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EDITOR

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Nothing is more estimable than a physician who, having studied Nature, knows the properties of the human body, the diseases which assail it, the remedies which benefit it, exercises his art with caution, and pays equal attention to the rich and the poor.—Voltaire.

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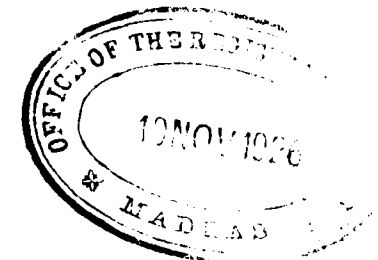
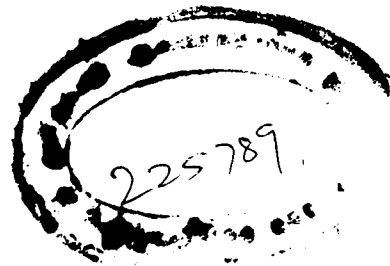
OUR NEW PATRON



Major-General F. H. G. HUTCHINSON C.I.E., L.M.S.

Who assumed charge as Surgeon-General with the
Government of Madras

On 22nd April, 1926



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AUGUST

No. I

Sepsis in Surgical Practice

BY DR. D. KANAKASABHESAN L. M. S., L. R. C. P. & S.

Assistant to Third Surgeon, General Hospital.

ON walking through the Surgical Wards of our General Hospital one finds a large percentage of septic cases of different types of origin. Some have been admitted with sepsis already present; some in a state predisposed to become septic, and some have acquired sepsis during their hospital stay, even though on admission they were so to say, clean or aseptic cases.

I am attempting in the following few pages to consider briefly the main principles underlying the combating of sepsis already present, the prevention of sepsis supervening on cases coming with a predisposition to it, and lastly the prevention of sepsis supervening on clean or aseptic cases. Before going into a consideration of the methods of combating sepsis it will be well to consider the

causes underlying septic infection and the pathology of suppuration as thereby the general principles of prevention and treatment could be easily understood.

Causes underlying suppuration:—While the presence of septic organisms is necessary for the presence of suppuration, the importance of their presence is only too often exaggerated. While it is true that pathogenic bacteria cause great tissue necrosis, and their toxins circulating in the body fluids give rise to poisoning of the tissues, it is often forgotten that their activities are only engineered by the underlying factors such as mechanical injury to the body cells, or already poisoned devitalized body tissues due to the toxins of metabolic disorders; and again, it should be remembered that the germs have to gain access to the body tissue before they can do them harm, and that the original factor which introduces the germs into the body tissues, has also caused damage to the body cells at the local site, comparatively reducing, thereby its vitality. Further, it is well known that pathogenic organisms, in the numbers in which they have been introduced into the body, are unable to do any harm worth mentioning, but it is only by their multiplying freely at the local site as well in the circulating blood, that they are able to produce such massive doses of toxins, the action of which the body cells are unable to withstand. It is therefore clear, that the pathogenic germs, after introduction into the body, must have suitable conditions for their growth and multiplication, since in unfavourable circumstances they readily die. The body surface covered with intact epithelium, while harbouring numerous bacteria, pathogenic as well as saprophytic, does not suffer from their presence, but when once the continuity of the surface epithelium is broken, whether it be due to a mere abrasion or a lacerated

wound, the germs, having a suitable nidus for their rapid growth and multiplication in the already-existing breach in the epithelium, now begin to exert their harmful effects. Again, while the healthy cells of any organism are to a certain extent capable of withstanding the effects of deleterious influences, those cells, the vitality of which has been lowered by pre-existing morbid conditions, are not able to offer the same resistance as those which are in a comparatively healthier condition.

It is essential before proceeding to the principles of "wound treatment" and "sepsis combating" to understand the real significance of the pathological processes of inflammation and suppuration. Inflammation should be regarded as a purposeful process, being a response to injury of any kind, mechanical, thermal, chemical or bacterial, being intended by nature (1) to arrest the injurious agency *i.e.*, the destruction of bacteria (2) to remove waste products *i.e.*, shreds of damaged tissue etc., (3) to secure restitution of the injured area as far as possible to the pre-existing normal state. Suppuration however should not be regarded as an entirely harmful process, as the living cellular elements in pus are actively engaged in destroying the micro-organisms which either caused or keep up suppuration. Besides these phagocytic elements there are found also chemical substances—a digestive proteolytic ferment—well suited to assist the tissues in their struggle for repair but there is at the same time, in addition, a strong chemical agent whose destructive powers are great. In evacuating pus it is our endeavour to get rid of this chemical agent in particular.

Why should some of the post-operative cases become septic, while others heal by first intention? There are various factors which contribute to this end. The germs may have been carried into the deeper tissues from the

body surface which has not been thoroughly and efficiently cleansed, or they may have been introduced into the wound through the surgeon's hands, or through the materials and instruments introduced into the wound during the course of the operation. Regarding these, therefore, it is essential that the greatest care should be exercised. Since it is only possible to gain access to the deeper tissues through the body surface, the latter should be thoroughly cleansed to get rid of all gross dirt, grease, and the majority of surface organisms with them, but there are a few micro-organisms which are more resistant and lie deeper in the skin pores, and it is only by soaking the hands or the body surface at the site of the operation in some reliable antiseptic that it is possible to either entirely kill them or render them harmless. At the same time, it must be remembered that the use of too strong antiseptics, or too vigorous scrubbing of the skin tends to render the skin weaker, and less resistant to micro-organisms, as the surface epithelium is likely to be damaged and shed. This damaged tissue is a suitable situation for the growth of any micro-organisms. Therefore, very great importance should be attached to the mechanical removal of all surface organisms both from the surface of the body of the patient as well as from the hands of the surgeon, while attention, to a lesser degree, will have to be devoted to rendering the surfaces aseptic by chemicals. A third factor to be taken into consideration is the introduction of foreign materials into the interior of the wound during the process of the operation, as for example, the implantation of ligature materials. However great may be the care exercised in the preparation of ligature materials, it is not always possible to prevent their becoming contaminated during their transfer from their containers to the field of operation as they

have to pass through various hands. Thus it is very common to send specimens of ligature materials and dressings for bacteriological examination and to receive a culturally sterile report, while from clinical experience, the surgeons have found that the supervision of sepsis in operations where all precautions were taken has been due to the presence of those same buried ligatures pronounced to be culturally sterile; for sutures and ligature materials when buried in tissues which have been very little damaged are absorbed as in the case of properly prepared cat-gut or fine silk, or when buried in tissues which have been lacerated or torn badly give rise to gross suppuration. In the latter case the occurrence of sepsis is not only due to the presence of germs along the track of the operation but also to an accumulation of serum or blood which forms a favourable nidus for the growth of organisms. It is therefore necessary to bear in mind that however careful a surgeon may be in the preparation of ligature materials it is always safe to use as little of buried sutures as is possible. Again, certain methods of preparation of ligature and suture materials, while they secure the thorough destruction of the germs, do not always ensure the absence of suppuration; thus, cat-gut even when completely sterilized is liable, as Poppert has shown, to an unpleasant chemio-tactic action owing to the inclusion of certain chemical products which remain active even after sterilization. It is a matter of common experience that ordinary healing wounds fail to progress favourably when strong antiseptic dressings are used and a sudden change from a strong antiseptic to an aseptic or a mild antiseptic dressing ensures rapid and favourable progress. In the use of implantation ligature and suture materials, still a certain amount of difference of opinion exists regarding the

relative merits of absorbable and non-absorbable suture materials. While some surgeons will use silk for ligaturing and suturing, there are others, at the same time, who have a great antipathy to the use of it. It appears to me, however, that far greater reliance can be placed on sufficiently fine silk which has been properly sterilized, for while it could be sterilized easily, it could, at the same time, be guaranteed not to be too rapidly absorbed. It also appears advisable to employ cat-gut where a wound is already infected, or in those cases where infection cannot be avoided, and especially in suppurating wounds; in all other cases silk should be the material of choice.

I shall briefly mention here the causes of suppuration in wounds supervening on aseptic operation wounds:—

1. Want of proper cleansing of the patient's skin at the site of the operation, especially in certain localities, as for example, the scrotum, where a lot of filth is usually allowed to accumulate.

2. Infliction of scratches at the site of the operation by trying to shave in a hurry with a blunt razor. This condition is very frequently seen, and the raw surfaces, if accidentally infected with surface organisms, cause gross suppuration in the depths of the wound as well as on the surface.

3. The over-vigorous methods of purifying the skin by applying several coats of strong solutions of either Tincture of Iodine or Alcoholic Picric, especially in places where the skin is delicate, as for example, in the scrotum, and in young children, after the preliminary scrubbing with alcohol or rectified spirits. Therefore, the proper method of preparing the skin of the patient would be to get the part carefully shaved, wash the part with soap and water, allow it to dry, and then apply only one coating of either Tincture of Iodine or an alcoholic solu-

tion of Picric, and cover the part with dry gauze or a sterilized towel. At the time of the operation, this dressing should be removed, and another coat of iodine or picric applied. The part should only then be considered ready for operation.

4. The wearing of ill-fitting gloves on the part of the surgeon, his assistants, and especially by the nursing staff, who as a rule wear gloves a size too large for their hands, and who wearing very short sleeves, handle suture and ligature materials. The result of this is that after a time, the skin secretions accumulate inside the gloves and drop down along the inner wall of the gloves into the operation wound, or what is more serious, on to the ligature materials, swabs, etc., thus infecting them. This is the real cause of suppuration in operation wounds where the surgeon, his assistants and the nurses are sure of the thoroughness of the cleansing of their hands and the cultural report on the ligatures, gauze and swabs is sterile. But if samples of ligatures, etc., and swabs from the hands of the surgeon and his assistants be taken at the end of the operation surely something amiss will be noticed.

5. During the course of the operations, too rough manipulation and consequent bruising and tearing of the tissues lower their vitality and hence, they are able to offer less resistance to infection by micro-organisms.

6. Failure to completely arrest all bleeding or oozing in the interior of the wound: Before closing up an aseptic operation wound the surgeon must satisfy himself that he has stopped all bleeding thoroughly, and if he has any doubt regarding this it will be advisable to secure drainage for 24 hours. The accumulation of blood inside a wound offers a suitable culture-ground for the development of organisms, and the want of obliteration

of dead spaces inside a wound allows serum to collect inside, this collection also acting in a similar manner.

7. Skin-stitches, if tied too tightly, cause pressure necrosis at the site and give rise to stitch abscesses.

Sepsis Supervening in Cases with a Predisposed soil:— Operation wounds in localities like the mouth and the anus frequently suppurate. There is, therefore, the necessity for attending, before operating in such areas, to the adjoining mucous surfaces and having them kept clean. Persons suffering from debilitating conditions such as diabetes, albuminuria, and tuberculosis, and sufferers from lead pyorrhoea or extreme anaemia should be constitutionally treated before they are subjected to surgical interference, as their wounds, often becoming septic, do not progress satisfactorily.

*Cases Admitted with Sepsis:—*The duration of the stay of patients admitted with septic conditions could be very much minimized, if the two fundamental principles underlying their treatment are recognized *viz.*, the necessity for the establishment of free drainage, and the removal of all necrotic material, sloughs and grossly devitalised tissues. The retention of inflammatory exudates and necrotic material inside a wound not only retards the progress of the wound, but also favours the extension of the septic process beyond its boundaries. Free drainage of the wound can be maintained if sufficiently large incisions are made and the wound is allowed to gape widely, thereby exposing the entire extent of the depths of the wound. The practice of leaving long gauze plugs or drainage tubes inside a wound for too long periods is a very harmful one, as these act as irritants and so keep up the inflammation. The fact that a wound discharges a good deal of pus means that the drainage is not satisfactory, and to render it satisfactory the proper procedure

would be to secure sufficient natural drainage, and not to rely on long drainage tubes, or large quantities of gauze pack. These not only irritate the adjoining granulating surfaces but they also hinder the free flow of the discharges from the wound. In most cases, gauze wicks and drainage tubes should not be left in for more than 48 hours.

In combating sepsis, another surgical procedure which is frequently misused is the irrigation of wounds with antiseptic lotions. If it is only recognized that the forcible and so-called thorough irrigation of wounds very often causes the new granulation tissue lining the cavity, to break down and help in the dissemination of the organisms and their toxins beyond their original boundaries, this method would be used with greater caution. The only safe irrigation is the Carrel-Dakin method, in which the fluid is allowed to flow drop by drop, while at the same time the arrangements for the return flow are effective. The lotions used for irrigating must be mild and non-irritating as the absorption from the wound surfaces of large quantities of antiseptics further lowers the local as well as the general resistance. In gross lacerated wounds, and compound fractures where suppuration is inevitable but has not yet commenced, the use of antiseptic lotions for the purpose of cleansing the wound is to be condemned; the solution for irrigation should be sterile normal or isotonic saline which acts by mechanically cleansing as well as by causing a flow of serum rich in anti-bodies. In those cases, however, where suppuration is already present, and the wound is definitely infected, and there is a copious offensive discharge, it may be permissible to irrigate the wounds with a weak antiseptic lotion such as weak eusol for a few days, after suitable drainage has been established, and all sloughs and necrotic material have been removed.

The immersing of infected wound areas in antiseptic baths is a fairly common procedure where it is desired to hasten the separation of the sloughs. Here again, the antiseptic lotions used for the bath must be very weak for the same reasons as mentioned above, and further the baths should be discarded as soon as possible, since the prolonged immersion in the lotion causes the adjacent healthy soft parts to become sodden. Baths when used should be frequently changed to prevent the discharge-diluted lotion from exerting its deleterious effects on the wound areas.

The Clinical Laboratory

BY DR. G. DINKER RAU M. D.

TILL about three or four years ago each individual Physician and Surgeon had his own small laboratory attached to his ward where all the clinical work connected with his ward was done. These ward laboratories were equipped with four or five microscopes-both high and low power-and a few reagents, which equipment was found quite sufficient for the then needs of the wards. About ten years ago, each physician or surgeon had only one House-physician or House-surgeon and the number of students working in the individual wards was small. As the number of beds was nearly the same as now, the House-physician could not possibly attend personally to all the laboratory work which, in consequence, had to be done by the senior students working in the wards. The result of this was that each student, whether he liked it or not, had to be well up in his laboratory work, as otherwise the physician held him directly responsible and not the House-physician or the Assistant Surgeon.

The necessity for a central laboratory arose out of the very large increase in the number of students working in the wards and the small equipment of the ward laboratories was found quite insufficient for the training of the large number of students. Further, adequate supervision of the laboratory work was found to be not possible with the increased number of students. A centralised laboratory has many advantages. It can be better equipped, and the training of students in laboratory work can be more efficiently carried out. But these

advantages, have been, to my mind, greatly discounted by the very large increase in the number of House-physicians working in each ward. At the present time, I believe there are about five House-physicians to each Physician and as the number of beds has not correspondingly increased they are in a better position to devote more time to laboratory work than their compeers did of old. They do practically all the blood, urine, faeces etc. examination, with the result that there is very little inducement for the students in charge of the cases, to do the examination themselves. While I agree that quite a large majority of the students realise their own responsibilities and are very keen on learning things, yet there are a few, quite a decent proportion, who are quite satisfied that their work should be done by the House-physicians. It is too early yet for them to realise the evil of such shirking of their duties. It would not be out of place to mention here one single instance of such irresponsibility. A student once asked me to examine a specimen of motion for him under the microscope. I was very busy that morning and told him that it was not possible for me to examine the whole slide but would help him out of any difficulty that he might experience in the course of examining the slide. His answer came as a shock to me. "Excuse me, Sir, I want you to examine the slide for me as I have not seen a specimen of faeces under the microscope yet." And he was a fourth year student! There is always a tendency in some students to be too optimistic of life's responsibilities and to wade through their student career with as little effort as possible-the writer pleads guilty to the charge to a certain extent-but I am sure every one of them regrets at one time of his life or another, the opportunities wasted. I would therefore earnestly request my young friends who are just starting their hospital practice to be earnest in

their work and more than anything, to be honest to themselves.

The next point I would wish to impress on students is the necessity of looking upon the equipment in the laboratory as something more than their own. I say "something more than their own" advisedly, as none can hold one responsible for breaking or spoiling in any way an article which belongs to him. But it is a totally different matter when the article belongs to another person and your responsibility is ever so much greater. It is not at all an uncommon thing to see the students leave a 1/12 oil-immersion lens uncleaned after use. The oil cakes on the delicate lens and its life is very much shortened in consequence. It is the easiest of things just to wipe away the oil off the lens with a bit of clean cloth *e.g.* your own handkerchief, if clean, or with a bit of muslin which the attender in the laboratory is always ready to supply you with. As I have said over and over again in my lectures to third year students on laboratory work, it is neatness that is the first essential of such work and not merely knowing how to examine a pathological specimen of urine etc. As an example of the absence of neatness, I may be pardoned if I here again quote other instances:—

Before I took over charge of the Clinical Laboratory each table was supplied with a tripod stand for boiling or evaporating liquid. The students found in this a convenient instrument for staining. What they did was to place the slide flat on the tripod stand, pour a liberal supply of carbol-fuchsine on it, place a lighted spirit lamp underneath and turn to their friends to carry on their interrupted conversation. When the student found that the fuchsine had nearly evaporated, he poured another liberal supply and continued his conversation. This went on for the scheduled 5 to 10 minutes, at the end of which he

removed the slide but left the spirit lamp burning and after examining the slide left the lens uncleaned and either left the laboratory or chatted with his friends. This method of laboratory work is anything but neat. There has been a tremendous waste of stain—in fact it was no unusual thing to see the tripod stained, the spirit lamp and the table all dripping with carbol-fuchsin,—a tremendous waste of rectified spirits due to his not having blown out the spirit lamp after use, and the oil caked on the lens. It is from such dirty habits, easily acquired, if one is not careful, that I want to save the student from. Whether I succeed or not will depend more on the students themselves than on me.

Again the waste in Nitric Acid in the examination of urine for albumin is simply appalling. It is no uncommon sight to see a student take nearly an inch of Nitric Acid in the test tube and throw the whole lot away after the test is over. Half an inch or less is ample for this but the majority of students *must* take more than twice the quantity actually needed. I would most earnestly request the students to get out of such wasteful habits, for you know the well known adage, "Habits are easy to make but slow to the break." Then why not form good habits?

This article has been longer than I expected, but before closing, I cannot do better than repeat the warning of one of the best clinicians Madras has seen. Col. Elwes, in one of his articles to this magazine last year, discussed the relative importance of laboratory diagnosis as opposed to purely clinical diagnosis and ended with these most pregnant words. "To a physician the laboratory should not be his master but his servant." The laboratory is only an accessory to the work in the clinical wards and should never replace it. The proper place for the student is the clinical wards and the laboratory should be used only when occasion demands it.

A Layman's Fears

BY GOVINDA KRISHNA CHETTUR M.A., (Oxon.)

Principal, Government College, Mangalore.

IT has always been a source of peculiar relief, I had almost said satisfaction, to me, that the kind Fates who determine what a young man's career is to be, so obligingly overlooked, in my case, the medical profession. In other words, I have never ceased to congratulate myself that I am not by trade a medicine-man. Whatever may be the reason for this, I do not for one moment wish to convey the impression that my dislike for the career is based on grounds other than personal. I am glad I am not a doctor myself, but that is not to say that I despise or undervalue the profession. On the other hand, I have nothing but the highest respect, nay reverence, for those who so unflinchingly and ungrudgingly set themselves to the very often disagreeable task of alleviating the sufferings of humanity. And as a matter of fact, when, after the University results are announced, my students come to tell me that they propose to join the Medical College. I listen to them with the greatest pleasure in the world, and am full of hearty approval and ready counsel. I take care of course to see that they are fully aware of the arduous nature of the course they propose to enter upon, the difficulties it presents, the sacrifices it involves, the necessity for persistence, and perseverance, the temptations, the long waits, and last but not least the overcrowded condition of the profession. No one is more aware of these things than I to whom the sight of blood is nausea, and a sick-room or a hospital the last word in depression; and to whom therefore the doctor's calling is something

infinitely more noble and heroic than anything I could ever aspire to.

Let it not be said then that I am not sensible of the dignity and the graciousness of the profession, the incessant and unpleasing labour that it involves, its endless benefactions, its thousand charities. Acutely conscious as I am of these and a hundred other things to its credit, I must at the same time confess that I feel the presence of a few defects or drawbacks in the profession as organised at present, at least in this country. I am not thinking, at the moment, of those amiable gentlemen who (for a consideration) have not the heart to deny the necessitous individual a certificate of health or of disease, as the case may be. I have in mind only the *organisation* of the profession, some deficiencies in which deprive the community to a certain extent of that sense of security from professional malpractice or incompetence, to which it seems to me it has a right. And I put my thoughts down as a lay man merely, (and from the lay man's point of view), whose ignorance on most medical matters is colossal, to whom health is a state of negation, illness a condition to be dispelled in the speediest manner possible, and to whom the success of an operation depends not upon surgical philosophy, but on the absolute recovery of the patient.

I think that what troubles me (and I daresay troubles a good many others too) may be expressed most simply by saying that our doctors (surgeons and physicians alike) are allowed too much liberty in the practice of their profession. I mean that the profession exercises no control over their activities, and that their responsibilities (where so great as when the issue is life or death?) are shouldered entirely by the individual morality of each. I am not saying that the morality of the profession as it exists is in

the least degree questionable, or that the standard which it strives to set is not of the highest. I desire merely to draw attention to the fact that where so much is left to the individual practitioner whose actions are in no manner subject to control, the chances of his leaving the normal path of rectitude, if so inclined, are perilously great. In other words, our doctors are all powerful, and are a law unto themselves. So long as they keep within the limits of the law, their authority in medical matters is paramount. The danger to the community which arises from this want of some system of control is obvious. Let me take an example.

What is it that usually happens? Somebody closely related to you falls ill, and a doctor is called in, who after one or two examinations looks grave and diagnoses the illness as due to Appendicitis, or an Ovarian Cyst, or an ulcerated stomach, or Tonsillitis, or something equally nasty and dangerous, for which the only sure remedy is an operation. You are of course immediately convinced that nothing but an operation will serve the purpose, and straightway it is performed. If your doctor is also a clever surgeon he does it himself in your home provided this is convenient for both. If not, he recommends you to some surgeon in whom he has faith for this particular kind of operation, and who if he happens to be attached to a hospital may perform the operation there. One of three things happens as the result of the operation. The patient recovers completely, or he is enfeebled for life, or he dies. The first adds to the reputation of the surgeon, and you congratulate yourself that you got hold of such a good man even though you had to pay a little more. But imagine the second or the third contingency. For the surgeon, it is a mishap for which he in no case admits the responsibility, and as things are constituted at present,

there is no competent authority which can bring him to book and make him account for the loss of his case. As for you, you may think what you like, but you dare not question; or if you do, it is merely to be met with a shrug and a stare. Only your keen regrets are left to you. In other words, no matter what happens, the surgeon is free of all blame. It is assumed that he has done his best. Both he and the patient have been unfortunate, that is all. The matter is regrettable, very; and it ends there.

In the above illustration I have assumed that both doctor and surgeon have been on the straight. But let us go a step further. It sometimes happens that the doctor whom you call in advises an operation when he himself knows that it is *unnecessary*, and furthermore suggests the operation being performed by a particular surgeon not because he is the best man, but because he happens to have a private arrangement with him in the matter of splitting fees. The danger is increased a thousand fold. Not only is an operation performed which is altogether unnecessary, but it is performed probably by a surgeon of indifferent merit, who has been called in merely because he has consented to transfer a large proportion of the fees received by him into the hands of the doctor who suggested his name. This is what is known as fee-splitting and as will be readily recognised it is a practice of a particularly abhorrent nature.

The question now is, what should be done to stop these malpractices, and to bring surgeons under control, so that they shall be required to give an account of their work, to the satisfaction of a body, competent to judge.

Let us see what is being done in America, where the problems I have suggested have become acute. More than

two years ago an article appeared in *Harper's Magazine** on this very subject, and it pointed out, with authenticated stories, how the evils of unnecessary operations and fee-splitting were on the increase, and how the surgeons themselves of the country, were inaugurating a campaign against these evils. I take the following stories from that illuminating article:

A physician went to a surgeon in an Eastern city and said to him: "I have a patient who owes me a lot of money and has owed it for a long time. If I send him to you for an operation will you collect his payment in advance and add my bill to it?"

This story was told by an eminent New York specialist in surgery: "A physician sent me a patient for a nasal operation, which I performed. Some time later when I met this doctor he suggested that a portion of the fee I had charged might very graciously have been sent to him. 'But never mind this time,' he added. And then he proposed to me, in all seriousness, that he could tell his patient, who was extremely wealthy, that something was wrong with his other nostril and that an operation would be necessary. He said that ought to mean some money to him. I would not accept his offer. But his patient did have an operation performed on the other nostril, quite unnecessarily some time later."

Another famous surgeon gives this story: "I performed an operation on a woman some years ago. It did her a certain amount of benefit. Some time later she came to me again, persuaded by some one that she ought to have another operation. I examined her carefully and decided that an operation would not be of any benefit. But she went to another surgeon who performed the operation. The other day she turned up in the office of a friend of mine asking him to perform a third operation. He told me that he had refused to do it. But she will be able to find some one, of course who will accommodate her. Some one ought to protect that woman against herself and against a certain sort of surgeon. A third operation may weaken her for life."

This then was the position in America seven years ago. There was no control of the surgeon, a fact which increased the temptation towards opera-

* February 1924. *The New Control of Surgeons*, by W. G. Shepherd.

tions. If on making an opening with his knife he discovered that his diagnosis had been wrong, there was no one but himself to know that a mistake had been made. If he had performed an operation that was unnecessary there was no one to call him to account. Also, there was the evil of fee-splitting which not only made for incompetent surgery and unnecessary surgical operations, but which by introducing dishonesty into medical practice, lowers the entire medical profession in the estimate of the public.

The position in India today may not be so acute or call for equally stringent measures, but there is no doubt we shall sooner or later be faced with the same problems, and find the necessity for solving them on similar lines. It is necessary then to have some idea of the steps American surgeons are taking to purify their profession.

In the first place the surgeons formed themselves into an organisation which they named "The American College of Surgeons", to secure membership in which was a strenuous matter.

Next, they set standards for hospitals, because they realised that as all operations were done in hospitals, the place to control surgeons was in the hospital. The "minimum standard" of the American College of Surgeons required that a hospital must do five things:

The *first* "is to agree that all physicians and surgeons who practice in the hospital be considered, so far as obeying the rules are concerned, as members of the staff." Only those who thus subscribe to the responsibilities of staff-members, so far as being willing to obey hospital rules and describe their operations at staff-meetings are concerned, shall be allowed to practice in the hospital. In the old days doctors and surgeons used to have control over a hospital; under this new rule the hospital has control over doctors and surgeons.

Secondly that there shall be no fee-splitting.

Thirdly that there be staff-meetings, and that the staff and all physicians practising in the hospital shall review and analyse hospital work.

Fourthly that accurate records consisting of the complete history of every case, together with autopsy findings when necessary, be kept in accessible manner.

And *fifthly*, that there be a laboratory, with full scientific service, in charge of trained technicians.

In the operating theatre of one of these standard hospitals you would therefore find frequently two extra persons, a pathologist and a stenographer, the latter of course for taking down a record of the operation from the surgeon's lips during the operation itself, or immediately after. Not only are the parts cut away from one, the "tissues" preserved as part of the record, but the surgeon himself gives his story of how and why he took the tissue away.

And what, it may be asked, is done with this record? I take the following excerpt from Dr. Shepherd's account of a recent scene in a world-famous surgical hospital:

"It is Wednesday evening. Every surgeon in the hospital is present in a great room, seated before a cinema screen; students are present. On the screen is thrown the name of a patient who died on the operating table a few days previously. 'Dr. So-and-So,' calls the chief of staff, 'you performed this operation. Will you kindly tell us about it?' And the surgeon under whose knife a human life passed out, arises and gives the best explanation he possibly can for the misadventure. Surgeons are thus compelled to explain to their fellows any operation they perform."

"I do not see any reason," says an eminent surgeon of Brooklyn, "why any member of the staff who has operated on a patient who has died subsequently, should not stand up frankly to answer any questions that any member of the staff may ask him as to why he did this thing, or why he did not. In my hospital we go further than

that. We have a little reading stand on the platform with a light overhead so that it casts its effulgence right over him."

The above gives some idea of what *the surgeons themselves* in America are doing to sterilize their profession. We in India may not feel the acuteness of these problems to such a degree, but a layman may be allowed to voice his fears and to suggest that a stitch in time may save nine. With the growth of the profession these evils are bound to manifest themselves more clearly and more dangerously in our country also. Now is the time, it seems to me, to take steps to prevent such evils.

India can have its own College of Surgeons, its own standardised hospitals, and thereby set up an efficient control of its surgeons so as to safeguard the interests of the community, though for this control to work satisfactorily it should be insisted upon that *all operations should be performed in hospitals, and hospitals only*. And let every member of the Indian College of Surgeons take this oath on becoming a Fellow, as they do in America :

"Upon my honour as a gentleman, I hereby declare that I will not practice the division of fees, either directly or indirectly in any manner whatsoever."

remembering that other oath of Hippocrates :

"With purity and holiness will I pass my life and practise my art...Into whatever houses I enter I will go for the advantage of the sick and will abstain from every voluntary act of mischief and corruption...While I continue to keep this oath inviolate may it be granted to me to enjoy life and the practice of my art, respected always by all men ; but should I break through and violate this oath may the reverse be my lot."

So, from our colleges shall our young doctors go out with "the sentiment of these great vows ringing in their hearts."

[The writer is an Educationist of great literary talent. He is also a poet and, like most poets, abhors the sight or thought of blood. We, therefore, understand his temperamental aversion to the medical profession. We are sincerely grateful to him for pointing out the defects in our organisation, and we are humble enough to take lessons from all. Bad men there are in all walks of life, but the great majority of the members of our profession are as honourable as any outside. We grant that the Community has the right of protection from the malpractices of all professional men, be they Lawyers, Doctors or Teachers, but in turn, professional men have also to be protected from the ignorance and worse of the Community. While we therefore commend to our readers the critical remarks of the writer about the Medical Profession, we may be allowed to state that we are but human beings liable to commit errors, and that we do not pretend to possess any supernatural powers of healing, but are taught to practise a humane art on rational lines with ordinary human judgment as our only guide.

We condemn fee-splitting as much as they do in America. The writer's suggestion regarding total hospitalisation of Medical practice may be a pretty dream, but it is impossible in India for many generations to come. The writer's darts are particularly directed against Surgeons, but among the latter there are very few practitioners in the country, not enough to form an Indian College of Surgeons. We have dreams of such a day arriving, perhaps, in our own lifetime, but in the meanwhile we must be content with the number of Medical Associations, all of which already condemn the malpractices referred to in the above article.—Ed.]

The Soil and the Seed

BY P. RATNASWAMY

Final Year

"In the earlier days of art
Builders wrought with greatest care
Each minute and unseen part
For the Gods see everywhere.
Build to-day then strong and sure,
With a firm and ample base,
And ascending and secure
Shall to-morrow find its place."

—Longfellow.

It is now four years since we celebrated the centenary of Louis Pasteur, the father of the science of Bacteriology. Since the discovery of the Anthrax bacillus this science has advanced with such rapid strides, that now almost everyday announces the discovery of a new bacillus. The bacteria which may be likened to seeds, are known to be productive of many pathological conditions. The Western system of Medicine, characteristic of its people, has directed most of its energy to the attack of the offender *i.e.* to the destruction of the seeds. Several vigorous campaigns have already been, and are being made, on land, on water and in air too, in pursuit of the assailants, to exterminate them root and branch. The Easterners, on the other hand, have devoted much of their attention, not to the extermination of the assailants but in making the body which may be termed "the soil" uninhabitable for them. The result, perhaps, is the same *i.e.*, the disease is at times aborted, at times prevented and sometimes cured. This fact is, perhaps, the key to the success of the quack, who is more assiduous in prescribing a strict diet for his patients than in prescribing medicines. In fact,

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even though he may give only some inert and empirical powders, yet is very careful to prescribe for his patients an elaborate diet, so much so, the patient is led to believe in the extraordinary efficacy of the remedy and the certain cure that will follow—a bit of cheap and profitable psycho-therapy.

Whatever may be the merits and demerits of these two systems, a careful and unbiassed study of them will reveal that the condition of the body plays as important a part in the causation of bacterial diseases as the causative organisms themselves. The presence of bacteria alone do not bring on a disease nor is the predisposing condition of the body, sufficient. A combination or rather the co-existence of both is necessary to precipitate an attack of the malady. Tuberculosis illustrates *par excellence*, the relation between 'the soil' and 'the seed.' Osler says:—"Some seeds fell by the wayside and the fowls of the air came and devoured them up." These are the bacilli scattered broadcast outside the body, an immense majority of which die. "Some fell upon stony places." These are the bacilli that find a lodging in many of us perhaps with the production of a small focus but out of which nothing develops. They wither away 'because they have no root.' "Some fell among the thorns and the thorns sprang up and choked them." This represents the cases of Tuberculosis, latent or active, in which the seed finds the soil suitable and grows, but the conditions are not favourable, as the thorns, representing the protective forces of the body, get the better in the struggle. "But others fell on good ground and sprang up and bare fruit a hundred-fold. Of this fourth group were the 53,858 who died of the disease.....*etc.*, the soil suitable, the protecting forces feeble."

Dr. C. Muthu, M.D., the Tuberculosis specialist, in his

address on "Diet in relation to Diseases" says, "Tuberculosis is eminently a deficiency disease, deficiency of fresh air and light, of proper nourishing food, of sufficient rest and exercise." Tuberculosis, as a complication of Diabetes Mellitus, may be cited as a particular example. When the body is deprived of its powers and energy by the continued excretion of sugar, Tuberculosis is ready to develop on the slightest provocation—even on an exposure to cold. The prophetic warning of the specialist that "the time is coming when your young physicians, will be called upon, not so much to prescribe a number of drugs as to write out a diet list to suit your patient's need and morbid condition," is not without value.

The subject of immunity shows the vast importance of the condition of the body in determining the onset of a disease. Race, age *etc.*, each confers a special immunity. Children fall easy victims to certain bacterial diseases, while adults to some others. For example, children easily contract whooping cough, measles and other exanthemata, while adults show a more favourable immunity against them. The reason is not far to seek. Though the seeds are there ready, yet the soil is inimical to their growth. Again, during an epidemic some easily succumb to the infection, others tide over it while yet others escape the infection altogether. Why is there such an invidious distinction? What is the reason for this selection and elimination? The riddle may really fret the mind, but the difficulty can be solved by introducing the condition of the body into the problem. There is an individual immunity—an immunity that is inherent and dependent on the body.

Even in cases of Cholera, where the vibrio is supposed to be essential, instances are on record which show that other factors have played a more important part in

determining the onset of the disease. Such instances, in the case of other bacterial diseases are not few. They may be noticed in numbers in the course of a careful practice.

Hence the dictum:—"A well nourished body is the only sure protection against disease and microbes."

One of Ours

Dr. MARY SCHARLIEB M. D.

Our College is proud of one of her former students and shares in the honour conferred upon Dr. Mary Dacombe Scharlieb M. D., whose name appears in the King's birthday honour list as a Dame Commander of the British Empire.

Dr. Mary Scharlieb, daughter of a London doctor and wife of a barrister practising in Madras in those days, came to India many years ago. She was early impressed by the tragic need for women doctors in India and determined to study medicine. In those dark days woman as a member of one of the learned professions was regarded not only as an impossibility but as a horror not to be tolerated. Mrs. Scharlieb, however, put up a strenuous fight against this antagonism and, being of the weaker sex, soon prevailed and obtained her degree at the age of thirty-five, practising for many years in Madras and serving as an Examiner for the Madras University.

Mrs. Scharlieb then went to London, studied for and obtained the M. B. Ch B. degree of the London University and after further study in Britain and the Continent became Principal of the London Women's School of Medicine, and though now passed the span of "Three-score-years-and ten" allotted to mankind she is consulting Gynaecologist to the Royal Free Hospital, London, and is that magic being a "Harley Street specialist."

During the war she did valuable work on the Commission investigating venereal diseases and has many publications to her credit, dealing chiefly with Child and Maternity welfare and Sex Problems of the present day.

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Dr. Scharlieb's autobiography, published a few years ago, makes romantic reading. She was one of the splendid few pioneers of the women's cause and has served her country and fellow women well and faithfully. Her life is an example of the great truth that noble endeavour must bear beautiful fruit.

Incidentally we learn from this case that our College is a rung in a ladder which reaches the very firmament of Medical Eminence. May Dr. Scharlieb not be the last of the splendid products of our Alma Mater.

M. A. W.

Editorial Comments

The Editorial committee wishes to express its regrets for the delay in bringing out the current issue. As is usual at the commencement of a new Academical year the staff as well as the students of the college have their numerous pre-occupations and some delay is always inevitable in producing the first number of the magazine each year.

We feel happy to congratulate the victors in the recent medical Examinations. The results as judged by the percentage of 'passes' have been by no means bad in general, and if something could be done to alleviate the apparent difficulties felt by our students in their Second and Final year's Examinations, the medical curriculum, in spite of its length, would be deprived of its undoubted horrors. Already, much has been done in this direction by concentrating the first year's studies within two terms, thus allotting additional time for the second year's studies, by removing 'Materia Medica' from the second year's syllabus and by permitting the 2nd M. B. Examination to be taken in two parts instead of wholesale as in previous years. The new curriculum has already come into force from 1st July 1926 and its results are expected to be beneficial to all concerned.

As regards the Final year's Examination, it is still the rule that Candidates have to sit for all the principal subjects of the course viz. Medicine, Surgery and Midwifery at the same time. We understand that the difficulties of the situation are being realised by the powers that be, and that it may not be long before students are permitted to take one only or more, according to their option, of the

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above three subjects at a time. When this happens, and especially if Examinations are held every year in January, April, and October instead of twice as at present (increasing slightly the Examination fees to compensate the University for the additional trouble in holding the Examinations) the problem would be more or less satisfactorily solved and no one could cherish even a lurking regret at the disappearance of the L. M. & S.

May we remind the rising generation that all over the world the struggle for survival is daily growing more and more intense and that in medicine, as in other spheres, the ground to be covered is continuously expanding? It will not do for us in Madras to retain the methods and ideals of quarter of a century ago. We must move forward and if in bettering our standards, some temporary inconveniences should be experienced by individuals, we trust that all will co-operate to promote the healthy growth of rational Medicine for the general good of the community.

We offer our heartfelt felicitations to the new Surgeon-General with the Government of Madras—Major-General F.H.G. Hutchinson I.M.S. He comes to us almost at the end of a long and strenuous career in the service of the Country but we shall have the advantage of his varied experience in other parts of the Indian Empire. During his short stay among us, he has impressed us by his all round courtesy and sympathetic manner and we are hoping for great things to happen in his regime. Much reform is possible, and is needed in the medical institutions of the Province, and the College, among other things, urgently needs a Hostel for the students. For years we have been pointing out this need which is generally

felt and if in the regime of Maj. Gen. Hutchinson, the matter is removed from the realms of pious hopes and translated to the spheres of actual possibility, and if in his time the foundation stone is laid and the work of construction at least begun, he shall have deserved the gratitude and esteem of endless generations of Medical students.

* * * *

We may, perhaps, be permitted to add our humble voices to the chorus of congratulations now being raised everywhere on the bestowal of the K.C. I. E. on the Hon. the Minister in charge of medical affairs in the Province. For his high qualities of head and heart we have the greatest admiration, and our prayer is that a man of his supreme worth may continue to direct the medical policy of Madras for many more years. We wish him higher and still higher honours in the years to come.

* * * *

We have also to congratulate Lt. Col. Harley. I. M. S. on the C. I. E. that was recently bestowed upon him. By long years of perseverance and patience, he has attained such a position of surgical eminence, perhaps unrivalled in the Province, that the distinction could not longer be withheld. We wish him further successes, for by honouring him, the Government is honouring our profession which is ordinarily but poorly represented in the annual Honours Lists.

* * * *

We are glad to find that the matter of the 'Provisional' students of the College has been satisfactorily adjusted. As in previous years, failed and referred students of one year will be permitted to sit in the next higher class on satisfying the usual conditions. We should like to point out, in order to remove all possible misunderstanding of the case, that the proposal to abolish the system of Provisional students, emanated from the University itself on

their interpretation of the Regulations recently passed by the Senate and by restoring the Provisional system after previously abolishing it the University has merely corrected itself by reading into the rules an interpretation different from its original one. The system will now continue and students availing themselves of its benefits will be found in the College for another four years or thereabouts.

A meeting of the Medical College Association was held at 5-30 p. m. in the Hygiene Lecture Hall on the 29th July to elect the Office-bearers for the coming year. A list of those elected is published elsewhere in this number.

Clinical Lectures

EXOPHTHALMIC GOITRE

By MAJOR G. E. MALCOMSON, M.D., I.M.S.

Ladies and Gentlemen,

I have here to-day a typical Case of Goitre. The details of the case are as follows:—

<i>Patient's Name</i>	Mr. P.
<i>Age</i>	28 years.
<i>Sex</i>	Male.
<i>Occupation</i>	Chief foreman in charge of Municipal Workshops.
<i>Race; Caste</i>	Hindu; Brahmin.
<i>Complaint</i>	Weakness and loss of weight.
<i>Duration</i>	One year.
<i>Date of Admission</i>	1st June, 1926.
<i>Family History</i>	Nil.
<i>Previous History</i>	Only an attack of influenza three years ago.

History of Present illness.—Two years ago patient noticed slight weakness and loss of flesh, breathlessness on exertion, quick pulse after a long walk, and although tonics as cod-liver oil, etc., were tried there was no improvement.

Physical signs and Condition on Admission.—The patient is somewhat run down in health, speaks rapidly and is highly emotional. The eyes are unduly prominent, there are short fine tremors of the fingers. He is unusually active in his movements. Tachycardia is also present. There is bilateral enlargement of the thyroid gland over which a systolic murmur can be heard. No P. A., not anaemic, tongue clean.

Respiratory system.—Breathing slightly rapid, 26 per minute (average)—otherwise normal.

Circulatory system.—There is no dilatation of the heart, the sounds are normal but rapid.

Digestive system.—Appetite good, bowels regular, no enlargement of liver or spleen can be made out.

Nervous system.—Pupils dilated, jerks and reflexes normal.

The patient has a large thyroid gland, soft to the touch; and on feeling it pulsations, either intrinsic or communicated from the carotid arteries, can be made out. On auscultating the gland we hear a systolic bruit.

The pulse varies from 100 to 140. It has come down now to between 90 and 100. There is marked pulsation all over the præcordial area: the apex is slightly out of place. There is marked pulsation all over the body also, for the brachial artery can be seen, while both the radial and ulnar arteries can be felt, pulsating. There is a short pulsation with quick loss of tension, that is, there is a high pulse pressure.

If the patient holds out his fingers fine tremors are perceptible. There is also tremor of the tongue. The eyes are prominent and the palpebral fissure is increased in width, the increase being due partly to the lifting up of the upper eyelid, and partly to the prominence of the eyes. The sclera is yellowish-white, and you notice that as the patient follows the movements of the finger with his eye there is a very distinct lag in the upper lid. If asked to look at some object close by, there is lack of convergence of the eyes due to muscular weakness. The patient is easily fatigued, restless in his movements and unable to sit quiet for any length of time. The blood pressure is 120 and 75. Blood calcium is normal, and the Wassermann reaction is negative. The patient sweats a

great deal, the skin is always hot and moist. He is very liable to acute diarrhoea.

It is a case of Graves' disease, a condition not very common here, and particularly uncommon in males.

Aetiology.—Usually ascribed to hyper-thyroidism. The thyroid gland is, first of all, enlarged. The symptoms are accentuated by the administration of thyroid extract. It is the antithesis of myxoedema, a condition which is due to deficiency in the secretion of the thyroid gland—hypothyroidism. The symptoms of exophthalmic goitre can be induced by giving large doses of thyroid extract. Exophthalmic goitre is, very often, the natural termination of other diseases.

In hyperthyroidism one has hyperplasia of the whole gland, with large epithelial increase, so much so, the epithelial cells of the villi increase, and may fill the whole alveoli, so that the alveoli become solid rods of cells and the colloid material becomes much decreased—there are fibrotic changes in the gland. Here one often gets symptoms of myxoedema with those of hyperthyroidism. These are really cases of Graves' disease passing into one of myxoedema and hyperthyroidism.

Causes of Hyperthyroidism.—It has been shown that in the early stage of exophthalmic goitre there is an increase of adrenalin in the blood. The function of adrenalin is to stimulate the sympathetic system. The stimulation of the cervical sympathetic causes exophthalmic goitre. Cannon sutured the cut end of the phrenic nerve to the cervical sympathetic, and stimulating it, produced symptoms of Graves' disease. But the theory most accepted is the indole-formation theory which says that bacterial infection of the alimentary canal antagonises the normal breaking up of amino-acids, tryptophane and tyrosine. Tryptophane is split

up into indole, etc., and these are excreted in the urine. In goitre, indole is absorbed without being broken up, and passed into the circulation as such. Also, tyrosine is absorbed *en masse* and we get an increase of tyrosine in the portal system. The liver is unable to deal with such a considerable increase in the quantity of tyrosine and tryptophane. Tryptophane is closely allied to the active principles of the thyroid gland, *viz.* thyrotoxin or thyroxin. Similarly, adrenalin is closely allied to tyrosine. This accounts for the increase of thyrotoxin and adrenalin in the blood in this disease.

Thyrotoxin or thyroxin, which is the active principle of the thyroid gland, was isolated as a crystalline substance, containing iodine, by Kendall. He has shown that the secretion of the gland in Graves' disease contains less of iodine, that is, the disease is due to a shortage of iodine.

The disease runs in families, specially in those with a highly neurotic tendency. It usually occurs in young persons, and may be brought on by nervous conditions such as shock or worry. During the war, a large number of cases of Graves' disease occurred, no doubt due to fear, worry and shock. Sometimes war helps to diminish the incidence of the disease, a fact which suggests that abundant feeding may help in the causation of exophthalmic goitre.

Symptoms.—The prominent symptoms are protrusion of the eyeballs, enlargement of the thyroid gland, frequent action of the heart, and tremors. All these can be produced by over-stimulation of the sympathetic.

It is said that the increase of thyroxin in the blood antagonises the action of the pancreas with regard to its internal and external secretions. Adrenalin and thyroid extract produce hyperglycæmia, and extraction of

the glycogenic content of the liver. Good many cases of Graves' disease not only exhibit glycosuria but may actually terminate as cases of diabetes. With regard to the external secretion of the pancreas, diarrhoea is a good symptom. In diarrhoea we get frothy, foetid stools due to failure of pancreatic secretion.

The disease may be fatal owing to dilatation and hypertrophy of the heart or to apnoea, which is not common. It may also be due to asthenia, wasting, owing to non-assimilation of sugar, loss of sleep, general worry and restlessness. Sometimes, death may be due to Diabetes, diabetic coma, or the case may terminate with acute delirium and severe nervous symptoms.

Prognosis.—Prognosis depends partly on the severity of the disease, and partly on the condition of the patient. Of the cases of Graves' disease, 50 % of them get on quite well and are able to carry on their work. Administration of medicines, sufficient rest and no exertion, a simple satisfactory diet, all tend to improve the condition of the patient.

Treatment.—may be classified under three headings viz:—

- (1) Reduction of secretion
- (2) Reduction of secreting tissue of gland, and
- (3) Symptomatic treatment.

Reduction of thyroid secretion is carried out by giving plenty of rest. Cases may be isolated and absolute rest ordered for some weeks. A simple, satisfactory diet should be taken. Certain drugs, no doubt, exert a good influence on the disease. Arsenic, bromides, belladonna, digitalis and ergot have been tried. Bromides act as sedatives to the nervous system and help to procure sufficient rest and sleep. Belladonna reduces the secretion of the thyroid gland and also acts efficiently on the sweat

glands. Arsenic is a good tonic, and exerts a beneficial effect on the over-stimulated nervous system. The application of ice to the thyroid is soothing. The patient should take plenty of rest, and exercise only in moderation may be allowed.

Reduction of thyroid tissue may be brought about by

(1) X-ray treatment or radium, usually at the beginning of the disease.

(2) Removal of the gland by operation, preceded by ligature of one or two thyroid arteries, usually in the later stages, after X-ray treatment for some time, or after complete rest for some weeks till the size of the gland is reduced.

The administration of iodine effects some reduction in the size of the gland. Lugol's solution, (5% iodine in 75% KI solution) when administered in doses of 15 drops once a day may be of great value before operation.

Symptomatic treatment.—Diarrhoea must be treated with calcuim lactas and parathyroid extract. Calcuim here serves a double purpose. In exophthalmic goitre, the calcium in blood is low. Insomnia and restlessness are to be treated with bromides; belladonna reduces the sweat.

Iodine is now largely employed in the treatment of the disease. Some cases of simple parenchymatous goitre are converted into exophthalmic goitre by giving iodine, a fact which necessitates the exercise of a certain amount of care in the treatment of such cases.

Progress and Treatment adopted:—

Parathyroid gr. 1/10.
Yeast.

R.

Tr. Iodine	m. 5.
Amm. Bromide	} aa. gr. 15.
Sodii Bromide	
Pot Bromide	
Sodii Biborate	gr. 15.
Tr. Belladonna	m. 30.
Aqua ad	℥. iij.
℞i. t.d.s.	

X-ray exposures twice a week.
Calcium lactas and Mistura Creta.
Oleum morrhuate.

Weight of the Patient after treatment commenced:

on	6	6	26	...	81 lb.
	13	6	26	...	80 lb.
	20	6	26	...	81 lb.
	27	6	26	...	82 lb.
	4	7	26	...	86 lb.
	11	7	26	...	88¼ lb.
	18	7	26	...	94¼ lb.
	25	7	26	...	94¼ lb.

MEDIASTINAL EMPHYSEMA

(Due to Tuberculosis of the lungs, extending into the face, neck, chest—wall, etc.)

By Dr. M. R. GURUSWAMI MUDALIAR B.A., M.D.

We shall discuss today one of the rare complications of pulmonary tuberculosis as we have an instance of it in this patient. Apart from the common complications of T. P., which we may tabulate thus,

1. Haemoptysis
2. Pneumothorax
3. Pleurisy
4. Empyema
5. Nervous complications (occasionally)

and 6. Intestinal complications (rarely), this patient presents a condition of emphysema of the mediastinum, unexplained by the more usual causes of the same. And these are:—

1. External injury eg. stab-wound, etc. (rare)
2. Strain
3. Malignant oedema
4. Surgical emphysema.

The patient gives no history of any stab-wound nor of any other external injury. So the possibility of No. 1 falls through.

The patient has been in bed for a long time, watched over by physicians and looked after by nurses, and further, patient himself says that he never did anything to strain himself, lifting loads etc. This eliminates the possibility of No. 2.

The 3rd possibility—malignant oedema—is, in the very face of it, out of the question as the patient is yet alive, and has no history of any septic wound.

Nor has there been any possibility of his contracting surgical emphysema.

We may get at the root cause of the condition by considering the signs and symptoms, other than those of emphysema, presented by the patient.

He has had a “swinging” temperature of late; his lungs reveal signs of consolidation and cavitation; he is emaciated, and his glands are enlarged; and these, taken with the decisive finding in the sputum of the tubercle bacillus, clinches the diagnosis as one of T. P.

Now, a bronchial gland of his might have become inflamed and caseated, and some super-added infection might have aided the rapid degenerative process, the gland ultimately breaking down into the bronchus, letting it open into the mediastinum. Thus, with each inspiration the patient sucks in air into his mediastinum, and as the pressure therein progressively increases, it slowly tracks up the loose cellular tissue of the neck, face, etc., and all the signs of emphysema be elicited—crepitation, resonance on percussion, etc.

Treatment would be to wait for nature to close up the orifice she has made by fibrosis, etc., the air being

gradually absorbed and the condition improving. All this can be hoped for if the process were not acute.

The tension, of course, can be relieved by free incisions with all aseptic precautions, to let out the air.

The points to note in this case are that it is a very rare complication of T. P., and that a caseating bronchial gland, on breaking down, might cause spreading emphysema.

Current Medical Literature

Chronic Intestinal Stasis and Cancer

In an article to the Cancer Number of the "Canadian Practitioner", Sir W. Arbuthnot Lane writes that the profession is only just beginning to realise the important part played by the defective functioning of the gastro-intestinal tract, the consequent fouling of the food supply, and the poisoning of the tissues by septic material absorbed from the intestine. Civilisation brings in its train a large number of diseased conditions, which are not found in those leading the simple life of the native, and which bear a direct proportion to the degree of civilisation enjoyed. In support of this he quotes Col. McCarrison who, after practicing for 9 years in the Himalayas "never saw one case of asthenic dyspepsia, of gastric or duodenal ulcer, of appendicitis, of mucous colitis or of cancer". Sir Arbuthnot Lane calls particular attention to this sequence, all of which are sequelæ of chronic intestinal stasis, since he is certain that cancer is the last stage in the sequence, and it is because of the very fact that cancer is recognized not as a part of a sequence but as a primary condition that we have failed so far in our efforts to discover its origin.

By the development of kinks and the associated spasmodic action of the hypertrophied internal sphincter and of Mayo's circular muscle, the lumen is constricted at certain points with the result that the fæcal matter is held up behind them, and as it becomes harder in consistence in its passage through the colon it experiences greater difficulty in negotiating the kinks. This results

in damage to the mucous lining of the colon, the irritated and inflamed surface tending to become, in time, cancerous. Ulceration of the duodenum results, as he has frequently demonstrated from the angulation and consequent obstruction of the duodenal junction. Later, the pylorus becomes spasmodically contracted, the stomach dilates and its walls hypertrophy. The forcible impact of the gastric contents on the mucous membrane in the vicinity of the obstructed pylorus, and the drag exerted on the lesser curvature of the stomach produce an engorgement of the mucous membrane in these two situations, which is followed by ulceration, and, subsequently, tends to become cancerous.

The infection of the stagnating contents of the small intestine by organisms, extending upwards from the cæcum, produces a state of auto-intoxication in which the nutrition of every tissue in the body suffers because of the presence of a variable amount of toxic material in the blood, and it is by the prolonged action of these toxins on the tissues that a suitable soil is provided for the growth and development of the cancerous cells. Organs as the breast, uterus and ovary, which cease to function actively after a time, are especially affected and rapidly undergo degenerative changes. Other organs as the pancreas and prostate all degenerate in a similar manner, the final stage in all these being cancer. Gallstones are due to the direct extension of infection of the bile stream through the common bile duct, and through the liver by the blood loaded with organisms and toxins, and that the traumatism exerted by them upon the mucous lining results in cancer is, according to him, too obvious to call for any discussion.

Since he has found that infection by cancer is an indirect consequence of chronic intestinal stasis, he

concludes that it is necessary to obviate the changes that have resulted in the gastro-intestinal tract from the diet and habits of civilisation, to prevent the development of cancer. Where stasis is already present, an enormous amount of benefit, and a corresponding freedom from cancer, has been obtained by the use of paraffin. But if we are to prevent the development of chronic intestinal stasis, he says that it can only be effected by a complete revolution in our diet and in our habits of life.

As to the treatment of the existing condition all operative measures on any portion of the gastro-intestinal tract should be started by an examination of the last kink, and by the careful freeing of this bowel from its acquired attachment to the iliac fossa. This requires to be done thoroughly and with the greatest care, and when the mesentery has been restored to its normal length and the bowel to its normal freedom, any raw surfaces of the mesentery must be accurately covered by peritoneum to obviate any recurrence. Perhaps of all operations in surgery this procedure alone is followed by the most wonderful effect, for the whole condition of the patient is transformed and he is rapidly restored to vigorous health. (The Canadian Practitioner, March, 1924.)

Treatment of Ankylostomiasis with Betanaphthol and Thymol

Phippen reports that he has obtained good results from his method of treatment of ankylostomiasis. He proceeds as follows: A powder, containing 5 grains of calomel, and 10 grains of sodium bicarbonate is administered to the patient in the evening. This is followed next morning at 7 a. m. by 3 drams of sodium sulphate in 3 ounces of water. At 8 a. m., a mixture is given containing betanaphthol 1/2 dram; thymol 1/2 dram; mucilage q. s.,

and water to 1 oz. At 10 a. m. the betanaphthol and thymol mixture is repeated, and the patient is kept in bed till about 4 p. m., not allowing him to have any food or liquid. Those desiring to leave hospital may do so, but must report seven days later for further treatment; but on the day after leaving hospital they send a specimen of the *fæces* for microscopic examination for the ankylostome ova. This is done after each treatment until the motions are free of these parasites. In no case were more than eight treatments required. (British Medical Journal, London.)

The Use of "Bipp" in Osteomyelitis

McKinnon believes that osteomyelitis is rarely recognised by the practitioner in its early stages, when it can be cured by simple drainage, and that it is not until the discharging sinuses, bone cavities and sequestra are present that the patient generally comes for surgical treatment. It is at this stage that McKinnon recommends the use of bipp. The wound is thoroughly exposed, and all the sinuses are traced to their origins; the sequestra are removed, and the walls of the cavity are levelled so as to allow the soft parts to fall in or the cavity filled with fat grafts to leave no dead space. Haemorrhage must be controlled as far as possible, the wound swabbed thoroughly with gauze soaked in alcohol, and then bipp applied so as to leave a thin smear, the wound being closed in layers without drainage. After the operation the dressings are kept intact and not removed for ten to fourteen days, after which the stitches are taken out, thus eliminating the necessity for frequent and painful dressings. He further states that there is no serious danger of poisoning, but healing by first intention has not been so frequent in his

cases as in those reported by Rutherford Morison. (Canadian Medical J. Assoc. Nov. 1925.)

Fractured Skull Associated with Aphasia

Rabere (Gaz. hebd. des. Sci. Med. de Bordeaux) records the interesting case of a man, aged 58, who received a violent blow with an umbrella, on the left upper eyelid, the pointed extremity of the umbrella penetrating the orbit above the eyeball. A short time afterwards the patient found difficulty in speaking, and finally was able to say only "Yes" or "No", but he was able to express his thoughts correctly by writing. The wound showed some swelling and ecchymosis around it, but vision in the left eye was normal. Six hours after the injury he was in a condition of motor aphasia; he appeared to understand questions, but could not answer them. The condition was then diagnosed as a fracture of the superior orbital margin with an injury to the Rolandic area, probably of the nature of a slow and progressive intra-cranial haemorrhage. An operation being immediately decided upon, the skull was trephined under general anaesthesia, when it was found that the dura-mater had been opened after the skull had been penetrated; and that although no damage had been done to the brain, there was a subdural haemorrhage in the Rolandic area. The clots having been evacuated, this was washed out, and the wound was finally closed except for a small drain. Recovery was satisfactory and speech slowly returned after three days, and two months later his condition was normal. The interesting points about this case are the complete absence of cerebral symptoms at first, followed by the classical signs of intra-cranial haemorrhage and the onset of aphasia; and finally, the slow but progressive recovery after the operation, resulting in a complete cure. (The British Medical Journal.)

Treatment of Amoebic Abscess of the Liver

Captain H. Chand I. M. S., reports a case in order to draw the attention of Medical Officers to the advantage of the treatment of amoebic abscess of the liver by aspiration, combined with injections of emetine, instead of by open operation. Mansukh, a Hindu male, aged 40, was admitted to the Civil Hospital, Dharmasala, on the 18th June 1925, complaining of a painful swelling in the right hypochondriac region, and fever with rigors, its duration being 5 months. He had contracted dysentery two years previously. On admission he was very anaemic, wasted and debilitated. There was a painful swelling reaching to about a finger's breadth below the right costal margin. Temperature was 101° but he complained of evening rises and copious sweats. There was marked oedema of the feet. The differential leucocyte count was:—

Polymorphs	...	75%
Large monos	...	22%
Lymphocytes	...	3%
Eosinophiles	...	—

A diagnosis of liver abscess was made.

Treatment:—On 20th June 1925 he was put on daily hypodermic injections of emetine hydrochloride gr. 1. On 22nd June under chloroform the skin, only over the most prominent part of the swelling was incised for about an inch. Potain's aspiration apparatus was then used and 4 pints of typically chocolate-brown coloured pus were withdrawn. One suture and a dry dressing were then applied. The patient had no temperature after the operation. In all, eleven injections each of 1 grain of emetine were given. The swelling in the right hypochondriac region disappeared altogether, and also the oedema of the feet. The patient making an uninterrupted recovery,

he was discharged cured from the Hospital on 5th July 1925. (Indian Medical Gazette, Feb. 1926.)

Vaccination by mouth

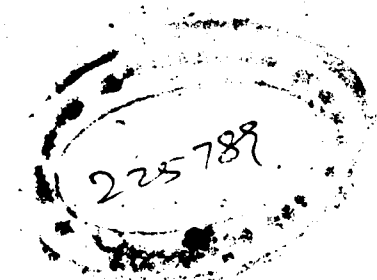
This new method of vaccination by Professor Besredka suffers from none of the disadvantages of the comparatively older method of artificial immunisation (the method in use) for the latter is rather unpleasant, and in many cases there is a definite contra-indication for it. For example, in the case of enteric fever, the subcutaneous injection of dead typhoid bacilli is usually followed by unpleasant symptoms for a day or two, the initial puncture has little attraction for many people, and people suffering from various heart affections, from a fulness of the liver, or—in the case of women—of the uterus, are prohibited from enjoying its protection, and further, it is not safe to inoculate either the very young or the very old. But Professor Besredka's immunising agent is contained in tabloid form, is taken through the mouth, has no untoward reactions, and is perfectly safe for infants, invalids and the aged.

The discovery made by Professor Besredka, who is the successor of Metchnikoff at the Pasteur Institute is that immunity is a local thing. At present the injection of a dead culture into the blood stream is intended to induce a general immunity, but the Besredka theory is that as all invading micro-organisms have a selective affinity for some particular organ, so there should be a definite protective vaccine for each organ. Thus he found that dysentery and cholera bacilli make their way straight to the intestinal wall; a rabbit was inoculated with these bacilli through a vein in its ear, and was killed five hours later. The autopsy showed all the bacilli on the intestinal wall—they had made their way there as fast as they could, disdaining all other homes. All that is necessary then, to immunise against cholera or dysentery, is to immunise the intestinal wall, since this is the only

organ open to attack, and the best way of immunising it is by the most direct route—through the mouth. But there was a difficulty in the way, for the dead bacilli in the tablet could not find their way through the wall at all times; only when there was a free excretion of bile was ingress possible. Professor Besredka's solution to this difficulty was to include in the tabloid a certain proportion of synthesised bile to act as a sort of key to the gates on the walls of the intestine.

The advantages of this new method of vaccination are obvious. The process is simple and safe, attended by no discomfort, theoretically sound; it demands no apparatus, or skilled attendance; and above all, there is ample proof that it is effective. In 1923 a thousand people in Petrograd were vaccinated by the mouth during an epidemic of Shiga's dysentery; nine cases occurred amongst them, of which six developed immediately after vaccination before immunisation was completed. In an epidemic at the military school at La Fleche those vaccinated by mouth fared better than those vaccinated in the ordinary way, and there are many contributory testimonies to its efficacy from both private and official sources in France. And this harmless, painless immunisation is possible against typhoid, dysentery, cholera and other diseases which intermittently scourge the East. Professor Besredka's contribution to science is not yet universally known, but when it is, and its efficacy universally proved, his name will deserve a rank equal to the greatest of those who have dignified the profession of Galen with their wisdom and labour. ("Times of India", 17th Feb. 1926.)

[A large stock of the tabloids, prepared by La Biotherapie of Paris, according to the researches of Professor Besredka, is held in India by G. Loucatos and Co., American Building, Ballard Estate, Bombay.]



Psychic Apples

An Extravaganza

BY SANKARA KRISHNA CHETTUR

O Listen to a simple Patient's story,
Who holds that Healing is a Doctor's glory,
And learnt of late that every man on earth,
Who in this vale of tears has come to birth,
Whether his outer skin or black or white is,
Is always subject to Appendicitis!
That though the fact may be beyond his gumption,
He has in him the seeds of dread Consumption!
Said I, "This matter calls for grave attention:
Better than cure is said to be prevention,
I must take greater care whene'er I dine!
Though surgeon's stitches may not number *nine*
Lo! I will place my body under tuition
With one strong timely stitch of Resolution!
I'll eat a rosy apple every day,
And keep all ills and doctors far away!
And as each apple-core my finger tosses,
So will my health rebuff Tuberculosis!
And everyone shall see what apple-might is:
My diction'ry deletes Appendicitis!
And thereby I shall be like great Napoleon
Who held 'impossibility' was wholly un-
Existent in the realm of his endeavour,—
And by this simple means, I'll live for ever!"

Alas, alas, what boots it to repeat
That I have not achieved this splendid feat!
Not for the reason (that may strike your thought)

That apples could not every day be got...
 I do not say that apples are not dear :
 Yea ! sometimes they were pale and thin and sere,
 And once a loving friend sent me some gratis
 From Mamalapplepur'm wherever that is !
 So still I ate one every blessed day :
 It kept the doctors *far too far* away !
 Perhaps my drift you do not understand :
 It's simply this : upon my native land
 Were others who had never tasted apple,
 And who therefore with sickness had to grapple !
 My hard-won anti-doctor apple-might
 Was something never gauged by living wight :
 Its psychic power was well-nigh infinite !
 My apple-glow of health was like an aura
 Spreading from Comorin to Chauri-Chaura.
 My health became a curse : the simple fact is
 Within those bounds no doctor dared to practice,
 Or, if he did, in some grim psychic way,
 My apple-power kept his skill at bay,
 And, all his healing efforts nullified,
 T'was natural that his poor patients died !
 And so my health became a country's blight,
 Because its strength was based on apple-bite !
 Does not the poet say, or rather sing,
 " There can be too much of a goodly thing " ?

At last one Doctor with some commonsense
 Began to trace their common impotence :
 He argued thus :—" This power puts to flight
 Only the Doctor, not the doctor'd blight ;
 As a logician, I am moved to say,
 'Tis psychic force that keeps us all at bay !"
 And one day, as he rack'd his brains in chapel,
 He thought of Adam and the stolen apple :—
 Inspired he cried : " My thoughts, till now a-flicker,
 Blaze like a torch ! *Eureka ! O Eureka !* "

(The Grecian cry enhanced Discovery's passion
 T'was Archimèdes who first set the fashion...,
 " It is some man with perfect apple-strength
 Who keeps us all at psychic world-arm length !"
 He pranced with joy and cut some awful capers
 And advertised in all the leading papers
 For humble Me, who was quite innocent
 Of families my apple-sword had rent !
 And when, at last, from him I understood
 That I must give up apples for the good
 Of the long-suffering community,
 I mused and promised that the tragedy
 Should cease, if self-denial could fordo it :
 Alas ! I did not even live to rue it—
 Within a week my apple-strength was fled :
 And I fell ill, lay dying—*and am dead !*

Case Reports

A Case of Colonic Polypus

The following case is reported as it is an interesting and comparatively rare condition.

Name.—A. F. S....European, aged 28 years, employed in the M. S. M. Ry, was admitted into M4 Wards on 5-5-26 with a complaint of passing small frequent motions—duration, 5 weeks.

Previous history.—For the last year and a half, had been suffering from attacks of dysentery on and off and had been treated with Emetine and Emetine-Bismuth Iodide.

History of Present Illness.—For the last 5 weeks he has been passing 4 to 5 motions a day with plenty of mucus but no blood, and sometimes has been getting attacks of severe pain in the right lumbar region and in the corresponding area over the back. The attacks of pain come on without any relation to food or exercise.

Condition on admission.—Well-nourished; tongue coated with fur; cæcum thickened and tender; patient gets spasms of pain along the ascending colon; appetite poor. Bowels irregular and loose—about 3 to 4 motions daily. *Motions.*—No amoebæ, cysts or ova found. Tenderness in the right lumbar region and occasionally on bi-manual palpation, a tumour can be felt slipping up and down between the fingers in the right lumbar and right iliac regions. *X-ray report:* Irritability of the gastro-intestinal tract with rapid emptying of intestines. No evidence of gall-stones.

Later on, patient got distention of the abdomen and spasms of pain came on at more frequent intervals, when

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his motions contained a tinge of blood. *Rectal Examination:* No tumour mass reached by the finger; but the examining finger was blood-stained.

The condition was considered to be one of a tumour of the large bowel chiefly involving the cæcum and the ascending colon but its exact nature could not be diagnosed. It was however considered possible that a tumour originating in the ileo-cæcal region was causing periodic intussusception which subsequently got reduced by itself. As the patient's condition was steadily getting worse he was transferred on 24-5-26 to S₃ wards for an exploratory operation.

On the same day at 11 a.m. a laparotomy was performed; the omentum was found shrunken and puckered; the meso-colic glands enlarged and nodular; the cæcum, ascending colon, and transverse colon up to splenic flexure were found thickened, congested, oedematous and felt hard and doughy but could not be indented by the fingers, thus negating scybalous faecal masses inside the lumen of the bowel. This portion of the bowel could be made to move up and down; the small intestines were normal and an unusually long appendix, slightly thickened and congested was found. There were no miliary tubercles studded over any of the peritoneal surfaces and the exact pathological condition could not be diagnosed at this stage. As the patient was *in extremis*, a resection of this extensive segment of the bowel could not be thought of. Only the appendix was removed and one of the glands in the meso-colon removed for examination and the abdomen closed. The patient progressed favourably for the first 48 hours during which time his bowels moved once freely after a soap and water enema. On the 26th night, *i.e.*, the third night after operation he got diarrhoea and with each motion passed large quantities of slightly altered

blood. He was given large doses of bismuth, and injections of calcium choride and hæmoplastin. He did not improve and continued to pass frequent motions containing blood, and died on 29-5-26 at 8-50 p.m.

Pathological report :

Appendix: *Subacute inflammation*

Lymphatic gland: *chronic inflammation*

The condition would appear to be one of diffuse polyposis of the large bowel from the cæcum to the transverse colon, and possibly resulted from the antecedent inflammatory or ulcerative condition of the bowel. Similar cases have been reported frequently in current literature and special stress has been laid on the great predisposition of the growth to become malignant, the resulting malignant growths being classified as adeno-carcinomata. In this case however, the pathological report of the enlarged meso-colic gland indicated that malignancy had not yet supervened.

If the condition had been recognised early, the proper procedure would have been to remove the whole mass with its lymphatic connections and perform an end to side anastomosis between the ileum and the descending colon. It has been suggested that a simple lateral anastomosis between the ileum and descending colon would have tided the patient over his acute attack and later on the more radical operation of resection could have been undertaken. Even this the patient could not have stood as his condition at the time of operation was critical. A safer procedure would however appear to be to perform an ileostomy, a simple operation, and and substitute postpone do further operative procedure to a later date.

The reader is referred to *Annals of Surgery*, March 1926 p. 364, for a detailed description of the disease as well as the details of the operation for the same.

Published with the permission of Dr. G. V. James, Third Surgeon, and Dr. Guruswamy, Fourth Physician, who allowed me to take extracts from the surgical and medical case sheets.

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Gen. Hospital.

Treatment of Cardio-nephritis by Novasurol Injections

Novasurol is a German speciality put up in 1-2 c.c. ampoules. It is soluble in water and claimed to be arsenic-free while its mercurial content is about 33%. Knowing that calomel when given internally acts as a diuretic, I decided to try *Novasurol* in the following three rather desperate cases in which thorough digitalisation, Theocin sodii acetate, Karrel diet etc., had been repeatedly and perseveringly tried without the slightest effect.

The three cases presented the following cardinal symptoms, though the heart pathology in each was slightly different:

- (1) Marked dyspnoea; slight cyanosis; suffused face with slight stupor.
- (2) Præcordial pain and distress.
- (3) Massive general anasarca.
- (4) Urine scanty. Albumin present, but no casts.
- (5) Liver enlarged and painful on pressure or movement.
- (6) Unable to lie in bed but had to sit propped up owing to orthopnoea.
- (7) No response to cardiac stimulation and diuresis.

CASE I. Patient, Hindu Male *æet* 47. Had a severe attack of influenza in 1918. Habitually constipated. Had resorted to various treatments for neurasthenia and

constipation since then. Had been steadily losing weight and had been recently treated for 'incipient phthisis'. In December last he had an attack of 'Angina pectoris and severe dyspnoea'. He came to me in March last. On examination, I found,

- (1) Liver much enlarged and tender to touch.
- (2) Abdomen very much distended—legs oedematous.
- (3) Heart sounds irregular with extra-systoles. Blood pressure 120 mm. systol.
- (4) Face suffused and slightly cyanotic.
- (5) Dyspnoea on the slightest exertion.
- (6) Urine scanty, with trace of albumin.

Treatment.—Digitalis with diuretics and Karrel diet, also Pulv. Elaterin Co., every alternate day. There was absolutely no effect in spite of persevering with this treatment for nearly ten days. Patient began to grow worse and failure of compensation became very marked. On the 12th day, I administered an intravenous injection of Novasurol when marked improvement and copious diuresis set in within the next 24 hours. Karrel diet insisted on. Three days later I gave another injection of Novasurol (this time intramuscularly). This practically cured his condition and the patient has been free from these troublesome symptoms for the past two months. He is now able to move about without any discomfort.

CASE II. Patient, Hindu Male, *aet* 59. Came up for treatment in April last. Previous history negative, except for a few periodical attacks of malaria a couple of years or so ago. Pain over the heart began early last year with palpitation on slight exertion which also made him dizzy and "lie doubled up in bed". Some six months ago, he began to notice slight swelling of his legs and puffiness of his face; had been habi-

tually using enemas to move his bowels and was regularly having his colon flushed.

His condition on examination was:

- (1) Suffused, puffy face.
- (2) Well-developed oedema of legs and ascites.
- (3) Liver much enlarged and painful on movement.
- (4) Dyspnoea on the slightest movement.
- (5) Urine scanty, albumin present.
- (6) Heart action: irregular, accentuated 2nd sound at right base with a pronounced bruit over the apex. Blood pressure 149 mm. systol.

Treatment.—Same as in case I, without the slightest effect. Performed paracentesis abdominis 5 days later, and withdrew slowly about 5½ pints of straw-coloured fluid. In the evening his condition caused anxiety since he became very apathetic, breathing was hard and the pulse was weak. Injected atropine and strychnine after which pulse improved. Next day morning gave an intravenous injection of Novasurol, and within 24 hours beneficial reaction set in: passed urine copiously, enlargement of the liver appreciably decreased and the patient began to feel more comfortable, as he was able to lie in bed comfortably. Three days later I gave him another injection intramuscularly. Since then he has been free from his symptoms.

CASE III. Patient Hindu Female *aet* 37. Mother of 5 children. Had a severe attack of influenza complicated with pneumonia in 1918 during the great world-epidemic. Since then she has been feeling "queer". Had been treated by various quacks for frequent attacks of "Hysteria and acute dyspepsia." I was called in to treat the case in May last. She presented the following symptoms:—

- (1) Severely constipated, with hugely distended abdomen.

- (2) Acute pain in the left præcordial area which was aggravated on movement.
- (3) Marked dyspnoea (orthopnoea).
- (4) Suffused face : Slight stupor.
- (5) Extensive œdema of legs and ascites.
- (6) Was sitting propped up in bed and was "unable to lie down for several weeks."
- (7) Liver much enlarged and painful on pressure.
- (8) Urine scanty with a trace of albumin.
- (9) Blood pressure 110 mm. systol. Heart sounds very irregular. Accentuated 1st sound at apex. Occasional extra-systole.

Treatment.—Similar to I & II at the beginning without the slightest effect. Patient steadily grew worse. On the 10th day her condition became desperate and even seemed hopeless. I decided to administer an intravenous injection of Novasurol then and there. The same evening (the injection was given in the morning) there was noticeable change for the better. She passed urine freely and was feeling fairly comfortable. The following morning she "felt much better having had a good night's rest in bed". Resumed digitalis and diuretin and Karrel Diet. On the third day, I administered another Novasurol ampoule intramuscularly. Since then steady improvement. But the ascites persisted. After waiting for another week, I performed paracentesis abdominis and slowly withdrew about 8 pints of clear, straw-coloured fluid. I gave her another intramuscular injection of Novasurol the following morning and advised her to continue the Digitalis mixture and Karrel diet. The patient is now able to walk about and is feeling fairly comfortable in every way.

Conclusion.—The very first injection of Novasurol acted like a charm *within 24 hours* by causing profuse

diuresis and effectively relieved the dyspnoea, improving the general condition at the same time. Karrel diet, digitalis and diuretics had absolutely no effect on these patients. The injections were administered both intravenously and intramuscularly twice a week (latter method employed only after general improvement set in). Not more than *three* injections were required. Indeed, almost all the severe and serious symptoms cleared up like magic with a *single* injection! In two of the cases, I had to perform paracentesis ultimately. All the three cases are now alive and well; and their heart condition too is much better.

In conclusion, where digitalis and diuretics with Karrel diet etc., fail (as they failed utterly in all my three cases) or where a rather rapid diuretic effect is imperatively demanded by the condition of the patient, *Novasurol* should be employed without the slightest hesitation especially in such extreme cases. If one is afraid to administer the drug intravenously either due to lack of skill or experience in this method or to any prejudice, I would urge that it be given intramuscularly deep into the gluteal muscles as this latter method is certainly well within the capability of even the veriest tyro in medicine.

I have not noticed any troublesome or disagreeable reactions after Novasurol injections. I reiterate again that it should be unhesitatingly employed in such *desperate cases of Cardio-nephritis complicated with Anasarca*, the only contra-indications being Acute Nephritis and Enteritis.—(Glomerular? Primary or Secondary?) In fact, I am thoroughly convinced that Novasurol is perhaps a real "life saver" in such cases as those cited above and it is certainly worthy of a *fair* trial in suitable cases.

P. S. SARMA, M. D.

Gastric and Intestinal Atony in Pneumonia

Patient, Hindu Female, *aet.* 19, married (and of a very fair complexion) and strong robust constitution, was laid up with fever and severe headache on 6th May last. On 16th May, the case was diagnosed as pneumonia. There was profound toxæmia and occasional hæmoptysis. Cyanosis too was present. On 20th May, persistent vomiting of bloody material set in and pulse became markedly intermittent and infrequent. The following day, temperature became subnormal, resp. 45 to 50, pulse 100. Vomiting became so incessant that the patient was unable to retain even small spoonfuls of water. Everything by mouth was stopped; continuous oxygen inhalation and rectal salines resorted to. On the 22nd, her condition became very bad indeed—subnormal temperature, pulse 60, infrequent and intermittent markedly, respiration 50, cyanosis marked, vomiting persistent and incessant, while liver dulness was absent; abdomen (specially the upper part) was abnormally distended and the patient extremely restless, very frequently turning to lie on her sides. One dose of pituitrin ($\frac{1}{2}$ c.c.) was given intravenously diluted with a little normal saline, and also rectal salines and hot fomentations to abdomen (turpentine stupes); she passed flatus and dosed for two or three hours. Six hours later (in the evening) another $\frac{1}{2}$ c.c. of pituitrin was given intramuscularly which markedly improved her condition before dawn next day—vomiting ceased, pulse and resp. became practically normal (pulse 75 and resp. 20). By about 10 a.m. the same day, temperature rose to 102° ; but this returned to normal within three days and the patient recovered completely within another ten days.

This rather alarming condition was undoubtedly acute toxæmic gastric dilatation and intestinal atony

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which generally carries off the patient in a large number of cases of this type as it did during the last world-epidemic of influenza. Fortunately in this instance, this serious and alarming condition was successfully combated by pituitrin and rectal salines. I may remark, that the irregular and peculiarly infrequent pulse seems to be specially pathognomonic of this condition.

P. S. SARMA, M. D.

College Notes

Welcome

We welcome with great pleasure all the new students to the College, and extend our best wishes to those who are in the senior classes. To those who have been compelled to leave us either to practice their profession or to undergo further courses of study in foreign lands and in the midst of strange people, we send kind remembrances and wish them all success and ever-increasing prosperity. The publication of the first issue of the College Magazine at this time gives us a splendid opportunity of extending to our old students a hearty welcome back to their *Alma Mater* on the occasion of the College Day which will be celebrated very shortly.

The Medical College Association

Never before in the history of the Association has such enthusiasm been shown in the election of the office-bearers as in this year. At the meeting held on Thursday, 29th July '26, there was a tremendous crowd of students, who, although they were very keen indeed on electing their own favourites, demonstrated their enthusiasm and interest in the proceedings by vigorously clapping their hands, rapping the tables with books, shouting and generally creating a disturbance whenever an opportunity presented itself. The business of electing the Assistant Secretary gave considerable difficulty as three candidates were proposed. We have authentic information that vigorous election campaigns had been going on since the re-opening of the College, and all the three candidates, spent more time than we think was either necessary or advisable in convincing our College students either

College Notes

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of their own ability or their opponent's inability to perform the duties of the Assistant Secretary. On the day of voting, the Library was a scene of great confusion until Mr. Selvaraj was declared to be the winner.

Judging by the number of objections that were raised and the resolutions that students wanted to move, an impartial observer might have come to the justifiable conclusion that Medical students had little or no work other than thinking of and framing resolutions and objections. Happily for the Association, this is only true of a small minority, and we would take this opportunity to advise them to desist from such fruitless labour, from sitting in solemn *conclave* and discussing endless possibilities, from taxing their fertile imagination for suggestions for the improvement of the College and the Association which eventually turn out to be as quixotic as they are unlikely to be realized, and *instead*, concentrate their attention and energies, which are surely worthy of a better cause, either on a more careful perusal and revision of their text books or on games.

Since these resolutions and objections unnecessarily delayed the business, for which purpose the meeting was convened, the Chairman said that they would be recorded and brought forward for consideration at the next committee meeting. After something like peace and quiet had been restored, the rest of the business was conducted as expeditiously as possible, and with the usual vote of thanks to the Chair, the meeting came to a close.

The following were elected as office-bearers for the year 1926-27.

Patron: Major General Hutchinson, I.M.S., Surgeon-General with the Government of Madras.

President: Lt. Col. C.A.F. Hingston, I.M.S.

Vice Presidents:

{ Major K. G. Pandalai, I. M. S., F. R. C. S. (Eng).
 { Dr. M. R. Guruswami Mudaliar B. A., M. D. C. M.

Asst. Secretary ... Mr. A. S. Selvaraj.

Class Representatives:

Lady Students	Mrs. M. A. Williams.
Military Students	Mr. P. DeMellow.
Final year	Mr. P. T. Raghavachari.
Fourth Year	Mr. Kameswara Rao.
Third Year	" Govinda Rao.
Second Year	" E. C. Srinivasan.
First Year	" Verghese.

Magazine Committee:—

President: Major K. G. Pandalai, F. R. C. S., I.M.S.

Editor: Dr. M.R. Guruswamy Mudaliar, B.A., M.D.

Associate Editor: Dr. A. Vasudevan M.B.C.M.

Student Editors: Mr. P. Ratnaswamy. } Final Year.
 " M. D. Ananthachari. }

Secretary:

R. K. Chettur.

Games

The inter-collegiate tournaments have all started off very early this year in anticipation of the many matches that will of necessity have to be postponed owing to the inclemency of the weather.

The College hockey team has fared tolerably well, so far; a thing well begun is half done they say, but you never can tell. The first match with the R. M. S., ended in a well-deserved victory for us by the comfortable margin of 4 goals to 1. Knowing what we do know of our players we ought not to have been surprised at the game

we played against Pachiappas College, for although we had hopes of the team improving, the form displayed by our men in the first match was obviously only a case of new brooms sweeping clean. It is better not to anticipate what will happen to the hockey team in the near future.

The Cricket team, although in the same unfortunate position of the hockey team, with reference to the limited talent of the majority of the players, has succeeded in maintaining its reputation. In the match against the Christian College, we scored 211 runs for 8 wickets and declared, the top-scorers being Lewin, Raghavachari and Bhandari, with 51, 48, and 33 runs respectively. The Christians entered after lunch and were dismissed for the small total of 50 runs. The Engineering College sustained a heavy defeat at our hands last Saturday. They batted first and scored 72 runs. Our men made a very disastrous start, and the prospect was, to say the least of it, very gloomy indeed, but with the partnership of Bhandari and Shunker, the game took a lively turn, boundary after boundary was signalled by the umpire, runs came pouring in and these two were still batting when the score of 72 was passed. We won this match by 7 wickets and a few runs.

The Football team is "still going strong." It scored a decisive victory over Pachiappas College, and as *The Hindu* says we feel sure that they will make the same bold bid for the Cup this year also. The Engineers were beaten on their grounds by the wide margin of 3 goals, in spite of the fact that the match was played in very bad weather, there being a heavy downpour most of the time. The Presidency College, our old rivals were beaten after a very well contested match by a very narrow margin. The forwards played very badly in this match,

combination among them being the exception rather than the rule (just like the forwards of the hockey team) and further, there was little or no dash about them for had they only rushed in at opportune moments they might have scored more goals.

The College Magazine

We are afraid that more than an apology is due for the late appearance of the first issue. The deplorable tardiness of contributors continues to be much the same as before. It is true that the all-engrossing duties of professional life curtail their liberty to a certain extent but, if only they interested themselves a little, the Magazine would not be leading such a precarious existence. They indefinitely postpone writing what they intend to write, deferring until to-morrow what they can do to-day; such people have evidently yet to learn that procrastination is the thief of time. To mention a case in point: two articles were definitely promised us by the 28th of July but the Magazine is now out and we are still waiting for them.

The changing of the Press has also been partly responsible for the delayed publication of the first issue. Hitherto, no attention had been bestowed on the general get-up of the Magazine but this year particular attention has been directed to the details of production, paper, type and marginal spacing. It is perfectly true that ours is, more or less, a professional journal, but that we are inclined to think, is no reason why it should not at the same time, be an artistic production. This year, therefore we are able to offer to our readers a publication which we believe to be superior to most, if not all, others of its kind.

Obituary

We deeply regret to announce the untimely death of Lieut. M. P. Pai M.B.B.S., I. M. S., Officer

Commanding, Indian Station Hospital, Chitral, one of our old boys. While crossing the River Luspur, the horse on which he was riding stumbled, and unseating the rider, threw him into the water. He swam a good distance against the current, but since his movements were considerably hindered by the heavy uniform he wore, he was ultimately drowned. Aged 28, a bright student of the Medical College, a trivial and unfortunate accident has put a sorrowful end to what might otherwise have been a brilliant career. *Requiescat in pace.*

Sporting

The Madras Medical College Athletic Association

The annual meeting of the Athletic Association for the election of office-bearers for the year 1926-27 was held on Friday the 16th July, in the Surgery Lecture Room which was crowded with excited, enthusiastic and boisterous students. In addition an exceptionally large number of lady students also attended and, further, appeared to take a keen interest in the proceedings.

In the unavoidable absence of Lt. Col. Bradfield I.M.S., Dr. Subba Rao, our popular Secretary, was voted to the chair, amidst tremendous applause. The election of the Cricket Captain gave little or no trouble since Mr. Sheenappa Bhandari was re-elected unanimously. Regarding the election of the Hockey Captain Mr. Masters was proposed in addition to Mr. Chettur, but the former having only a few Military students to support his candidature, the latter was once again re-elected by the huge majority of civil students present. In the election of the Football Captain, rather a novel method was finally adopted. The proposed candidates were Mr. P. R. Kuppuswami and Mr. Eapen, and since the votes were almost equally divided between the two, it was at first decided to settle the issue by ballot. But here again several difficulties cropping up during the balloting, the President finally proposed to decide it by tossing up, as a result of which procedure Mr. Eapen was declared elected. Mr. Chandra Rao and Miss D. Venkatakrishna Rao were unanimously elected sub-secretaries for Tennis.

Sporting

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The main portion of the business being over, some resolutions were passed. It was decided to have Vice-Captains for the several teams instead of the Selection Committees of the previous year, for the latter never functioned at all, helping the captains neither in the selection of the players for the various teams (for which they were obviously appointed) nor in the still more arduous task of *coaxing* the players to play. On the captains being asked to choose their own Vice-Captains, Messrs P. T. Raghavachari, M. J. Masters and P. R. Kuppuswamy were duly nominated for Cricket, Hockey and Football respectively.

It was next resolved that the various Inter-class Tournaments should be conducted on the League instead of the knock-out system. The President next proposed that one of the senior office-bearers should assist him, in the capacity of an assistant-secretary, in keeping the accounts and help him generally—for this post Mr. Chettur was nominated. Since the Hon. Secretary was to be assisted by the newly appointed Asst. Secretary, and also by the other office-bearers, one member finally, and very sensibly, proposed that the allowance of Rs. 120 (a sum of money that could very well be spent in a better cause) paid to the head-clerk as remuneration for managing the Books of the Association, be stopped thenceforward. But when the President pointed out that the Head Clerk had been managing the Books for a very long time, and that therefore the honorarium for this year, after which the Head Clerk would fortunately retire, ought to be paid to him, the resolution was reluctantly withdrawn.

With a loud and hearty vote of thanks to the President, the meeting terminated.

R. KRISHNASWAMI.

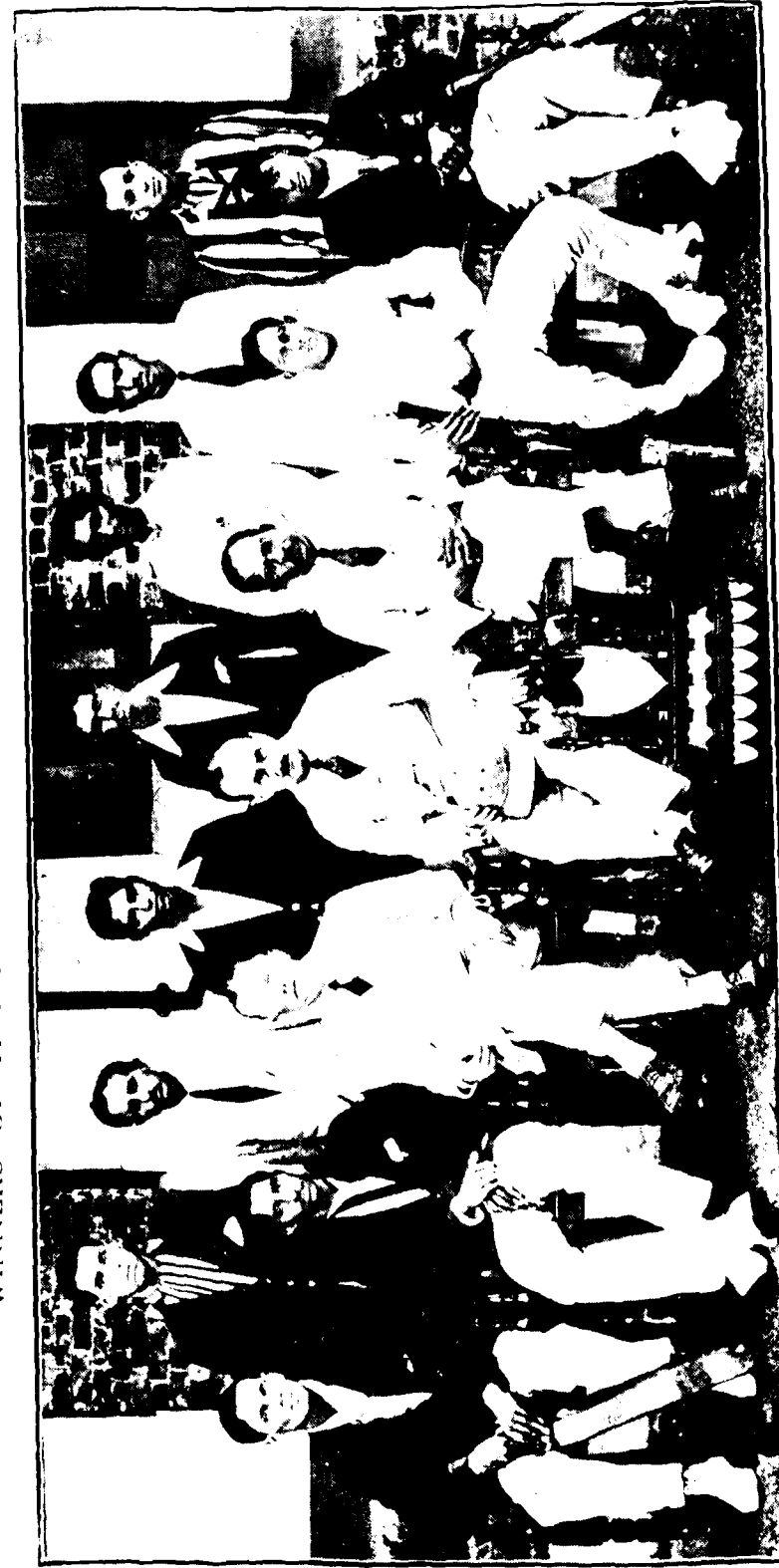
The Medical College Hockey Team

INTER-COLLEGIATE HOCKEY

It is for the first time in the annals of the Medical College Athletic Association that the Hockey team has been pursued and overtaken by such a relentless fate, for although we admit that we have been beaten in former years, and have even lost the Inter-Collegiate cup, never have we been so hopelessly and helplessly thrown into the background as in the last academical year. While the Hockey team only succeeded in asserting its superiority against such notoriously weak teams as those representing the Pachiappas College and one or two of the other similarly unfortunate institutions, the College Cricket and Football teams succeeded in winning their respective trophies, the former without even the shadow of a doubt, the latter only after a series of protracted and agonising contests with such foemen as were worthy of their steel. We do not know whether the thundering defeat that the Hockey team sustained at the hands of the M.C.C. had anything to do with the utter indifference and lack of enthusiasm displayed by the majority of the regular hockey players, but whatever the cause, the result was equally disastrous as we were compelled to beat a hasty and inglorious retreat.

The regular players of the College team have unhappily accustomed themselves to underrating the strength of their opponents, and at the same time exaggerating their own importance and ability, a trait which has unfortunately resulted in their unwillingness to play against certain Colleges under the delusion that there is no necessity for their talented skill to be requisitioned for defeating such obviously weak teams. To mention one of many cases in point, the first match we had to play last year, in connection with the Inter-Collegiate Hockey Tournament was

THE MADRAS MEDICAL COLLEGE CRICKET TEAM
WINNERS OF THE PENNYCUICK CRICKET TROPHY, 1919-1926



(Standing) C. L. Shuker, T. Chandrasekharaya, P. T. Raghavachari, K. Chandra Rao, R. K. Chettur, P. Dharmalingam, B. F. Lewin
(Sitting) Lt. Col. C. A. F. Hingston, I. M. S., Lt. Col. E. W. C. Bradfield, I. M. S.,
(President) Cap. M. S. Rao, M. B. S.,
(Hon. Secretary) R. Bhaskara Rao, E. M. V. Hensman

against the Royapuram Medical School. For this match, the first team men were, as usual, requested to play, but on learning that the match was "*only* against the R. M. S!" several of the players, who flattered themselves as the more talented ones in the team, immediately dismissed the idea of playing that evening, some pleading imaginary engagements, while others complained of what appeared, judging by their facial contortions, to be mortal injuries. With a team composed of four regular men, and seven substitutes, who compensated for their primitive knowledge of the game by the enthusiasm and violence of their efforts, both in repulsing the onslaughts and in raiding the territory of the enemy, it is not surprising, therefore, that we were almost on the verge of being beaten, for it was only in the very last minute that we managed by one final, desperate and convulsive effort to draw level with our opponents. Once started on the downhill path to perdition we acquired speed and momentum at an appalling rate, for we were, in turn, beaten by the Engineering, Law and Christian Colleges. While confessing to a certain degree of incompetence on our part, it must at the same time be pointed out, that the matches were lost not merely through our own inability to put up a better fight, but partly through the referees who invariably supported their own Colleges through 'thick and thin' and through right and through wrong. The consequences of this were that each referee allowed *his* College forwards to score as many goals as they possibly could in his half, while at the same time, he effectually prevented the forwards of the opposite side from coming anywhere near their objective. In short, it was, in the majority of cases, a *duel* between the umpires. As a result, the standard of the game, never high at any time, deteriorated considerably, players lost their heads and brandished their weapons with

murderous intent, the referees were sworn at with the fluency of the proverbial "trooper", and finally after a bitter struggle for supremacy, one or other of the two sides, more often than not the one which brought the more "efficient" referee, ran out the winner! But let us not meander!

I will never for a single moment admit the superiority of the teams that defeated us last year, for if only our men had turned out in time to play the matches, at least on those rare occasions when they deigned to grace and ornament the field, instead of straying on to the ground like lost cattle, half-an-hour after the commencement of the match, and if they had only had the most elementary notions of maintaining the reputation of the College, I still firmly believe that that treasured Cup would still have been in our possession. This year we have almost the same team that disappointed us so grievously last year, and if our players do not bestir themselves a little, gird up their loins and prepare for the struggle to come.....! But no! we shall not anticipate—for while there is life, there is still hope!

R. K. CHETTUR,
Hockey Captain.

In Lighter Vein

His Complaint.

"Dear me!" exclaimed the sympathetic old lady as she stopped and patted a little boy on the head. "Whatever are you crying for? what is troubling you?"

"Oh, dyspepsia and rheumatism," sobbed Tommy.

"Oh, surely not," cried the old lady in alarm. "That can't be right."

"It is," answered Tommy dismally. "Teacher's whipped me 'cos I couldn't spell 'em."

* * * *

No Escape.

Nervous patient: "Are you absolutely sure, doctor, that I've got pneumonia? I was told that you once treated a man for pneumonia, and it was found afterwards that he died of something else."

Doctor (annoyed): "You have been mis-informed, sir. When I treat a man for pneumonia, he dies of pneumonia."

* * * *

Did not Matter.

"My son, I am ashamed of you! You have the last place in the class."

"It doesn't matter, father."

"What do you mean, my boy?"

"They teach us the same thing at both ends, father!"

* * * *

John could see little use for grammar, but his teacher was determined that the lesson should be learnt. One of John's failings was the misuse of such words as *did* and *done*; *seen* and *saw*; *gone* and *went*, and so on; and in an effort to impress his memory the teacher kept him late

one afternoon with the task of writing the sentence "I have gone home" one hundred times.

He set about his task in a business-like manner pausing now and then to count the lines. At last he finished it, but in his close attention to the task, he had failed to notice that the teacher had gone away.

Not caring, however, to wait till his teacher returned John took up his pen once again, and wrote at the bottom of the page,

"Dear teacher, I have wrote "I have gone home" one hundred times, and I have went home."

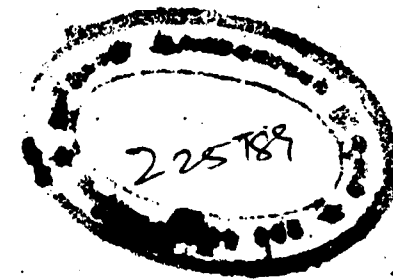
* * *
Stammerer (after lengthy proposal): "I-if you d-d-don't ac-ac-accept m-my p-p-p-proposal, I-I'll g-g-go and p-p-p-propose all over a-a-again."

* * *
"How's that, umpire?"

A curious incident arose in a cricket match in which I was taking part a few days ago. The bowler had made an appeal for l-b-w., but the umpire regretted he was unable to give a decision as he had been lighting his pipe at the time, and hadn't observed the incident. The leg umpire was appealed to, but he too was unable to give a decision as his attention had been distracted by an aeroplane overhead.

The bowler then called on the batsman to say, as man to man, whether or not he had his leg in front, to which the batsman replied that as he invariably shut his eyes when the ball was delivered, he could venture no opinion. In the emergency, it was decided to hold a ballot of the spectators, but as both of them had chanced to be in the refreshment tent drinking beer at the critical moment, this method was rendered abortive. Finally, it was decided to ring up the M. C. C., who subsequently 'phoned

back ordering the same ball to be rebowled. This was done and the bowler's umpire with great presence of mind, coupled with Solomonesque wisdom, promptly called out "no ball!"—Times of India, July 1926.



Medical Examinations

The following is the list of successful candidates at the Medical Examinations held in March and April 1926:—

First M.B.B.S.

FIRST CLASS.

(Madras Medical College).

Rank.	Register number and name of candidate.	Subject in which distinction gained.
	{ 90. Vasudevan Nambissan, T.	Chemistry.
	{ 130. Solomon, D.	...

SECOND CLASS.

Rank.	Register number and name of candidate	Where educated.
1 {	46 Narasimha Rao, K.	Madras Medical College.
	66 Sambasivan, K.	Do.
3 {	23 Eapen, J.	Do.
	122 Narsinga Rao, W.	Medical College, Vizagapatam.
5	18 David Mercy	Madras Medical College.
6	82 Sundaram, V. K.	Do.
7	53 Padmanabha Panikkar, T. G.	Do.
8	73 Srinivasan, D. V.	Do.
9	45 Meadappa, T. B.	Do.
10	108 Abdul Jabbar, M. M.	Medical College, Vizagapatam.
11	37 Lakshmanan, K. C.	Madras Medical College.
12	117 Kuriyappan, P. O.	Medical College, Vizagapatam.
13	124 Radhakrishna Rao, H.	Do.
14 {	55 Parthasarathi, G.	Madras Medical College.
	83 Sundaram Ayyar, R.	Do.
16	121 Monteiro, I. F. A.	Medical College, Vizagapatam.
17 {	14 Chandrasekhara Rao T.	Madras Medical College.
	128 Satyanarayana Rao, N.	Medical College, Vizagapatam.
19	76 Sriramulu, G.	Madras Medical College.
20	9 Bhaskara Rao R.	Do.
21	2 Achyutan Nayar, M.	Do.
22 {	19 DeLemos, J. B. C.	Do.
	109 Bhimasena Rao, K.	Medical College, Vizagapatam.
24	30 Jacob, M. K.	Madras Medical College.
25 {	34 Krishnaaswami, T. N.	Do.
	123 Oommen, K. O.	Medical College, Vizagapatam.
27	110 Ganapati, N. R.	Do.
28	42 Mahadevan, M. N.	Madras Medical College.
29	43 Martinus, Shelagh A.	Do.
30 {	22 Duraiswami Ayyar, R.	Do.
	35 Kumara Pillai, V.	Do.
	51 Oommen, Sosa P.	Do.
33	54 Pakiam, J.	Do.
34	80 Subrahmanyam, M, K.	Do.

Medical Examinations

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First M.B.B.S.—cont.

SECOND CLASS—cont.

Rank.	Register number and name of candidate	Where educated.
35 {	31 Janaki S.	Do.
	69 Shanker Rao, A.	Do.
37	63 Rangachari, V.	Do.
38 {	112 Harihara Ayyar, K. R.	Medical College, Vizagapatam.
	127 Satyanarayana, S.	Do.
40	57 Raghavendracharya, P.	Madras Medical College.
41 {	59 Ramachandra Kamath, V.	Do.
	72 Schoolapani Wariyar, N.	Do.
	*98 Anantanarayana Ayyar, P.	Do.
	*99 Balasubrahmanyam, V.	Do.
	*100 Chacko, T. N.	Do.
	*102 Kalamegham, R.	Do.
	*103 Raghava Rao, D.	Do.
	*104 Ramanathan, T. R.	Do.
	*105 Srinivasan, E. C.	Do.
	*106 Vaidyanathan, P.	Do.
	*107 Venugopalachari, M.	Do.
	*135 Chakravarti Battacharya.	Medical College, Vizagapatam.
	*136 Sivaraman, K.	Do.

*Appeared under Regulation 2 of Chapter XXVIII.

Second M.B.B.S.

FIRST CLASS

Register number and name of candidate.	Subjects in which distinction gained.	Where educated.
163 Govinda Rao, P.	Physiology and Organic Chemistry	Madras Medical College.

SECOND CLASS.

Rank.	Register number and name of candidate.	Where educated.
1	233 Sitarama Rao, M.	Madras Medical College.
2	234 Srinivasan, C.	Do.
3	156 Ganapatisundaram, S. N.	Do.
4	205 Rajagopala Ayyar, S. N.	Do.
5	210 Ramachandran, A. S.	Do.
6	241 Swaminathan, P.	Do.
7	174 Krishnamurti Rao, S.	Do.
8	200 Philip Sosa C.	Do.
9	169 Joseph, P. M.	Do.
10	276 Manikyaraju, P.	Medical College, Vizagapatam.
11 {	171 Kanthamani, D.	Madras Medical College.
	294 Virraja Rao, D.	Medical College, Vizagapatam.
13	159 Gnanaolivu, J. K.	Madras Medical College.
14	184 Masilamani, J. A. S.	Do.
15	226 Sankaranarayanan Unni- than, S.	Do.
16	162 Govindankutti Menon, I.	Do.
17	178 Lakshminarayana, T.	Do.

Second M.B.B.S.—Cont.

SECOND CLASS

18	182	Mammen, Anna T.	...	Do.
19	164	Itty, Sarah P.	...	Do.
20	271	Jaganatham, J.	...	Medical College, Vizagapatam.
21	144	Balakrishnan, V.	...	Madras Medical College.
22	191	Natesan, K. S.	...	Do.
23	278	Ramachandra Rao, B.	...	Medical College, Vizagapatam.
	253	Govinda Menon, K.	...	Madras Medical College.
	254	Chockalingam, R. V.	...	Do.
	257	Joseph Ross, B.	...	Do.
	259	Natesan, N.	...	Do.
	260	Natesan, P.	...	Do.
	263	Sambasiva Rao, M.	...	Do.
	264	Sebastian, A. P.	...	Do.
	299	Sitaramayya, D.	...	Medical College, Vizagapatam.

Third M.B.B.S.

FIRST CLASS.

Rank.	Register number and name of candidate.	Subjects in which distinction gained.	Where educated.
1	316 Krishnaswami, K. G.	Pathology and Hygiene.	Madras Medical College.
2	320 Lasrado, A. F.	Hygiene	Do.
3	333 Padmanabha Menon, C. K.	Pathology	Do.
4	364 Tayumanaswami, V. R.	Hygiene	Do.
5	366 Umapati, A.		Do.
6	370 Venkatakrishnayya, T. D.		Do.
7	337 Pichumani, S.	Hygiene	Do.
8	386 Visvanatham, D.	Pathology	Medical College, Vizagapatam.
9	319 Lakshminarayana Rao, K.	...	Madras Medical College.
	344 Sankaran, Krishnaswami.	...	Do.
11	384 Venkata Radhakrishna Rao, M.	...	Medical College, Vizagapatam.

SECOND CLASS.

Rank.	Register number and name of candidate.	Where educated
	356 Srinivasan, L. V.	Madras Medical College.
1	372 Vinayaka Rao, G.	Do.
	328 Nagendran, R.	Do.
3	330 Narayana Menon, P. P.	Do.
	357 Srinivasan, V.	Do.
	312 Kalyani Amma, M.	Do.
6	349 Seshadri, T. R.	Do.
	358 Subbanarayanan, S.	Do.
	359 Subbaramayya, B.	Do.
10	307 deLemos, N. J. C.	Do.
	334 Paramesvaran, M. V.	Do.
11	380 Srinivasachari, P.	Medical College, Vizagapatam.

Third M.B.B.S.—cont.

SECOND CLASS

Rank.	Register number and name of candidate.	Where educated.
13	338 Rajagopalan, V.	Madras Medical College.
	363 Sundaram, C. S.	Do.
15	327 Muhammad Shafiuddin Mekhri	Do.
16	345 Satur, Dorothy M.	Do.
	367 Vadamalayan, P.	Do.
18	374 Adinarayana Rao, C.	Medical College, Vizagapatam.
19	335 Parthasarathi, S.	Madras Medical College.
	379 Satyanarayanaraju, D.	Medical College, Vizagapatam.
	351 Seshagiri Rao, S.	Madras Medical College.
	353 Sivasankara Pillai, S.	Do.
21	373 Williams, Marjorie nee Johnson.	Do.
24	313 Kamalamma, B.	Do.
25	302 Bhimesvara Rao, K.	Do.
	303 Bijoor, S. N.	Do.
27	365 Thimma Reddi, G.	Do.
28	315 Kesava Menon, U.	Do.
	340 Rajaratnam, J. N.	Do.
	350 Seshadrinathan, L.	Do.
30	381 Subba Raju, G.	Medical College, Vizagapatam.
32	336 Paul, Sarah J.	Madras Medical College.
33	341 Ramachandra Hebbar, K.	Do.
34	368 Durairaja, P. S.	Do.
35	348 Selvaraj, A. S.	Do.
36	314 Kamesvara Rao, D.	Do.

Final M.B.B.S.

MADRAS MEDICAL COLLEGE.

PART I.

Register number and name of candidate.	Register number and name of candidate.
387 Venkataramayya, Y.	412 Madhaviah, Sarasvathi.
389 Achar, S. T.	413 Mathias, M.
390 Anantachari, M. D.	414 Muthayya, R. E. S.
392 Balasubrahmanyam, S.	415 Narasimha Pandit, T. L.
393 Bappu,	417 Narayana Prabhu, M.
396 Chandrasekhara Rao, V.N.	418 Raghavachari, P. T.
397 Chettur, R. K.	422 Ranganathan, C.
399 Ganapatisubrahmanyam, R.	423 Ratnaswami, P.
401 Gopalan, S.	424 Sanjivi, K. S.
402 Govinda Reddi, D.	426 Satyanarayanamurti, G. V.
403 Hariharan, V. S.	427 Subrahmanya Ayyar, D.
404 Jacob, K. C.	429 Tyagarajan, M. V.
405 Joseph, T. J.	431 Varghese M. C.
407 Krishna Menon, M. K.	432 Venkatarama Ayyar, T. S.
409 Krishna Rao, K.	435 Verghese, Saramma.
410 Krishnaswami, R.	436 Visvanathan, G. S.
411 Madhavan, P.	

Final M.B.B.S.—cont.
MADRAS MEDICAL COLLEGE

PART II.

The following candidates have qualified for the M.B.B.S Degree :—

Rank.	Register number and name of candidate.	Subject in which distinction gained.
...	506 Srinivasan, V...	... Surgery.

SECOND CLASS.

Rank.	Register number and name of candidate.
1.	437 Adisubrahmanyam, T. S.
2.	455 Krishnamurthi, M.
3.	462 Mahadevan, R.
4.	466 Mukunda Rao, B.
5.	443 Garson, C. E.
6.	{ 467 Narayana Menon, V. K.
	{ 475 Paramesvara Ayyar, P.
	{ 514 Sundaravadana Mudali, B. M.
9.	450 Hensman, E. M. V.
10.	530 Visvanathan, R.
11.	{ 440 Anantaswami Rao, B.
	{ 479 Pattabhiramayya, P.
13.	453 Keralavarma Tampan, R. K.
14.	463 Manjunath Rai K.
15.	467 Krishnan Nayar, P. T.
16.	445 George, D. V.
	535 Kannan Nambiyar, Kiyattle.
	536 Mathew, T. V.
	537 Ananta Rao, M.
	539 Gnanamuttu, D. V.
	551 Bijoor, S. N.

First L.M.S.

MADRAS MEDICAL COLLEGE.

Register number and name of candidate.

97 Abdul Hamid Bijili.

Second L.M.S.

Register number and name of candidate.	Where educated.
139 Arul, E. J. A.	... Madras Medical College.
185 Mathew, M. I. *	... Do.
201 Puvayya, C. Accamma *	... Do.
202 Radhakrishnan, C.	... Do.
255 Gnanavadivelu, T.	... Do.
256 Govindarajulu, V.	... Do.
258 Martandam Pillai, P.	... Do.
261 Raghavan, R.	... Do.
265 Subramanyan, V.	... Do.

* Obtained passing marks required for the Second M.B.B.S. Examination.

Second L.M.S.—cont.

293 Venkata Rao, A. †	... Medical College, Vizagapatam.
296 Suryasundaramayya, A.	... Do.
297 Visvanadha Rao, K. V. J.	... Do.
298 Peri Sastri, A.	... Do.

Third L.M.S.

300 Balaraman, D.	... Madras Medical College.
301 Bamford Irene, M.	... Do.
310 Hanumanta Rao, S.	... Do.
317 Krishna Wariyar, E. †	... Do.
318 Kuriyan, K. T. †	... Do.
321 Madhab Patnaik, R. †	... Do.
322 Madhavan Nambiyar, K. †	... Do.
323 Mallikarjuna Rao, M.	... Do.
324 Manavikraman Tampan, K.	... Do.
325 Mascarenhas, J. A. †	... Do.
326 Mathai, Elachi	... Do.
329 Narasimhamurthi, B.	... Do.
332 Narayani, N. K.	... Do.
339 Rajamannar Nayudu, K.	... Do.
346 Satyanarayanamurti, T.	... Do.
352 Sheenappa Bhandari, K.	... Do.
355 Somasundaram, S.	... Do.
369 Velayudham, P. A. †	... Do.
371 Venkataramanayya, G.	... Do.
375 Bhaskara Rao, T.	... Medical College, Vizagapatam.
378 Satyanarayana, S.	... Do.
383 Varahalu Setti, V.	... Do.
385 Venkata Rao, S.	... Do.

Final L.M.S.

MADRAS MEDICAL COLLEGE.

PART I.

Register number and name of candidate.	Register number and name of candidate.
388 Abraham, K. A. *	419 Ramachandran, R. *
391 Asthagiri, A. A. *	420 Rama Rao, A. *
394 Chandramowli Sastri, A. *	421 Ramaswami Ayyar, S. *
395 Chandrasekharan, S. *	425 Sankaran, K. A. *
398 deRozario, K. *	428 Thomas, T. Achamma. *
400 Gopala Menon, K. P. *	430 Vaidyalinga Ayyar, P. V. *
406 Krishna Ayyar, N. S. *	433 Venkataramanan, S. *
408 Krishnan, V. *	434 Venkatasubban, K. R. *
416 Narayanan, T. K. *	

† Obtained exemption in all the subjects except Physiology for M.B.

‡ Obtained passing marks required for the Third M.B.B.S. Examination.

* Obtained passing marks required for Part I of the Final M.B.B.S. Degree

Examination.

Final L.M.S.—cont.

MADRAS MEDICAL COLLEGE.

PART II.

The following candidates have qualified for the L.M.S. Degree:—

Register number and name of candidate.	Register number and name of candidate.
446 George, P. V.	494 Righton, Joseph, A.
452 Kerala Varma, P.	505 Shrinivasa Hebbar, A.
459 Kunhiraman Nayar, A. P.	507 Subbaji Tagat, K. †
473 Nilakantan, L. K.	515 Sundaresa Ayyar, K.
476 Paramesvara Menon, T.	533 Umesha Rao, M.
485 Ramakrishna Ayyar, J.	534 Yegneswara Ayyar, R.
486 Ramankutti Menon, V.	538 Bhavanisankara Rao, B.
	542 Sitarama Sastri, R.

The following candidates who appeared for the various Examination for the M.B.B.S. Degree have qualified for a pass in the corresponding Examinations for the L.M.S. Degree:—

First L.M.S.

MADRAS MEDICAL COLLEGE.

Register number and name of candidate.	Register number and name of candidate.
1 Achyuta Menon, P.	67 Seshagiri Rao, A.
4 Alchamamba, K.	71 Siva Ayyar, S. V.
7 Balakrishnan Nayar, M. K. R.	74 Srinivasan, R.
11 Bower, Enid, M.	77 Subharaman, A. N.
15 Damodaran, K. K.	78 Subrahmanya Ayyar, K.
24 George, K.	79 Subrahmanya Ayyar, V.
27 Harivittal Rao, P.	81 Sundaram, T. P.
28 Hart Florence, M.	84 Syed Abdul Ghani.
33 Krishnaswami, N.	85 Thambidurai, G. M.
36 Kuppuswami, M.	87 Thomas, T. C.
40 Madhavan, K. R.	91 Venkatasubba Rao, K.
41 Madhusudan, G.	92 Venkatasubrahmanyam, V.
47 Narayana Menon, K. N.	94 Zachariah, V. O.
56 Parthasarathi, K.	95 Joseph, C. A.
60 Ramachandran, A. K.	101 Jacob, C.
62 Ramachandran, N.	
64 Ravi Varma (49th Prince of Cochin).	

MEDICAL COLLEGE, VIZAGAPATAM.

Register number and name of candidate.	Register number and name of candidate.
115 Kamesvara Rao, Y.	129 Sitaramabrahmam, V.
119 Kutumba Rao, N.	131 Srinivasa Rao, N.
126 Satyanarayana, P.	

Medical Examinations*Second L.M.S.*

MADRAS MEDICAL COLLEGE.

Register number and name of candidate.	Register number and name of candidate.
138 Aiyaswami, T. V.	172 Kesava Menon, C.
140 Arumugam Pillai, K.	190 Narayanaswami Ayyar, A.
143 Balakrishna Menon, K.	192 Nemraja Alva, K.
145 Cartner Dorothy E. I.	195 Padma, A. S.
148 Cotelingam J. O.	220 Robert, G. W.
150 Dharmalingam, C.	235 Sripada Rao, M.
152 Durairaj, G.	238 Sundaram, N.
158 George, M. C. †	242 Syed Muhammed Khan Sahib.
160 Gnanesvaran, S.	245 Venkatarangam, M. P.
161 Gopala Ayyar, C. A.	
167 John, T. M.	
168 Johnson, A. S.	

MEDICAL COLLEGE, VIZAGAPATAM.

Register number and name of candidate.

288 Suryaprakasam, C.

Third L.M.S.

MADRAS MEDICAL COLLEGE.

Register number and name of candidate.	Register number and name of candidate.
305 Chandrasekharan, T.	343 Ratnavelu, M.
309 Eapen, A. J.	347 Savarirayan, J. C.
311 Jesudoss, Florence K.	368 Vareed, K. P.
331 Narayanaswami, B.	

MEDICAL COLLEGE, VIZAGAPATAM.

Register number and name of candidate.	Register number and name of candidate.
376 Marthanda Sastri, E.	382 Thomas, I. Z.
377 Perraju, B.	

Final L.M.S.

MADRAS MEDICAL COLLEGE.

PART II

Register number and name of candidate.	Register number and name of candidate.
439 Anantakrishnan, K. V.	468 Narayana Menon, v. R.
441 Chandrasekharayya Tumkur.	471 Narayana Menon, M.
448 Govinda Menon, A.	472 Natesan, P. S.
449 Govindan Nayar, P.	474 Radmanabhan, R. V.
451 Joseph, P. J.	480 Pinto, W. J.
464 Mariappayya, B.	481 Rajamanikgam, N.
	482 Rajaratnam, T. P.

† By combining the results of the examinations of October 1926 and March 1926.

Final L.M.S.--cont.
MADRAS MEDICAL COLLEGE
PART II.

Register number and name of candidate	Register number and name of candidate
483 Ramachandran, M.	516 Suryanarayanan, K.
492 Rangaswami, Mysore.	518 Vaidyanatha Ayyar, N.
493 Ravi Varma (Prince of Cochin)	519 Vaidyanathan, C. V.
495 Sadashiva Rao, R. S.	520 Vareed, C.
496 Sambandam, K.	521 Vasudeva Rao, P.
499 Sankaran, G.	523 Venkatachalam, S.
500 Sankaranarayanan, K.	526 Venkataswami, P. V.
501 Sankararaman, S.	528 Venkata Rao, P.
502 Seshadri, T. K.	531 Vittaldas Pai, K.
503 Seshadrinathan, N.	532 Umanatha Rao, K.
510 Subramanyan, K.	540 Sitaramaraju, C.
511 Sundaram T. A.	543 Visvanathan, T. S.

B.S.Sc. Degree.
MADRAS MEDICAL COLLEGE.
PART I.

Register number and name of candidate.	Register number and name of candidate.
554 Narayanaswami, L. S.	547 Sundaram, B. K.
545 Sivaramayya, Y.	548 Sundaram, E. V. M.

PART II.
SECOND CLASS

Rank. Register number and name of candidate.

- 1 547 Sundaram B. K.
- 2 554 Narayanaswami, L. S.

M.D. Degree.
BRANCH IV (TROPICAL MEDICINE)

Raman, T. K., candidate with register number 550, has been declared to have qualified for the Degree of Doctor of Medicine.