate glycosuria with slight acetonuria, we thought that he had some slight focus of infection which had set up a vicious circle with the ketosis, and that the circle could easily be cut by adequate insulin treatment. With best endeavour however the fever kept on. As valuable time was being wasted, I decided to take him into hospital for more thorough investigation. I put him through the investigation detailed above, and all, including the W. R., were entirely negative. Time went on and we seemed no nearer solution, when my assistant Dr. Viswanathan, on perusing the old case sheet of six months previously, discovered a W. R., positive moderate. The missing clue was immediately acted on and the result can be seen on this chart. The last entry on his cased sheet dated 18th September 1930 reads "Increased 4 lbs. in weight in 6 days. No tenderness abdomen. Temperature normal. Patient feels very well".

3. And now, at the risk of boring you, I will relate the third case. This was a little girl, 10 years of age, whom some of you may have seen demonstrated at a meeting of the British Medical Association some 2 years ago. I have lost my original notes and the available information is scanty. She was admitted on 12th July 1928 for swelling of the abdomen of 2 months duration. She gave a history of frequent attacks of fever continuously, for which who was treated outside.

On admission she was ill-nourished and anaemic, slightly jaundiced; marked pulsation in the neck; prominent veins in the epigastric region.

Apex beat ½" outside nipple line and a loud systolic murmur over all areas perhaps loudest at the pulmonary area.

Congestion at both bases.

Liver and spleen enlarged and firm, extending to 1" below costal margin. She had a remittent fever rising to 100 or 101° in the evening. Blood showed a leucopenia.

Now in this case we had all the data for a tentative diagnosis of Kala-Azar, and it surprised us some what that a splenic puncture done 7 days after admission proved negative; we tried again 8 days later, again negative.

Undeterred we committed the indiscretion of putting her through a course of urea-stibamine. The effect was nil.

Infective endocarditis was the next suspect, but a series of blood cultures proved negative; with the exception of the splenic enlargement, there was no evidence of embolism, and the blood remained obstinately leucopenic.

I have two sheets of her temperature chart here, and I am ashamed to say how many more there were before we in despair, did a W. R. and got our clue. True the W. R. was only weak +, but the effect of treatment was miraculous.

And now a word about the early diagnosis of Tuberculous fever. Such may be due to lesions in the chest or abdomen. In the chest the disease may be in the tracheo-bronchial glands, the lungs, or both; rarely elsewhere; these cases are of infinite importance in this discussion. In the abdomen the disease may be in the mesenteric glands in the peritoneum, in the intestine including the caecum or in some part of the genito-urinary system.

The abdominal cases are not of great importance in this discussion, as the presenting symptom is more commonly tumour, pain, diarrhoea, emaciation, frequency of micturition than fever. That they are occasionally of importance is shown by the following case :—

An Anglo-Indian, 25 years of age, was admitted in the General Hospital on 3rd July 1930 for irregular fever of 3 months duration and of abdominal distension for one week. He had been bitten by a dog 2 months previously for which he had antirabic treatment, which was followed by severe abdominal pain for a few days only. His temperature showed a rise to 101° daily, he had a slight cough, but no history of dysentery.

On examination, a few râles were heard over the right Base. The abdomen was tender in the lower half, slightly distended, liver and spleen were not palpably enlarged and no tumour or ascites could be made out. X-ray showed a moderate opacity over the right base. There, however, was no definite leucocytosis. The general picture was considered sufficiently suggestive of amoebiasis to warrant a course of emetine. This however din not produce the slightest benefit; the fever persisted and the patient still experienced considerable abdominal discomfort, and then slowly but surely the waist measurement began to increase, and soon there were incontrovertible signs of fluid in the abdomen. He was tapped twice, and oxygen injected, and the inoculated a guine pig succumbed later to tuberculosis. The subsequent history is interesting, the fever subsided gradually as you will see in this chart, after the 2nd tapping and many exposures to ultra-violet rays. The patient is now well, but there is a sausage shaped tumour occupying the centre of the abdomen, and radiologically the outline of stomach and duodenum are distorted.

And now a brief word about the diagnosis of intrathoracic Tuberculosis.

I am afraid I am rather sceptical about the accurate diagnosis of enlarged bronchial glands. I do not possess the delicacy of finger described by Crockett, which enables one to literally feel these structures through the thoracic walls. I find them difficult to percuss with any precision, and D'Espine's sign is rarely of benefit. Further I have never been able to formulate any definite criterion as to whether any given hilum shadow is tuberculosis or not. I agree with Young and Beaumont that X-rays shew "best the conditions of least importance, namely the old healed calcified glands". In this connection I would direct your attention to this skiagram of a normal chest and also 2 pictures from Burrell's "Recent advances in Pulmonary Tuberculosis", which I shall hand round, shewing normal hilum shadows and ask you to compare these with those of definite tuberculous infiltration, which I shall show you directly.

As regards the diagnosis of early pulmonary tuberculosis we are on firmer ground. The presenting symptoms of this are nine in number :—

1. Cough.
2. Recurrent Bronchitis.
3. Haemoptysis.
4. Dyspepsia.
5. Pain in Chest.
6. Pleural Effusion.
7. Dyspnoea.
8. Hoarseness
9. Fever.

Any of these should put us on the alert.

The physical signs form a Triad :—

1. The results of clinical examination of the chest.

2. Results of examination of sputum.

3. Result of X-ray examination, and I would add a fourth.

4. Polymorphonuclear leucocytosis and low blood pressure.

As regards the triad, it is not for me to say which gives the most frequent information, but the diagnosis may well hang on any one of them. I do not propose to discuss them further except to show you some skiagrams of active pulmonary tuberculosis in various degrees of development.

1. Very early.
2. Early.
3. Still early but later than 2.
4. Moderately advanced.

Coming now to amœbiasis we are on less secure ground. The manifestations are so variable and so many pitfalls abound that we are often driven to employ the therapeutic test before making a definite diagnosis. The points on which I would lay stress on are :—

1. History of dysentery, markedly benefited by emetine in which only 2 or 3 injections were given.

2. Presence of amœbæ or cysts in stools.

3. Tenderness or thickening in the neighbourhood of the caecum or ascending colon.

4. A liver enlarged downwards which is tender.

5. A liver enlarged upwards.

6. Signs of active congestion at the Right Base, especially if associated with pain in the Right shoulder.

7. Certain X-ray appearance :—

(*a*) A definite unevenness of the upper outline of the liver.

(*b*) A definite bulge up of either dome of the diaphragm.

(*c*) Slight opacity at either, but especially the right base.

8. The Therapeutic test.

I will now shew one or two X-ray pictures to illustrate these points :

This does not end the matter: I have seen an amœbic affection of the

left lung where the patient spat up blood stained sputum and for many days was thought to have tuberculosis; X-ray gave the clue, and I regret I have not the picture to show you. It has descended to the limbo of lost things, but I shall never forget the magic of the cure.

Of cerebral, osseous, or arthritic amœbiasis I know nothing, nor do I think I have ever seen them diagnosed.

Of chronic cholecystitis, there is little to say; pain is more often the presenting symptom that fever; the most characteristic sign is Murphy's and the condition may be diagnosed from hepatitis by the fact that the maximum tenderness is at this spot, by the frequent presence of manifestations of gall stones and by the uselessness of emetine to relieve the symptoms. Not infrequently it is left for the surgeon to diagnose.

About pyelitis I need also say little. In an earlier part of my lecture I mentioned that 3 cases of obscure fever were presented to me for investigation within 24 hours of deciding on the subject. Two of these turned out to be cases of pyelitis by the simple device of centrifugalising the urine, and examining the deposit microscopically. For a more accurate diagnosis urethral catherization, culture and inoculation experiments may be required.

While writing this paper I have been acutely conscious of many other conditions which might under certain circumstances prove perplexing, and I must again ask your indulgence for the many omissions I must have made.

Before concluding I would like to briefly allude to those cases of fever with severe cerebral symptoms, hyperpyrexia, delirium and coma which we meet with from time to time. I have met a good many, and I have rarely felt satisfied that the correct diagnosis has been arrived at. It seems to me that most of such cases must fall under one of the following :—

1. Cerebral Malaria.
2. Cerebral Typhoid.
3. Encephalitis Lethargica or other varieties of Encephalitis.
4. Cerebro-Spinal Fever.
5. Tuberculous or other forms of Meningitis.
6. Sunstroke.

Faced with one of these cases, the procedure should be :—

1. Lumbar puncture for both diagnostic and therapeutic reasons. The cerebro-spinal fluid to be examined for increase of cells, the presence of polymorph cells. Note whether it clots or not and if so stain the clot for T. B. In any case cultivate.

2. Blood film examination and blood culture.

3. In all doubtful cases an intravenous injection of quinine should be given.

4. If there are many polymorph cells in the fluid, antimeningococci serum should be given pending the result of culture.

If squint is present we are probably dealing with meningitis or encephalitis. If the former, there should be retraction of head; Kernig's sign should be present, and the cerebro-spinal fluid should show characteristic changes; if the latter, the characteristic lethargy and delirium should be present.

I have never had the courage to treat any of these cases with emetine as I have never yet recognized the clinical picture of cerebral amœbiasis. It seems to me however that one should bear the possibility of this condition in mind, and if indications are present, act accordingly.

Before concluding I wish to acknowledge the very able and willing help I have had from my assistants at the General Hospital in compiling the material for this paper, Dr. Viswanathan, Dr. Kalyanasundaram, Dr.

Sanjivi and Dr. Kutumbiah; and to Captain Barnard for supplying the X-ray pictures.

The subject I have selected is a difficult one and in the natural course of things one must many times suffer defeat, were it not so, perhaps medicine would lose some of its fascination and stimulation.

And was it not Browning who wrote:

"Aspire, break bounds, I say,
Endeavour to be good and better still,
And best! Success is naught, endeavour's all."

This was meant rather for doctor than patient.

VACCINE TREATMENT IN TYPHOID FEVER

By Dr. G. Sreeramulu, L.M.P., L.C.P.S., *Madras.*

This survey has been based on a routine systematic treatment of 20 cases of clinically and bacteriologically diagnosed Enteric fever, when I was working as a House Physician under Major Bharucha, I.M.S., in the Government Royapuram Hospital, Madras.

The quarter beginning from October up to December is the period when enteric is most prevalent in this part of the Presidency and this selected set of cases belong to this period.

The Vaccine selected is the one prepared in the King Institute at Guindy, Madras, and issued under the name T. A. B. Vaccine—the dosage being 2, 5, 10, 20, 50, 100 and 200 million organisms sealed in glass ampoules of nearly 1 c.c. quantity.

As soon as a case is definitely diagnosed as enteric, it is started on 2 million T. A. B. Vaccine given subcutaneously on the first day and on the third day another 2 million is given. The next 3rd day a 5 million is given and another same dose after the next 3 days. The remaining 5 doses are finished in more injections veery dose being given only once. This treatment takes a period of 27 days.

All the cases were given

R/ Acid Hydrochloric dil.	m. XV.
Liq. Hydrarg perchloride	dr. I.
Syrup	Drs. II.
Aqua Menth. Pip	Oz. III.

1/3 T. D. S.

by mouth this being the adult dose; Milk and Barley water, peptonised milk or whey and albumen water was allowed as food as per the condition of the patient, regulated by the consistency and number of motions per day. Every case excluding those that were admitted with diarrhoea was given a Glycerine enema every morning or on every alternate days as the case required.

Having excluded Malaria and other long fevers, the set of 20 cases was diagnosed as enteric with a Widal reaction positive at least at 1 in 200 for Bacillus Typhosus. Cases giving a lesser reaction are not included in this group. Only in 12 cases could the spleen be felt, but that has no significance in India as every third child born in India has had an attack of Malaria at some period of its life or other.

The average age of the patients in this group was about 16 years, the highest being 35 and the lowest being a child of 2 years. Cases were admitted with fever of a duration of almost 17 days, lowest 3 days and the average being 9 days, *i.e.*, the patients were admitted into Hospital after a period of 9 days endurance at home during which period they have exhausted the native pharmacopœa. From the history of these cases we made out that there were some complications in some of the cases at home or on the day of admission into the hospital, tympanitis and hæmorrhage being the commonest. Eight cases out of this series had these complications as noted against each in the statement of cases appended herewith. This shows that 40 per cent of the cases were on admission complicated ones.

No.	Age.	Day of fever on admission.	Complications on admission.	Complications in Hospital.	Widal on admission.	Widal on discharge.	No. of T. A. B. injections.	Duration of fever (total).	Spleen.	Result.
1	35	15	Tympanitis (Malaria?)	...	B. Typhosus 1 in 200	Not taken	6	26	+ + +	Cured.
2	20	8	...	...	Do.	1 in 25	8	24	+	Cured.
3	10	8	Tympanitis ...	...	Do.	1 in 100	6	13	+	Patient urged to go home before completing the course of injections cured.
4	5	8	Bronchitis ...	...	Do.	1 in 25	9	18	—	Cured.
5	16	6	...	...	Do.	Do.	6	16	—	Cured. Injections stopped at 6 since Widal was negative earlier.
6	18	20	...	...	Do.	Do	9	18	+	Cured.
7	9	17	...	...	Do.	1 in 50	9	15	+	Do.
8	19	8	Tympanitis ...	...	Do.	Do.	9	24	—	Do.
9	10	8	Bronchitis ...	...	Do.	1 in 25	9	14	+	Do.
10	22	3	...	Haemorrhage on the 15th day.	Do.	1 in 50	10	15	+	Cured. One injection more was given extra dose of 20 million by slip.
11	8	6	Tympanitis ...	...	Do.	1 in 25	9	12	+	Cured.
12	19	5	...	...	Do.	Do.	9	16	—	Do.
13	2	6	...	...	Do.	Do.	9	16	—	Do.
14	20	10	...	...	Do.	Do.	9	20	—	Do.
15	18	3	...	Tympanitis on the 14th day.	Do.	Do.	9	18	+	Do.
16	20	15	Haemorrhage at home.	...	Do.	Do.	9	23	+	Do.
17	17	8	...	Diarrhoea ...	Do.	1 in 50	9	18	+	Do.
18	22	12	...	...	Do.	Do.	9	20	—	Do.
19	2	7	...	...	Do.	1 in 25	9	14	—	Do.
20	10	15	...	...	Do.	1 in 50	9	21	+	Do.

Fortunately complications arising in the hospital were found in only 3 cases —tympanitis, hæmorrhage and diarrhœa being the commonest. Case No. 1 had hæmorrhage on the 15th day of fever, *i.e.*, nine days after admission into Hospital; the temperature came down to sub-normal. During this period and after treatment by calcii chloride, normal Horse serum and ice to abdomen the temperature rose up to normal and never after rose up even a degree higher.

Widal reaction result as given by the King Institute at Guindy was *positive 1 in 200 in all these cases* for Bacillus Typhosus as previously said. The effect of treatment was checked by its influence in lowering the Agglutination result (Widal). Blood was sent for Widal reaction on the date of discharging the patient, *i.e.*, after the patient has had a full course of injections. Excepting a single case of this series in which the Widal was positive 1 in 100 (case No. 3) all other cases were less than 1 in 50 positive (6 cases —1 in 50), (12 cases—1 in 25). In case No. 1 the blood was not taken for Widal on discharge.

The total number of injections given for each case was 9, excepting case No. 1 which had only 6 injections as they were begun late in the course of the disease and the patient wanted to *go home on his temperature coming* down to normal, but before completing the series of injections. Case No. 3 left hospital after the 6th injection with a Widal of 1 in 100 as previously noted. It is shortage in the number of injections that gave the persistent positive Widal. Case No. 5 had 6 injections and no more was given since the Widal was negative on testing the blood after the temperature came to normal on the 16th day. Case No. 10 had 10 injections and it was by fault of calculation that one extra injection of 20 million was given.

Spleen was palpable in 12 cases and in No. 1 it was enlarged 4 inches below the costal margin and up to the middle line and though a suspicion of Malaria exists in spite of repeated negative blood examinations hence it and is included in this series.

The average duration of fever from the start was nearly 18 days, the lowest being 12 days in case No. 11 admitted with tympanitis. The temperature came down to normal after the 2nd dose of T. A. B. Vaccine. The remarkable effect of the vaccine is seen in this column. Invariably the temperature comes down to normal after the 4th injection on an average *i.e.*, after the 2nd dose of 5 millions. There is a slight reaction after the injection characterised by a rise of temperature to a degree or a little higher. When the temperature has come down to normal definitely, further injections produce no more reaction, *i.e.*, the temperature does not rise after the injection.

Cases 1, 2, 8 and 16 were particularly resistant to the effect of the vaccine in that the temperature did not come down to normal before the end of the 3rd week. Coming to the mortality rate it is miraculous that no death occurred in this group thereby giving a cent-per cent recovery.

CONCLUSION.

Herein lies the triumph of the Vaccine since it has actually cut short the duration of fever and has controlled the possibility of the carrier state during convalescence and so has a definite grip on the typhoid carrier. I am indebted to Major Bharucha, I.M.S., for his keen interest in this Vaccine therapy but for whose *strictness* an easy perusal into the case record (which were complete in all required information) would have been impossible.