

**The** <sup>2109</sup>  
**Madras Medical College**  
**Magazine**

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*Verified  
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EDITOR

**Dr. M. R. Guruswami Mudaliar, B.A., M.D. C.M.**

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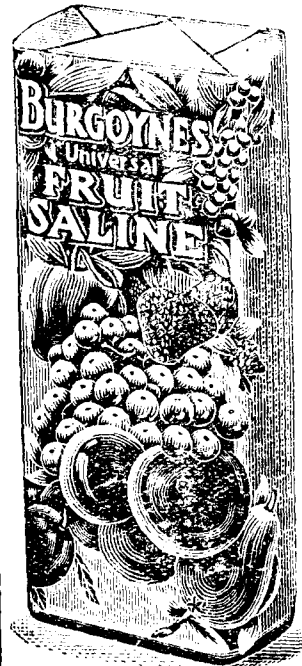
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## THE MADRAS MEDICAL COLLEGE MAGAZINE.

Vol. VII

August, 1927

No. I

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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.*

## IN MEMORIAM

The late MR. K. C. LAKSHMANAN (Medico)



O! like a bud with all its sweet fragrance  
Locked up within, waiting to bloom,  
Gathered too soon!  
O! like a painting beautiful,  
Finished too fast!  
O! like a song melodious, silenced  
Before its end!  
O! like a bright star that sinks  
Ere it is morn!  
O! noble Soul! Recalled  
Before thy time!  
Thou hast departed from our midst!

THE MADRAS

## Medical College Magazine

Vol. VII

AUGUST

No. I

### The Cancer Problem in Madras\*

BY MAJOR K. G. PANDALAI M. B. F. R. C. S. (ENG). I. M. S.

(Professor of Operative Surgery, Medical College, Madras.)

Cancer is not a new disease in this country. Many references to its nature are available in ancient books on medicine, but in spite of its long history, it cannot be claimed that we possess more knowledge about it than the ancients did notwithstanding our vaunted modern culture. Its etiology and treatment are as much problems to-day as in the past. A great deal of money and energy have been expended on the task but the solution is as far away as ever. There are a few truths, however, which have emerged from the labours of numerous investigators and to put them in a nut-shell, we have learnt that cancer is not spread by ordinary contact like Syphilis and Measles, that although it has a preference for an advanced age, no special age incidence exists that long continued exposure to irritation is often a precursor of

[\* Extracts from the University Readership Lecture delivered in the Madras Medical College Library Hall on the 30th July 1927.]

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the disease, that until recently no proof of its parasitic origin has been presented, that as yet no specific medicinal treatment is available, that in its early stages it is eradicable by the knife, that exposure to X-Rays and Radium, although it may alleviate, has not been known to cure the disease at least in Madras. These truths are known to every practitioner of medicine, but unfortunately the public have not yet realised the limitations of the profession in the matter of cancer treatment, for, if they did, we should not be seeing in the wards of our hospitals so many cases of inoperable malignant disease. Medical men also realise that at least in the early stages nothing but a microscope can make a certain diagnosis of cancer, and that once diagnosed nothing can cure a cancer but an operation. It is true that a large number of practitioners still believe in the magical healing properties of X-rays and radium and send up to Madras advanced and absolutely inoperable cases for this treatment. As a measure of charity and giving the patient hope as long as life exists, X-rays appear to have a place in cancer treatment; but until newer methods replace existing ones no practitioner can confidently entrust these patients to the Radiologist with a belief that the disease will either be cured or markedly benefited. Until such a day arrives we have to din into the ears of the public that they must not cherish false faith in the impossible and that cancer can only be cured by the knife. Our duty therefore is to preach this fact and that the ointments and decoctions applied to a cancer when it is radically curable by the knife is tantamount to a slow and certain method of committing suicide. I am afraid that the majority of the public require urgently to be educated to this fact, as according to tradition they pin their faith on certain practitioners of an ancient type who use neither a microscope nor the

knife in the treatment of malignant disease. Current faith in Ayurvedic treatment is responsible for a large number of cancer cases not being sent to hospital for diagnosis and early treatment. They do not appear to have realised the truth about the dreadful nature of the disease and our first duty therefore is to educate these men who have considerable influence with the people and without whose help numerous lives will be lost. As the saving of life is not simply the duty of one system of medicine as against another, but is the duty of all and principally of the State it behoves all friends of the public to exert their influence to see that the Ayurvedic practitioners are taught to remember the existence of cancer and to resort to a microscopic diagnosis whenever possible and to send these cases to the Surgeon before the disease has advanced too far.

To state that the public and the ranks of our profession require more active education as regards the nature and possibilities of treatment of cancer is not identical with stating that we have any infallible method of curing the disease when recognised. No such pretension is possible in any country in the world and the only end which it is hoped would be achieved by such general education is a realisation of the terrible nature of the disease and the necessity for prompt and early action if any relief is to be hoped for. Take for example the cases of cancer, in the mouth region of which a large number report for treatment at the General Hospital every year. In the years 1925 & 1926, 46 cases of cancers under this group reported for treatment in my wards. There were 20 cases of cancer of the cheek, of which 9 *i. e.* roughly 50%) were returned as inoperable. Generally extensive involvement of the cheek with infiltration of both jaws, wide involvement of the skin with glandular

metastasis often with ulceration of the overlying skin are the conditions which decide against operation. In 8 cases relief was afforded by extraction of the teeth and superficial destruction of the growth by the Diathermic Cautery and in 3 cases even such temporary relief although offered was refused by the patient. Thus it cannot be said that as far as cancer of the cheek is concerned we have been able to render more than trivial relief to the sufferers in our ward. These cases had been under the treatment for months, of Ayurvedic practitioners and were not advised to resort to hospital treatment, until the practitioners were convinced that ointments were of no avail; a very sad state of affairs indeed when we remember that for every case that comes to us for treatment there are dozens that do not reach a hospital at all! Pyorrhœa Alveolaris, sharp edged teeth crusted with tartar and encrustations of pansupari and in the case of the women of certain communities who consider blackened teeth a thing of beauty, the absence, of any attempts at cleansing are all contributory factors in this country. Tobacco chewing and the eating of highly spiced foods may help in the result. It can be said without hesitation that particularly in certain districts more than others, Leucoplakia of the mucous membrane is as common a precursor of cancer in the mouth as in any other country. Syphilis which is now receiving wide attention may be a factor in a small percentage of cases, but I do not think that it is responsible in more than a small percentage. Curiously enough cancer of the lip is a rare disease in these parts. There were only five cases during the last two years—4 of them were inoperable at the time of admission and one only was fit for operation. 8 cases of the tongue were admitted, of which 4 were inoperable. Of the remaining four, two refused to stay in hospital and

in two, extraction of the teeth and destruction of the growth with Diathermy afforded partial temporary relief. 12 cases of cancer of the jaws, lower and upper, reported for treatment. 6 were inoperable, 3 refused treatment; in two, partial relief was given with Diathermy and one died. You will notice that in these statistics, the number of cases that die is very small, and this is on account of the fact that nowadays heroic attempts are not made for the relief of cancers which in the old days would have been operated upon. At least as far as Cancer in the mouth region is concerned, a marked reaction has set in against extensive operations. Anyone who has attempted to eradicate even apparently operable growths would have realised the great risk of mortality from septic lung complications immediately following the operation, and if these are escaped, the unsightly openings in the cheek discharging mucus and requiring dressings for week after week and while the opening is about to close the reappearance of the growth in the scar of the wound. The lesson therefore from such experiences is that, it is better not to attempt extensive operations in advanced cases of the type one sees in Madras, and that it is not in man's power to afford such cases more than temporary relief. Two cases of cancer of the tonsil were admitted, but as is well known in this particular variety radical operation is futile. One remarkable clinical fact about carcinoma of the tonsil and of the pharynx is the extremely poor condition of the cardiac muscle in these cases. Two cases of death from syncope occurred in cases of this type. They occurred during anæsthesia, Chloroform being the drug employed. Attempts at revival by intra-cardiac Adrenaline injection as well as cardiac massage were unsuccessful and I am mentioning this point so that it

may be a warning to those who have to operate on debilitated subjects of mouth and throat cancers and in order to point out that sudden death under the anæsthetic is a thing which might happen in these cases without warning even in apparently good surgical risks.

It is not possible in a short lecture like this to include a discussion of all varieties of cancer in every part of the body, but I must not omit to mention 4 cases of cancer in the larynx which were subjected to operation by total Laryngectomy. One died in a few days from violent sepsis in the neck, and foetid pneumonia, the other three survived. Two out of the three survivors reported with a recurrence within 6 months; the last, done about 12 months ago, has not been heard of. The interesting point in all the 3 survivors was that the recurrence when it occurred was around the tracheotomy tube at the root of the neck. This is remarkable, for, in all the cases above reported, a metastatic lymph gland was cut into when making the customary T-shaped incision in front of the larynx. The gland is situated in the middle line of the neck in front of the lower part of the Thyroid Cartilage. I feel therefore convinced that a greater length of the trachea than is usually done should be removed with the larynx although thereby one runs the risk of a retraction of the divided stump into the thorax. This may perhaps be remedied by devising a longer tracheotomy tube than is generally supplied.

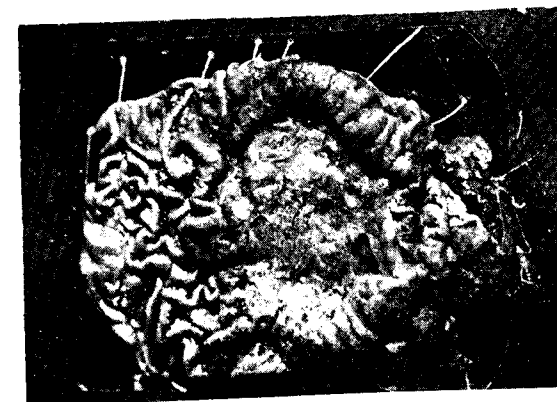
I wish now to say a few words regarding the characteristics of carcinoma of the stomach. 9 cases of carcinoma of the stomach have been admitted into my wards in 1925 & 1926. The youngest patient was 25 years, the oldest 60 years. The average duration of symptoms was 8 months. All were operated upon with one death. Two were discharged otherwise, that is to say, they were really in-



Carcinoma of the Tongue.



Colloid Carcinoma of the Mesentery secondary to small Intestine.

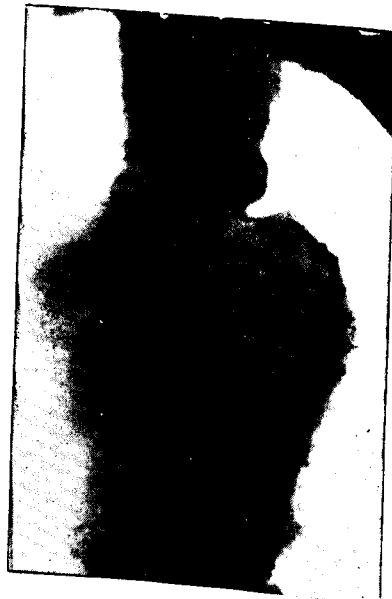


Carcinoma of the Pylorus.

operable, and this fact becoming apparent on Laparotomy, nothing further was done. Of the remaining six all were subjected to partial Gastrectomy with recovery. Of most of these, nothing further is known. But of one case in particular who was the youngest in the group, my notes state, that the first operation was easy, that there were no adhesions or enlarged glands but he reported with a recurrence within 3 months of discharge. Nodules could be felt, throughout the upper abdomen, it was a case of extensive metastasis in the peritoneum. One finds when examining the list of cancers of the stomach that the old idea that it is a disease of man has to be revised. Three out of the nine occurred in women. It is admitted that 9 is a small number on which to base conclusions, but I have included only the figures of the last 2 years and probably the number would be more than doubled if the last five years are taken into account. From a study of these facts, one is able to state that cancer of the stomach is far from uncommon in Madras and that the prognosis even after extensive resection is as bad as cancer elsewhere. I am unable to subscribe to the view that cancer arises at the site of a pre-existing ulcer. Although the possibility of this is not denied, it has been impossible to say this in my cases for, by the time they were diagnosed on the table the growths were so extensive that the scarring of an ulcer if present could not be recognised. Coming lower down the alimentary canal one sees very few cancers of the large intestine. I have had, during the last 5 years, only one case each of the ascending colon, of the hepatic flexure of the transverse colon and of the sigmoid. (4 in all) cancers of the rectum and anal canal have been more frequent. Considering that in a country like ours parasitic and inflammatory diseases of the colon are quite

common, and constipation is far from uncommon, one is surprised at the small number of cases of malignant new growths in the large intestine. The liver is coming into greater prominence every year as a seat of primary malignant disease. These cases occur in comparatively young men, run a rapid course, and are fairly easily diagnosed on account of the peculiarly hard, woody feeling of the lower edge. There had been no history of previous syphilis, or of dysentery. They generally die a slow death of exhaustion; but the great tendency of these livers to bleed should be constantly remembered; for, I remember the case of a woman who was admitted in the General Hospital some time back with a hard, enlarged liver which was explored with a needle for diagnostic purposes. The patient died rapidly and the post mortem revealed hæmorrhage from a malignant liver. I had recently under my care a young man with a hard enlarged liver who died suddenly one night. The post mortem disclosed extensive primary malignant disease of the liver of which an enlarged blood vessel had given way and caused his death by a large extra peritoneal hæmorrhage.

Cancers of the gall bladder, just the same as other lesions of the gall bladder appear to be rarities in Madras and so is cancer of the pancreas and kidneys. Cancers of the bladder have been occasionally met with. They are not common and I have had but two cases during a course of nearly 5 years. In one the condition was inoperable and in another after a diagnosis by the Cystoscope, a growth about  $1\frac{1}{2}$ " in diameter was removed from the fundus along with the bladder wall. Healing was satisfactory, but recurrence occurred after 8 months and at a second operation the growth with nearly  $\frac{3}{4}$  of the entire bladder including the



Skiagram of a Stomach showing Carcinoma of the lesser curvature.



Carcinoma of the Penis with secondary involvement of the glands in the groin.

opening & a part of the right ureter was resected. The patient recovered from the operation but at the time of discharge about 6 weeks later, a fresh recurrence had taken place in the stump of the bladder. Cancers of the Prostate are comparatively rare and I have had only two cases out of a total of 15 (fifteen) enlarged Prostates removed during the last two years. This works out to about 12%, which is the normal figure for malignancy in Prostatic hypertrophy. Cancers of the Penis are quite common in these parts. It may be predisposed to in Hindus by a want of circumcision and I must admit that I have not seen a cancer of the Penis in a Muhammadan. Very few of these cases report early enough for a radical operation and most of them on admission show enlarged glands in the groin. It is well known that in cancers of the Penis recurrence occurs in these glands and when cases report with already enlarged glands they are generally inoperable. I am afraid that in this Province at any rate and as matters stand at present such a step as partial amputation of the Penis without removal of the inguinal glands should not be thought of. For, the rule is for cases to come when not only the complete eradication of the Penis but the clearing out of both groins whether the glands appear to be enlarged or not, would be inadequate as an ideal treatment. Recurrence is more or less the rule. It occurs in the groin within a few months of the operation, and a large percentage of them have violent sepsis in their Scrotal wounds necessitating a prolonged stay in Hospital. I may have been particularly unlucky in the cases that have come to me, but unless we could get these cases much earlier than at present I do not see how the generality of surgeons, even the lucky ones, could show very much better results.

Coming now to cancers affecting the Female breast,

we are slowly realising the fact that our women are no more exempt from this disease than elsewhere. Women in this country are accustomed to greater seclusion than in the west with the result that greater concealment of their ailments particularly of their breasts and generative organs is practised. Not only from this fact but also from their widespread ignorance of the nature of cancer, many are the cases of this condition which come to us in a most hopeless condition. Removal of the breast by the modern method of block dissection is a serious undertaking and when you remember the low vitality of the women of our working classes, a vitality which has been further reduced by prolonged pain and suffering, it is no surprise that these women are unable to stand the shock of an extensive surgical operation. An ideal operation on Handley's lines for an early Carcinoma of the breast is almost unknown at least in our Hospital and although on the average we get only about five cases to operate upon every year, there is generally not more than 2 on whom a block dissection is possible. We have therefore to content ourselves with palliative measures like partial removal, diathermy, and X-rays in various combinations in the majority of our cases.

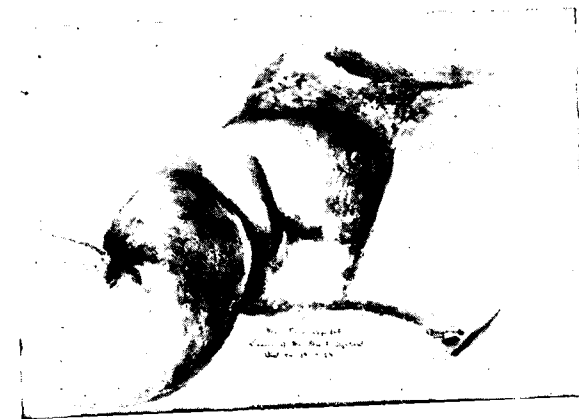
*Years 1925 & 1926.*

CARCINOMA OF THE CERVIX AND BODY OF THE UTERUS:—

| Year | Total Admitted | Operable | Inoperable | Operated | Deaths | Cured |
|------|----------------|----------|------------|----------|--------|-------|
| 1925 | 62             | 21       | 41         | 14       | 4      | 10    |
| 1926 | 72             | 30       | 42         | 16       | 4      | 12    |

Remarks:—

In some of the inoperable cases, symptoms were relieved by amputation of Cervix, cauterisation of foul ulcers, etc,



Carcinoma of the Breast with Lymphatic Oedema of the arm secondary to carcinoma of the opposite breast removed by operation 12 months ago.



Rapidly growing, Medullary cancer of the breast showing nodules in the skin and enlarged glands in the Axilla.



Ulcerating Carcinoma of the Breast.

A vast majority of these are Cervical Carcinomata, which appear to affect young married women with almost equal frequency as elderly women. Cancer of the body is found in women above 40.

Carcinoma of the Breast :—

1925—Only two cases were admitted: both were operated upon, 1 died and the other was cured.

1926—6 cases were admitted, of which 1 was inoperable, 1 refused operation though operable, and 4 were operated upon and cured.

The above figures relate to the admission under cancer into the Govt. Hospital for women and children and were supplied by the courtesy of my friend Dr. Lakshmanaswamy Mudaliar. I should now like to touch upon a few ideas which are generally held regarding the nature of cancer. It has been handed down to us that cancer is a painful disease. The common experience on the other hand, is that in its early stages it is not a painful disease, otherwise so many cases of cancer in the tongue, cheeks, stomach, breast and uterus would not be allowed to grow so big until they became impossible to cure. It is true that by virtue of its infiltrating nature it invades adjoining tissues and nerves, but some cancers are so extremely slow-growing that they cause hardly any pain. Secondly, cancer is not a disease of the aged exclusively. Thirdly, cancer is not always a slowly growing tissue. Growths are on record where a large sized tumour has appeared within the short space of a few weeks in the breast and elsewhere so quickly in fact as to simulate an abscess. Acute cancers as well as acute Sarcomata are now recognised to be an entity, so that even the time-honoured ideas regarding a new growth as distinct from an inflammatory lesion cannot be always trusted to lead us to a correct diagnosis. Again

we have learnt that the old idea of a special condition known as Cancerous Cachexia is not altogether correct. By this condition is meant a state of Anæmia and general exhaustion, which, however, is not peculiar to cancer and may be produced by other long continued illnesses and intoxications.

Briefly, then, the position as regards malignant diseases is far from cheerful. But in our long march through the darkness of cancer, there have been just a few bright spots. These are the landmarks of our journey and are easily counted at one's fingers' ends. For many years such theories as Embryonic nests, Tissue Transformation, alterations of tissue tension, habit of growth, excessive reproductive activity etc. held the field and no further advance was possible in the understanding of Cancer until 1889 when Hanau demonstrated the possibility of transplanting a cancer seen in rats into other rats. Transplantation of human cancer to animals was a failure. This was over a generation ago and heralded a new Era of Cancer Research throughout the world. Soon cancers were identified in other animals like the cow, dog, horse, sheep, cat, chicken and mice. The transmissibility of these growths within their species and observation of their characters under experimental conditions was a marked advance on our old ignorance. The next stage was reached when two Japanese investigators, Yamagiwa & Ichikawa, showed that cancers can be experimentally produced *de novo* in rats by long-continued application of Tar or its extracts.

The next stage was an attempt to grow tumour tissues, particularly malignant tissues, in the test tube. This experiment has been successful but beyond being a feat in Laboratory technique it has not led to any concrete advance either in the Pathology or Treatment of the

disease. All attempts to immunise animals against malignant growths peculiar to their species by injecting them with extracts of their malignant tissues have so far failed. The latest achievement or, shall we say, breaking away from the beaten track, has been Gye's contribution in support of the Parasitic origin of the disease. While investigating a sample of Rous's chicken (Spindle-cell) Sarcoma, he discovered that two factors were necessary for a successful inoculation experiment. One of this he called "Virus" and the other the "Specific Factor". The latter is something which is formed by the body of the host and without which a cancer cannot grow. The Virus is something which resides in the inoculated material and is assumed to be of the nature of a filter-passing organism. What the real nature of these two factors is, time alone can show; but the discovery, at least as far as chicken sarcoma is concerned, takes us nearer the day of a better understanding of the Pathology of the disease. Great expectations have been raised in the minds of all by this discovery. It is necessary for us, however, to remember that discovery of even the organism of a disease and an understanding of its true Pathology do not necessarily mean the finding of a cure for the disease. We know the nature of Cholera, Tuberculosis, Typhoid and Leprosy but we are far from being in possession of a certain cure for any of them.

It has been the practice in all modern Hospitals to try and follow up cases of cancer operated upon for varying periods after discharge. Different standards of cure have been heard of—3 year cures, 5 year cures, 7 year cures and so on. It meant that the cases could be traced for the periods used as a standard; but when it is remembered that even in such advanced countries with widespread general education and rapid postal communications, a

good percentage of the cases leaving hospitals are lost sight of permanently, it is no surprise that in a country like ours with an immense amount of illiteracy and ignorance and where in most parts of the country, the post-peon visits a village probably not more than once a week, that we are unable to get into touch with our patients except in a very small percentage of cases after discharge. When it is also remembered that, at least as regards cancer, diagnosis is generally made when it is too late for treatment, a follow-up system would probably not be of much use to anybody excepting to show that our cases died soon after leaving us.

The days of cancer cures are not over. Every year we hear of a number of new cures which are forgotten before the dawn of the next year. So much so that most people have lost faith in such cures. It is within the knowledge of all that most fantastic cures have been attempted and I do not think for sheer humour anything could beat the Papaya cure. A cancer was injected into the trunk of a Papaya tree. Its fruits, when ripe, were opened and the seeds extracted with alcohol the extract being injected into the patient. These experiments have been made by honest men even in Madras and in a few cases marked improvement was reported !!! But generally, all such cures have finally disappointed us. Apart from these disappointments let us hope and pray that the latest attempt at the discovery of a cure by Blair Bell may prove successful. A Colloidal solution of a compound of lead has been tried by him for a number of cases and reported on as genuinely promising. Perhaps the dawn of a new Era in Cancer treatment is close at hand; but, one hopes that lead may not share the same fate as copper and Selenium both of which had their day in the treatment of cancer. Bell's lead solution is not yet

available in the market for the use of all and is now only available by private arrangement to a few who are able to give it a trial under experimental conditions in a hospital. Let us hope that that this preliminary stage of cautious advance will soon be over and that like Insulin, it will prove a boon to suffering humanity and be available for use by all practitioners of medicine within a short time.

But the entire problem will not be solved until we have, at our disposal, a method of diagnosis which will detect cancer in the earliest stages, particularly in situations like the stomach and intestines, a method by which early diagnosis may be made and efficient treatment instituted before the condition has advanced too far. At present, the eye and the finger assisted by the Microscope diagnose cancers in exposed regions and in hidden situations the patients' history, assisted in rare cases by the X-rays, is the only guide. We all know how unreliable is the history in most of these cases and frequently from the absence of pain, resort to the Doctor is not considered until it is too late. Therefore, there is great need for a method of diagnosing Carcinoma in hidden situations, the Thorax and Abdomen. In both these situations, it will not generally be easy without operation to obtain samples for Microscopic examination. We have then to develop other methods, such as, X-rays, Serological tests or Biochemistry. Perhaps beforelong, a method by which after the administration of a chemical by mouth or by injection, a chemical which has a selective affinity for cancer cells alone, it may be possible to obtain shadows of cancerous growths which, now to the ordinary X-rays, are transparent. Perhaps an X-ray tube might be devised on the principles which our distinguished countryman, Professor Raman of Calcutta, described to us at a meeting

in this hall quite recently, a tube which will be able to pick out on a photographic film a cancerous tissue as distinguished from normal tissues. It may be again, that some agglutination, precipitation or other test might be devised for cancers such as is now available for most infective diseases, Syphilis, Gonorrhœa and Tuberculosis and it may also be, that, in the future when the Chemistry of the body is better understood than at the present day, chemical analysis may discover features in our blood, urine or elsewhere, characteristic of such a pathological condition as malignant disease. These are problems for the future and may not perhaps be solved for many years. What an array of possibilities and what an amount of work still to be got through requiring the energy of thousands of workers before we reach the goal of our efforts!

Before I conclude, I cannot help expressing a sense of shame at the utterly miserable contribution we are making to the progress of Science in the world. If there is one department of activity in which we may advance without restraint from any one; if there is one avenue along which we may proceed without let or hindrance, it is the avenue of Scientific Research. In this we require no invitation from others, acts of Parliament need not be passed to give us sanction, only effort and money should be forthcoming. I wonder when we shall see a thriving, active Research Institute in our midst like the ones in Tokyo, Colombo or Calcutta, where they would investigate not merely one single disease, but the many diseases which afflict our Province, an institute in which scores of our brilliant young men will be found day after day investigating some problem of medical science, all being maintained in comfort and happiness by subsidies from the State and not be obliged to crowd round the en-

trances of Government offices seeking employment which allows them no more than a miserable pittance and leaving them no leisure for study or intellectual advancement. Shall we not therefore work for the inauguration at an early date of a scheme for sending out our best men to foreign countries, Europe, America & Japan, not for passing examinations qualifying for specific appointments (this is also necessary, in the present state of our country's progress) but to study special methods of research—employed in different countries by masters in such subjects as Bio-Chemistry Biophysics, Bacteriology Radiology and simultaneously for founding a national Research Institute, wherein these men on return would be able to work out some problem or other of disease in close association with the clinicians of whom we have already a large number? Until this day comes, Medical Science cannot advance, for the days when surgery could advance by the discovery of some new heroic operation or medicine by the discovery of a hitherto unknown sign or symptom are over. Surgery can advance only by being supplied with newer anæsthetics, newer drugs and newer and safer methods of diagnosis and treatment. Medicine can advance similarly by being supplied with newer methods of diagnosis or new drugs of greater potency than we have at present. All this requires laboratory research Chemical, Bacteriological or Electrical and it is thus I plead for greater activity on our part in laboratory Research in order that we may take our rightful place in the assembly of nations.

of vanadium pentoxide solution as studied by H. Freundlich. It is thus apparent how a purely physical problem may help the solution of problems in other branches of science. As a matter of fact there may be a more direct application. I shall try to trace briefly a few of the applications of Physical principles to medicine. Such an attempt is obviously difficult, but nevertheless useful if it at least serves the purpose of making medical men realise and appreciate a need for the study of Physics.

The human body is as much a Physical as it is a physiological machine. The eye, ear and the throat are so beautiful, though complicated mechanisms that they excite admiration of every student of physics when he sees the counter part of his laboratory apparatus in nature. Prescription of lenses was made possible by the development of Geometrical optics. Thus it was that Helmholtz could invent his ophthalmometer, because he was a physicist with medical training. In the beginning it was he that invented many instruments for medical men. It is really a matter of surprise that prescription of glasses to eyes is still in the hands of medical men instead of in the hands of physicists. In the field of accoustics, we have the ear trumpet which is really a sound collector. The stethoscope, which is indispensable to a medical man is only a special application of the propagation of sound through pipes. Recent attempts to use the bony system of man as a sounding board for reception of sounds in the case of the deaf finds its counterpart in the use of sounding instrument boards in musical instruments. The thermometer, which is equally indispensable to medical men is a purely physical instrument.

Medical men are not slow in trying to make use of all recent developments in Physics. Recent applications of physics to medicine are the use of ultra violet rays, X rays,

and radiations from radio active substances. Ultra violet rays for purposes of sterilisation are used very extensively and especially for sterilisation of water. The advantages in this are self evident when compared with other chemical methods. The water itself is not changed. The substances in solution which give to water as a beverage its pleasing qualities are retained and the cost is not prohibitive. Recently, however, this method is not able to compete with other cheaper processes, hence its use as a sterilising agent appears to decline. But on the other hand therapeutic applications of ultra-violet rays seem to be on the increase. Though in the beginning it was treated with indifference, its usefulness is realised more and more and the list of diseases for which it is recommended reads like an official nomenclature of all the diseases. The work, however, has just begun. Most of the facts are only empirical; but with coordinated efforts and under standard conditions more substantial work can be done.

Perhaps the most important contribution of modern physics to Medicine is X-rays, which is now found to be so indispensable that no hospital equipment is complete without an X-ray installation. X-ray photography has enormously developed modern surgery. It has other important applications in the diagnosis of tuberculosis. All these developments have become possible by corresponding improvement of technique in the production of X-rays and X-ray photography in the Physical Laboratory. There are still many facts known about diffraction of X-rays by solids and liquids which have not found an application in medicine yet; diffraction photographs of X-rays by liquids and colloids have got certain characteristics peculiar to the liquid or the suspended Sol so that a comparative study of these effects may be of great value.

## Physics in Medicine

BY J. C. KAMESVARA RAU, D. Sc.

IN the early days of development of Sciences, when Physics and Chemistry had no separate existence, but only played a subsidiary part, Medicine in addition to Astronomy was the only science which claimed the position of a practical science. The development of medicine led also to the development of the physical sciences and their processes as well. Chemistry was the first to separate as a separate science and later on Physics followed suit. The importance of these subjects was felt only during the latter part of the 18th century and during the whole of the 19th century, when they began to redeem their debt back to the parent science. Indeed with progress of time, it is no wonder that one sees the debt not only redeemed but made medicine the debtor. The different branches of sciences were progressing at this time so rapidly that each began to extend its boundaries into the realms of the others. Indeed towards the end of nineteenth and beginning of twentieth century, all boundaries between the various sciences began to be effaced and at present an advanced worker in one field cannot afford to be ignorant of what is going on in other fields of science. Progress in one science is reacting on other sciences and this action and reaction conduce to the development of all. A discovery in Physics which is the outcome of a purely physical problem finds an application immediately in other branches of science, which is so far-reaching in its consequences. If one turns to the vast literature that is growing in the field of colloids, one is struck by the fact how the developments in one science find their

application in other sciences and how a comparative study of these problems leads to the solutions of many problems, which appear to be so very different but in reality are only different applications of one principle. Thus we see the action of coherers and crystal detectors in wireless telegraphy, production of high vacua by charcoal presence of a layer of gas round a cylinder when it is heated, cutting down the over-voltage by electrical waves and the apparently impossible phenomenon of passing suspended phosphorous pentoxide through several wash bottles containing water, in spite of its highly hygroscopic nature and purification of water by alum, a process now patented and largely used, are all but different aspects of adsorption. It is the same principle that is utilised by medical men when they administer medicine in the form of colloids, so that they present a larger specific surface and gather round these electrical colloidal particles the bacilli and then eliminate them. Thus the use of Silver iodide in colloidal form is claimed to be more effective by Dr. S. Rajagopal in the treatment of Gonorrhea. It is being realised that the importance of the study of colloids is as great to the biologist, geologist, and the medical man as it is to a chemist or physicist. The problem of the scattering of light by colloidal particles finds an application in such divergent phenomena as the colours of the setting sun, the blue of the eyes of a young child, the blue of the sky, and the sea and the colours of certain bird's feathers and the grey hairs of an old man. The solution of the problem can perhaps be applied to detect the presence of bacteria in water if one previously studies the amount of polarised light in the light scattered by the bacteria. For example, if they are spherical the light scattered will be completely polarised or if they are cylindrical we can expect electric and magnetic double refraction as in the case

In addition to these there are less sensational, though equally useful applications of discoveries in Physics to medicine. The time has come for a better co-ordination between workers in various fields of science. This accounts for the conferences and congresses of Science men who meet periodically to discuss the common problem and exchange views on these subjects. The relation is perfectly mutual. If a study of physics is necessary to medical men, it is equally necessary for the physicist to acquaint himself with the progress of the healing science, as it may offer him many problems for solution in his laboratory.

Pachaiyappa's College,  
MADRAS.

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## Pituitrin, Quinine and Ergot in Obstetrics

BY DR. A. P. KURIAPPAN M. B. B. S.

*Asst. Professor of Midwifery, Gifford School of Midwifery*

Pituitrin if used during pregnancy is used mainly with the object of inducing abortion, miscarriage, or labour. If used alone in half c. c. doses every  $\frac{1}{2}$  hour giving 10 injections it is said to be fairly effective. But the more healthy the Uterus and foetus are, the more uncertain it is in its effect. In combination with castor oil, enemas, and quinine, Watson has found it very effective. He starts using pituitrin only if labour has not started for 12 to 15 hours of the commencement, of the treatment. Willams endorses Watson's view. To my mind if medicinal and operative means are combined, you are more certain of success. The surgical interference consists in using hot douches, tents, tampons etc. in the early months before pituitrin is used, and balloons and bougies for later months of pregnancy. Before introduction of balloons, such as Bonney's preliminary dilatation with metal dilators is required. From the foregoing statement I wish it to be understood that I do not give a very important place for pituitrin during pregnancy. Pituitrin acts better on a uterus which has begun the process of abortion or labour. Ergot is dangerous in pregnancy and Quinine is least effective though less dangerous. The infants born after the use of Pituitrin are likely to be in a more debilitating condition than infants born after surgical methods of induction of labour.

Pituitrin if injected during labour in its usual  $\frac{1}{2}$ —1 c.c. dose causes very strong contractions of the uterus,

each contraction lasting longer than the first stage pains of labour, its strength and duration being more like, or stronger than those of the second stage pains. If used therefore during the first stage of labour it is likely to cut off the blood supply of the baby to an abnormal extent in normal cases. But in abnormal cases when the pains are feeble and we want to increase the same, very small doses of  $\frac{1}{4}$  c.c. and not less, at a time cautiously used might just help to bring about the desired effect. Larger doses are likely to force the cervix open and tear the cervix or rupture the uterus when the os is only partially dilated or spasmodically contracted. In this connection it is worth remembering the polarity of the uterus which dilates the cervix and causes canalisation of the lower uterine segment, and cervical canal when fundal and longitudinal fibres contract and expel the foetus. Does pituitrin in any way act against his natural polarity? I think Ergot acts against such a polarity, and to my mind pituitrin also to a slight extent. Hence I have another reason for using the small  $\frac{1}{4}$  c.c. of pituitrin with caution in cases where the cervix is not fully dilated.

During the second stage when the uterus is contracting normally the use of pituitrin will unnecessarily augment the contractions and besides contributing to asphyxiate the baby, is likely to force open the passages with unnecessary haste and cause laceration of the soft parts. Its correct indication therefore seems to be in cases where the uterine action is deficient during the second stage. For example many a low forceps operation has been avoided by the use of pituitrin; when the occiput or chin is posterior and uterine contractions are not strong enough to help descent and internal rotation it can be used with care, but not always with success, nor without danger at times. Ergot is not used even under such

favourable conditions because of its *tetanic* non-expulsive and more prolonged contractions. Quinine can be used, and is often used with success in mild degrees of inertia by many a midwife, often combining it with a dose of stimulant mixture. Quinine is less dangerous than pituitrin and its use is more generally permitted than that of pituitrin.

The contra-indications may be regarded as arising from the amount of resistance and opposition the foetus, driven down by the contracting uterus meets with in the passages. It is obvious that a transversely lying child, a hydrocephalic or a double headed monster, etc. should not be forced through a normal passage. Nor should a child of normal size and shape and lie be forced through an abnormally small passage:—a contracted pelvis, a pelvis obstructed by a tumour, an undilatable or cicatrised cervix, a scarred narrowed vaginal canal, a narrowed rigid or undilatable vaginal outlet. The greater the resistance met with and the stronger the uterine contractions, the surer must the ineffectively expended energy of the uterus contribute to the asphyxia of the baby or to the damage of the mother's parts, including rupture of the uterus. So there are various degrees of contra-indications for the use of pituitrin. In cases of a rigid perinium as in an elderly primipara, or a short cord or in some cases of cord round the neck there is often delay in the late second stage of labour. In these cases the resistance offered by the perinium in one and the ineffectiveness of the contractions in the other are better treated by other means than the use of pituitrin. It is noteworthy that the soft parts of any primipara offer greater resistance than those of a multipara with her parts repeatedly stretched. So you expect a too rapid or precipitate labour in the latter. After using pituitrin even in the most clearly

indicated cases one is well advised to watch the foetal heart very carefully, and also to get ready the forceps for use if necessary. The action of pituitrin does not seem to last for more than half an hour and begins from 2 to 5 minutes.

There is another contra-indication for the use of pituitrin arising from the action of the drug in raising blood pressure. Eclampsia is usually associated with high blood pressure. It is claimed that 1 c.c. of pituitrin raises the blood pressure by about 25mm. although I always got far less than that. My cases are few and therefore require confirmation at the hands of our enthusiastic House Surgeons. I should be very glad if they would tell me by more facts and figures as to when pituitrin begins to act in relation to the rise of blood pressure, to what extent it raises it, and how long the rise lasts. A similar investigation, if not already done, may be undertaken with the drug Veratrone, with its opposite effect on the blood pressure. My impression is that it ought to be possible for us, in suitable cases, to combine the use of pituitrin and Veratrone, and thereby get the expelling action of pituitrin to act within the period of the great fall of blood pressure induced by Veratrone. If we can thus drive the head down a little further, or avoid a forceps under chloroform altogether, it is to be welcomed. It may be mentioned that drugs like adrenalin are sometimes thought of in eclampsia for other purposes. In eclampsia the blood pressure does not always remain at a high level.

With regard to the use of pituitrin in the third stage of labour when the placenta has not left the uterus, I see the necessity for caution here also. A strong additional and unnecessary stimulus to a normally contracting uterus is likely to act just like your unnecessary kneading or

attempts at premature expulsion of the placenta causing hour glass contraction, spasm of cervix, premature and incomplete detachment, and possibly post partum hæmorrhage which we wanted to avoid. When the uterus is soft and hæmorrhage is going on pituitrin can be used, measures should at the same time be taken to express the placenta or for its manual removal. If injected after the placenta is expressed you have no fear of any sort. In atonic uterine hæmorrhage its action is invaluable, being quick and strong in action. Drugs of Ergot group, even if injected, do not seem to be so quick, but induce more lasting contractions and are fit to take up the work when pituitrin has spent itself. Ergot we never use before placenta is expressed. Remember Ergot by mouth takes a pretty long time to act. Quinine is too feeble and slow to be thought of here. Moreover quinine is a depressant and antipyretic whereas pituitrin is better for the treatment of the effects of hæmorrhage such as collapse. With regard to the action of pituitrin in traumatic post partem hæmorrhage I should like to make a few observations. Its action is mainly on the uterine muscle fibres which on contraction act as 'living ligatures' to the vessels on the uterine wall. I do not know pituitrin having its constricting action on any selected group of vessels. Pituitrin raises B. P. and therefore if used in hæmorrhages outside the uterus where there is no scope for the application of 'living ligatures' might make the condition worse. Pressure and repair of the trauma is the proper remedy. So you must remember that if the uterus after labour remains hard there is no scope for the use of pituitrin for arresting bleeding. If any body tells me that the injured vessels when constricted by the action of pituitrin will form clots sooner and get blocked earlier, I say we need not act against nature's work by raising B. P. Quinine and

Ergot also seem to be useless, under the same circumstances.

When pituitrin is used during puerperium or in caesarian section or enucleation of fibroids, its action and those of the Ergot group of drugs do not differ materially from each other, except, as has been stated already, in the rapidity of action of the former and the sustained and delayed action of the latter. Hence Ergot cannot replace pituitrin and has to be used with it for the benefit of the patient. Quinine and Ergot mixture is useful where the lochia is inclined to be profuse and involution delayed.

In cases of antepartum hæmorrhage pituitrin is used. We use it even before the os is fully dilated. The excuse is that a bleeding uterus acts feebly and requires something to reinforce its contractions and thus stop bleeding. But if it stops bleeding from the detaching area in placenta prævia it will certainly diminish circulation in the undetached area as well. Here we really subordinate the child's interest to that of the bleeding mother. In order that pituitrin may act unhindered it seems to be necessary to detach as much of the placenta as possible with the examining finger from the uterine wall. Combine its use with other methods open to you for dilating the cervix, such as hot douches, plugging, etc. Let not the contractions induced by pituitrin be in your way of performing a version and delivery later. One can probably recollect cases of placenta prævia in which pituitrin alone was sufficient to effect delivery. Such a happy termination is possible only when the placenta is not much in the way. We do not use Ergot under similar circumstances. It is interesting however to see Galabin recommending or premitting us to use with Morphia cautiously small doses of Ergot 10-15 m in

certain cases of threatened abortion when bleeding is persistent though small. As you know, our hospital does not follow this advice. As there is much in common between the action of pituitrin and Ergot it is but right that there should be an active principle in pituitrin closely related to imidazolethylamin of Ergot.

We have in the foregoing pages considered about the natural contractions of the uterus, the contractions induced by quinine, pituitrin and Ergot. The last two are very powerful and dangerous drugs. Quinine is the weakest and therefore the least dangerous, and so its use is permitted in all stages of labour and puerperium. Quinine and Ergot have found their level in obstetrics. Pituitrin has fallen from the high eminence it was occupying in my House Surgeon days but is destined to survive in cautious hands as a useful drug in the list of medicaments useful in obstetrics.

A. P. Kuriappan

## Tuberculosis and Sanocrysin

BY K. NARAYANAMURTHI

THE treatment of Tuberculosis was formerly directed, to building up strength by drugs, as Hypophosphites Maltine, Cod-liver oil and such other tonics. Then Creosote, Eucalyptus, Guaiacol, Iodine and lately Thiocal had their day. Recently serum therapy was first introduced by Koch as 'tuberculin' made by filtered bacillus cultures which is now known as 'old tuberculin'; then a new tuberculin (T.R.) which consists of finely powdered bacilli washed free of toxins came into vogue; and lastly the introduction of a bacillary emulsion (B.E.)—a suspension of finely powdered bacilli in water and glycerine rendered sterile at 60° C—has come to be generally employed in our hospitals, the first two are now being solely used for diagnostic and clinical purposes. Spahlinger's serum treatment is also disappointing. The dosage of all the tuberculins is a matter of great diversity of opinion, but the usual recommended dose ranges from  $\frac{1}{50000}$  milligramme to  $\frac{1}{2000}$  milligramme of either the T. R. or the B. E. Now the present attention of the medical world is called to Calmette's method of vaccination with attenuated tubercular bacilli.

Calmette showed by figures that 93 out of 100 infants exposed to familial infection, who otherwise would succumb to tuberculosis, might be saved if the vaccine be applied within the first ten-days after the child was born. Gradually the vaccine therapy is engaging the minds of the medicalmen in the continent. Then another drug, Kalazana—the lime food—with its new chemical combination of calcium and sodium lactate, both of which are considered to control

haemoptysis and night-sweats, came into the market Sodium lactate is said to raise the alkalinity of the blood to the degree necessary to secure adequate calcium retention without gastric disturbances and irritation of the kidneys. Now along with the Sanatorium treatment, 'Artificial Pneumo-thorax' came into prominence; the technique of the operation being made so simple and less dangerous that it could be done even by a private practitioner outside a hospital. With this, the much talked of drug 'Sano-crysin' as the only remedy for tuberculosis, with greater therapeutic advantages had come to the fore-front. This method of treatment aroused considerable interest all over the world, with a voluminous publication of literature for and against the therapeutic effects of the drug.

This drug is an In-organic compound—Sodium aurithio-Sulphate—originated by professor Moellgaard of Copenhagen. He did experiments for some years with bovine tubercle bacilli, and according to him, Sanocrysin is said to inhibit the growth of tubercle bacilli in vitro in solutions as weak as 1 in 1,000,000. He noticed Sano-crysin injected .02 to .03 gm per k.g. of body weight at intervals from 4-10 days in animals suffering from tuberculosis—which if untreated would have proved fatal—control of the disease had been brought within a few weeks of treatment. These animals after a few months were killed, and they showed no evidence of tuberculosis. In men he treated with Sanocrysin absolute quiescence of the disease was observed. Sanocrysin is considered to act as a direct bactericide, and that the bacilli are killed in such large numbers that the body is flooded with tubercle toxins, and the patient experiences a 'tubercle-shock'. This symptom is combated in a remarkable way by Moellgaard by an intravenous injection of antitoxic serum.

Great many difficulties lie in selecting cases for treatment with this drug.

The best results are got in fresh or moderately advanced cases of exudative type, as tuberculous pleurisy. Tuberculosis of glands, bone, skin, intestine, kidney and meninges, seem to derive little benefit by the use of Sanocrysin, but this requires some more clinical evidence before it is rejected. But it is certain that Sanocrysin treatment is no good and positively harmful in advanced cases of pulmonary tuberculosis where high temperature and marked cachexia, organic disease of the kidney and heart are present. Any how the amount of lesion in the body is no contra-indication if there is no hyper-pyrexia, and organic disease of the heart and kidney. Some physicians believe that Sanocrysin does immense good in fibroid phthisis involving extensive areas in both lungs with no temperature and that it might be administered in haemoptysis to prevent bacilli disseminating through out the body.

This drug is sold in glass ampules containing .1, .25; .5 and .0 1 gm. The dosage according to Clarke is .1 gm to begin with. This should be increased slowly and steadily until the full dose 1 gm for man and .75 gm for a woman is reached. A single course consists of a maximum of 7 gm of Sanocrysin. If there is any severe reaction the drug is stopped until all signs of reaction subside before another injection is given. In most cases it does provoke a severe reaction if they happen to be severely toxæmic; but if it does not provoke it is always a danger signal. After a short interval a second course of injections with a rapidly increasing dosage can be started.

Faber suggests in a-febrile phthisis a dose of .5 gm for the 1st injection, .1 gm for the 2nd dose, 2 or 3 days later if no reaction occurs again 1 gm about once a week. In

febrile cases where kidney and heart are efficient he recommends .25 gm to start with and gradually increasing to the full dosage of 1 gm. In most cases one or two injections cause a rise of temperature within a few days. Continuing for 1 or 2 weeks the temperature steadily tends to fall down and at each subsequent injection the fall of temperature to normal is much quicker and more rapid. He is of opinion that Sanocrysin has a curative action on tuberculosis of the lungs in all early cases of less than a year's duration and that it is of an un-certain action on Surgical tuberculosis. He believes that in ordinary cases the treatment lasts over 3—4 months.

All patients should be in bed while under treatment. The reaction manifested after giving the drug are, fatal hyper-pyrexia and 'toxic shock.' Nausea, paleness, sweating, vomiting, rapid small pulse and gradual onset of cynosis are the earliest symptoms to manifest. If any or a group of them be present the drug is stopped temporarily till the reaction passes off and then begin again. Complications produced by the drug are, morbilliform rash over the body which gradually becomes confluent, albuminuria and certain amount of myocarditis. These manifest if the drug is injected in larger doses, too rapidly beyond the tolerance of the patient, or in feeble individuals. Anti-toxic serum has striking results on 'Shock', but ineffective in cases of albuminuria. Lessening of the sputum and disappearance of T. B and falling of temperature to normal are claimed to be the effects of Sanocrysin.

The successful results obtained so far gives us hope that this drug may give a supplementary measure to Sanatorium treatment of the present day. It is found that Sanocrysin acts best in men with good recuperative power and is practically useless in those who show less resistance

to the disease. Sanocrysin has not yet been placed within the reach of all, for it is extremely toxic and could not be handled with safety.

Khrysalgar is another gold preparation introduced by German Physicians, and it is now used in our hospital, with no toxic symptoms as Sanocrysin. It does give good results in some of the early cases. The initial dose is .0015 gm. ranging up to .02 gm. Long before these gold preparations came to the market our Ayurvedic physicians were and are using some compound of gold, administered by mouth for the treatment of tuberculosis and leprosy. These people claim to have best results (without any toxic symptoms which the other drugs have), even in worst cases of advanced pthisis with profuse hæmoptysis. It is yet to find what the compound of gold our Vaidyans are using and whether it is less toxic and easily administered than the thiosulphate—just as Brahmachari's ureastibimine has a greater therapeutic value than tartarate of antimony.

## The Eye in Systemic Disease

BY M. C. CONDILLAC

*Final year*

The frequency of eye symptoms in systemic diseases and the ease with which they can be detected, have placed in the hands of the present day clinician, as easy and accurate a means of diagnosis as the microscopic picture or the X-ray photograph.

This frequency and the easy diagnosis is accounted for by the peculiar anatomy of the eye and its various physiological functions. One of the most delicate organs in the body, the eye is easily affected and readily shows up the smallest upset in its normal functions. The fundus picture of the eye is a picture of part of the central nervous system, the optic nerve being an outgrowth of the brain. The blood supply of the eye is plentiful and consists of a complex anastomosis of looping vessels; hence all bacteria and their toxins, circulating in the blood accumulate in it.

The external situation of the eye socketed in the bony orbital cavity which separates from other organs permits an easy examination which with the aid of an ophthalmoscope gives us a close idea of the affected eye.

It is in the subjective symptoms we have a potent diagnostic factor. Slightest affections of the eye give rise to discomfort, and defects in the visual field which every patient intelligent or otherwise, appreciates from the very start and is not long in seeking relief. Invariably these symptoms come on early in the disease and while their early recognition makes the prognosis more favourable, and their reliability facilitates diagnosis.

While the eyelids, the conjunctiva and the cornea are more often affected in localized than in general disease, the various forms of retinitis and optic neuritis are due to systemic affections, the commoner ones being Syphilis, Tubercle and Leprosy. Among lid symptoms we have blepharitis and styes. Blepharitis where the lid margins are covered with greyish white hard scales, turning yellow and later on, ulcerating, is a symptom found in sickly underfed children. Oft recurring styes point to a rundown constitution but here one must not forget progressive eyestrain.

We are all familiar with the yellow tinted conjunctiva of jaundice and the pale bloodless conjunctiva significant of cachexia and pernicious anaemia.

Opthalmia neonatorum in the majority of cases points to gonococcal infection of the birth canal, the eyelids are swollen angry looking and sealed with a thick purulent discharge. The deeply injected conjunctiva, the ropy purulent discharge, and the pain and oedema of the lids are symptoms of similar infection in the adult either from self or extraneous contamination. Phlyctenular conjunctivitis occurs in scrofulous children and like blepharitis is a symptom of malnutrition.

Corneal affections are symptomatic of many a chronic wasting disease, syphilis being the commonest. The dry triangular grayish white patches of xerosis, with a dull dry appearance occur in syphilis, chronic malaria, diarrhoea dysentery and malnutrition and in Keratomalacia. Dendritiform ulcer is said to be common after an attack of Influenza. The grey dotted cloudy cornea, not infrequently ulcerated, of Interstitial Keratitis is in the majority of cases secondary to syphilis and is a fairly constant sign in congenital syphilis. Keratitis, and lag-ophthalmos

are very frequent in enteric, cholera, cerebrospinal meningitis, septic embolism, rheumatism and diabetes.

In the pupil more than elsewhere we have an easy means of diagnosis, in fact the only eye symptom to which any attention is paid by the general clinician. From the classic pin point pupil of opium poisoning to the widely dilated pupil of sun-stroke we have varying conditions of contraction and dilatation. Contractions of the pupil are due to either depression of the sympathetics or irritation of the oculomotor nerve as in opium poisoning, spinal caries tumours pressing on sympathetics, aneurisms. Myosis is a symptom of meningitis. Dilatation on the other hand is due to stimulation of the sympathetics or paralysis and inhibition of the oculomotor and ciliary nerves. Abdominal disease, tumours along the nerve path, belladonna, various toxins, coma and cerebral irritation cause mydriasis. In cerebral compression we have irregular pupils, the damage being on the same side as the dilatation. Irregularity in the pupils is met with in cerebral tumours and in pressure on the cervical sympathetics by aneurisms and other tumours. In hysterical patients in maniacs we have an alternating dilatation and contraction of the pupil—Hippus. The Argyll Robertson pupil reacting to accommodation and not to light is a symptom of loco-motor-ataxia.

The next symptom is Iritis or rather Iridocyclitis. Here the diagnosis is made more difficult as one has to differentiate it from Glaucoma. The shallow anterior chamber, the ovoid dilated pupil and the increased intraocular tension met with in the latter are absent in Iritis. With the exception of direct injury Iridocyclitis is due to either Syphilis, Rheumatism or Tubercle. It is secondary to such septic foci as apical abscesses, tonsillar in-

fections, gonococcal infection of the genitourinary tract and a septic gall bladder.

The symptoms of general disease are so typically mirrored in the fundus that the value of a carefully conducted ophthalmoscopic examination cannot be overestimated; for once the exact picture is got the diagnosis is a simple matter. The fundus picture shows up changes in the choroid, the retina and the optic nerve. Conditions of the vessels, the clearness of the structures and changes in the disc demand closer attention.

Choroiditis may be simple or discrete. In simple choroiditis we see a congested and cloudy fundus due to excessive exudation. It occurs in affections similar to those causing Iridiocyclusitis. In the discrete variety secondary to syphilis tuberculosis and chronic infections of the choroid shows in addition pale atrophic patches.

In retinal affections we have changes in the veins and arteries and characteristic degenerations in the retinal coats. In mitral disease emphysema and conditions affecting the venous flow we have engorgement and dilatation of the veins which show up larger and more marked.

Stellate flame coloured areas are due to haemorrhage from retinal vessels. These are due to alterations in blood pressure as in shock in extensive injury, burns etc. Vascular changes as in anaemia, ulcerative endocarditis liver, spleen and kidney disease and in chronic wasting diseases as Tuberculosis and malignant malaria we find retinal haemorrhages. Phosphorous and snake poisoning are other common causes. In valvular disease of the heart, endocarditis and nephritis we get a blocking of the central artery of the retina. The pallor round the optic nerve, the crimson spotted macula, the dim outline of vessels is characteristic of embolism of the central artery.

Thrombosis of the central vein is fairly common in

Diabetes, Nephritis, Gout and Rheumatism. The fundus picture shows congested and tortuous vessels, flame coloured haemorrhagic patches, and scattered yellow spots due to retinal degeneration.

Retinitis pigmentosa is commonest in Syphilis. The epithelial pigment shows up in patches, the vessels stand out bright red and the chequered red and yellow areas of degeneration are seen.

Syphilitic retinitis is a less severe form than the above. The fundus shows yellowish spots, surrounded by dark coloured pigment and no haemorrhages.

In albuminuric retinitis the fundus shows pale areas round the disc with an encircling area of congestion and a peculiar red stellate arrangement.

Diabetic retinitis is allied to the albuminuric variety. Here the stellate arrangement is absent, the exudation less marked and minute haemorrhagic areas are scattered throughout. In Leukaemic retinitis the fundus picture shows the vessels dilated and filled with light coloured blood.

The optic disc presents peculiar changes in optic nerve disease.

An ill-defined disc, a red swollen centre, indistinct origin of vessels, congested and enlarged arteries and flame coloured haemorrhagic patches are seen in optic neuritis, Syphilis, Rheumatism, Diabetes, Meningitis, Encephalitis cerebral abscess and focal sepsis are the commoner conditions in which we get optic neuritis. The prognosis is grave.

Increase in the intra-cranial pressure due to abscesses in the brain or tumours gives rise to the condition "Choked disc"—a well defined disc, contracted arteries engorged veins, a swollen bluish nerve and absence of retinitis are special features.

Optic atrophy, either primary or secondary is an advanced condition with an unsatisfactory prognosis. Primary optic atrophy is a symptom of locomotor-ataxia, cerebro spinal meningitis, tumours of the brain and encephalitis. The disc is pale sharply defined, cupped and the vessels are normal.

In secondary optic atrophy the disc is ill-defined and greyish white, the vessels tortuous and engorged. Later the vessels become smaller the disc turns blue and retinal degeneration is marked. This is a symptom in heart disease and anaemia.

Finally we come to the subjective symptoms photophobia, *musca volitantes*, flashes, colour blindness, night blindness and diplopia. Each of these point to some particular eye affection the diagnosis of which will lead to the systemic disease.

## Editorial Comments

According to the new scheme of medical studies, students coming to the General Hospital will find the atmosphere altogether changed. The old complaints of not having the chance of working under Physicians and Surgeons of their own choice can no longer hold good. Each one of the senior students has got every convenience and the system has been so arranged that those who want to learn, have got ample opportunities without any room for complaint.

\* \* \*

We publish here, with permission, a letter from the lady students of our college.

Sir,

Any one who visited the Central Station on the 1st of July would have been struck by the vacant gaze and lethargic movements of some of the passengers. They stood on the platform irrespective of the shouting of 'Taxi ma'am'—'Coach ma'am' and even 'Jutka ma'am'—no answer came from them. They were none other than the lady students of the Medical College.

We all arrived on the same day with full confidence of finding a hostel ready for us, though none of us were sure of it. On the part of some, it was a mere heightened imagination. Then to our utter disappointment, on alighting from the train we heard that we were not destined to have one till September. However some of us who had friends in Madras suddenly thought of renewing our friendship, while others felt it was their duty to call on their relatives first before entering any hostel. The most unfortunate of us who possessed neither friends nor relatives bombarded the Lady Tutor's house. Any how we were given a "Temporary abode" at Chetpet.

It was only last September we approached our Principal with our appeal for a Hostel. Col. Hingston gave a sympathetic hearing to all our grievances and it is mainly due to his effort we owe the existence of our hostel. We take this opportunity of expressing our heart felt thanks to the Honourable Minister for Health, The Surgeon General and the Principal for so kindly helping us.

At present twenty-three of us are staying here. Considering it a temporary hostel it is a bit overcrowded and also those energetic among us are unable to indulge in any out-door games. Next month we are shifting to our new hostel which is to be at Kilpauk, when we hope to be more comfortable, especially so as we hope that students who have their homes in Madras may not be forced to join the hostel. There is one great drawback regarding the hostel, that is its situation. It is so far away from the three principal hospitals—General, Maternity and Ophthalmic that students of fourth and final years will find it a great difficulty in attending those hospitals.

We had our share, and are proud of owning the first medical hostel of its kind; and we hope that the male students also will be blessed with one in the near future enabling them not to live any more on sufferance. A long felt want has been fulfilled.

We congratulate the lady students in getting a nice hostel situated in one of the best quarters of Madras. The hostel is only just begun and a few of the difficulties are inevitable. The situation of the hostel we admit though in a nice locality is far away from the hospitals. The only remedy we can suggest is to have a bus for the hostel just like the one possessed by the students of Lady Willingdon Medical School. As for the overcrowding in the hostel with a limited space we hope the Principal will allow those who have comfortable homes to reside outside. With the honest co-operation of the Principal, the Lady Tutor and the students there ought not to be any difficulty at all regarding accomodation, sports and conveyance. We wish the lady students every success.

\* \* \*

Lady students got what they wanted. What about the male students? Year after year on the annual prize distribution day students from the back benches cry out "What about the Hostel?" Sympathetic and favourable replies were given by the presidents. On one occasion it will be His Excellency the Governor, on another it will be the Minister for Public Health and another third it will be the Surgeon General. The desire has not been fulfilled and we hope the day of establishment of a hostel will not be far away.

\* \* \*

We extend our hearty congratulations to Major General T. H. Symons C. S. I., O. B. E., K. H. S., I. M. S.—the late Patron of our Madras Medical College Magazine—on his appointment as the President of the 7th Session of the Far Eastern Association of Tropical Medicine which is to be held in Calcutta in December, 1927.

\* \* \*

As to students desirous of having a common room for smoking, other than the Library hall, we observe, as said in one of our previous issues—"Smoking and chatting is better done under the green-wood tree and can be done in a most congenial atmosphere." We admit a common room for "Retiring" is necessary and hope the authorities concerned will do the needful. Regarding the tiffin rooms we agree with the students and it would have been better if the sheds had caught fire with the Biochemistry Laboratory. We request the authorities concerned to take the necessary action and if not possible the only practical advice to go with the students is, to hold a variety entertainment and improve the room and furniture by the amount collected.

\* \* \*

Our college has sustained a great loss by the fire causing destruction of the Biochemistry Laboratory and

Hygiene lecture-hall. Our sincere condolences to Dr. Mannadi Nair, Professor of Biochemistry, on the loss of his laboratory which he has been making fully equipped and up-to-date. Probably within a couple of months we hope to see a better and well-equipped Biochemistry Laboratory contributing liberally to the advancement of science mainly in the diagnosis and treatment of diseases.

We offer our congratulations to Major K. G. Pandalai I. M. S. on the appointment of the first Readership in Surgery under the University of Madras, and we expect readerships will be instituted very soon both in Medicine and Midwifery.

Students coming up for October Examination need not be frightened of the necessity of undergoing the tortures of four examiners as depicted in our issue in the caricature. The cat can skip through two of them very easily.

We regret to announce the death of Mr. K. C. Lakshmanan a student of the third year class of typhoid fever, whose photograph has been published in this issue. We offer our heartfelt condolences to the bereaved family.

## Dysentery.\*

BY MR. A. UMAPATHI  
(Final Year Student).

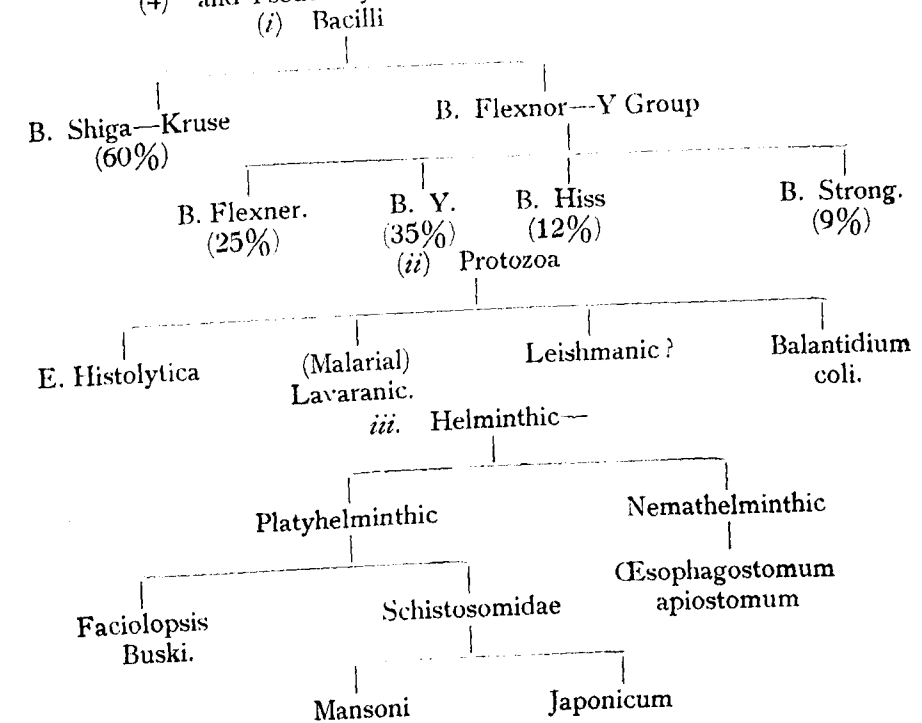
### Definition.

The term dysentery is derived from a Greek word signifying a bowel trouble and was first used by Hippocrates. In England it used to be called the "Bloody Flux". The French called it "Tenesma". At that time it meant to them, only blood in motion. Later on Galen, Celsus and others differentiated the condition by emphasizing that there should be mucus and blood in the motion, not only that but also it must be accompanied by formina and tenesmus. This definition holds even today.

### Etiology.

Dysentery is a symptom complex and not a disease "*per se*". The aetiological factors are many and can be conveniently considered under

- (1) Bacillary.
- (2) Protozoal.
- (3) Helminthic.
- (4) and Pseudo-dysenteries.



\* Paper read under the auspices of M. M. C. A. with Lt. Col. Leslie presiding.

iv. Pseudo-dysenteries.

The most common causes of the pseudo-dysenteries are :

- (1) Cancer of the intestine, especially of Rectum.
- (2) Inflamed Piles.
- (3) Gummata in the Rectum.
- (4) Tuberculous infection of the intestine.
- (5) Irritation of fish-bones, glass etc.
- (6) Intussusception.
- (7) Simple Polypus., etc.
- (8) Ulcerative colitis.

With the above confounding aetiology, it is better to deal with the Pseudo-dysenteries first and then go to the consideration of the most important types of dysentery viz., those caused by *E. Histolytica* and the Bacilli of Shiga-Kruse and the Flexner-Y group of organisms.

Regarding the pseudo-dysenteries a rectal examination will reveal conditions such as cancer, Syphilis of Rectum, inflamed piles etc.

Cancer of the colon and intussusception can be recognised by a carefully taken history, careful abdominal examination together with the discovery of a localized swelling. A Parametritis on the left side may cause diarrhoea and rarely the passage of blood and mucus, but the absence of tenesmus, presence of pain, more at the side of the uterus than in the sigmoid colon, should indicate the necessity of an examination per vaginum or per rectum, when the nature of the case will be cleared up. A careful examination of the faeces should exclude such causes as fish-bones injuring the rectum. Mercurial poisoning can be distinguished by the history, salivation, etc. Regarding the treatment of these conditions, the aetiological factor is the guide, while the bowel symptoms may be relieved as in any other type of dysentery.

Now take the non-amœbic types of protozoal dysenteries. They are, as said before, the Lavanian, the Leishmanic and the Balantidial. Taking the *Lavanian type*—

*Aetiology.* The Subtertian Parasite is the causative agent. The mesenteric vessels are packed with the parasites, petechial hæmorrhages occur into the intestinal mucosa and dark blood is passed per anum. These are very serious cases. Instances have been recorded in which malaria was first suspected from the discovery of the parasite within the R.B.C's in the motion

## Dysentery

*Diagnosis.* The routine examination of the blood in all cases of Tropical Disease will prevent mistakes being made. The temperature almost always associated with the condition, the clinical aspect of the patient, the sweating, the icteric tint of the sclerotics and skin, and the enlarged spleen should suggest Malaria.

*Treatment.*

Intravenous quinine—Quinine Bihydrochloride, X gr, in 10 c.c. of distilled water—Follow this up, with the usual routine treatment for Malaria.

The intestinal symptoms are first treated with castor oil or salines, and then with astringents such as Bismuth subnitras, Tannalbin, Salol.

Then consider *Leishmanic dysentery*—

It was formerly thought that *L. Donovan* bodies could produce true Dysentery; but it has been shown that dysentery occurring in a Kala-Azar patient is either Amœbic or Bacillary in origin and not due to the ulceration of the intestine with *L. Donovan* Bodies.

Last in the protozoal type is the *Balantidial Dysentery*. Cases have been reported all over the world, but especially from Germany and France. Those who tend domestic pigs are exceptionally liable. One can see the parasite exhibiting locomotive as well as rotatory movements in a liquid stool. On microscopic examination the colonic mucosa shows the parasites surrounded by round-celled infiltration.

*Symptoms* produced are, in the present state of our knowledge, indistinguishable from those of amœbic dysentery, its special nature being discoverable only on microscopic examination of the stools.

In 30 cases in which autopsies have been made, a variety of dysenteric lesions, from catarrhal congestion and diphtheritic patches to extensive ulceration were found.

*Treatment.* Walker finds that organic compounds of Ag are the most effective in eradicating the infection. Thymol is recommended. Rectal injections of methylene Blue (large quantities) 1 in 3000, combined with internal administration of the same drug in 2 gr. doses in cachets or pills, may also be tried. Castor oil or salines, and tannic and boric acid intestinal irrigations are effective.

*Flagellate Dysentery.* Only one need be mentioned here i.e.

*Lamblia intestinalis*. Even this is only supposed to produce a diarrhoea and not a true Dysentery.

*Treatment* in these cases rests with the administration of Stovarsol or Yatrin.

*Helminthic dysentery.* The *Bilharzia* produce ulceration of the large intestine by the passage of their ova through the coats of the intestinal wall. Diagnostic points are:—Endemic area, Symptoms of Dysentery, Eosinophilia in Blood, are highly suggestive and the diagnosis is clinched by the ova in the motion. A sigmoidoscopic examination is helpful.

The *ascophagostomum apiostomum* infection occurs in Central Africa. The adult worm encysts under the sub-mucosa and may, together with its ova, be recognised in the dysenteric discharges.

Now the two most important types of dysentery are the amoebic and the bacillary.

Taking amoebic dysentery, we will rapidly run over.

- (1) how the amoebæ produce intestinal ulceration
- (2) the symptoms it causes
- (3) the complications thereof,
- (4) the diagnosis of the condition
- (5) and lastly the treatment.

How does the amoeba produce intestinal ulceration?

The highly resistant encysted amoeba enters the stomach through cyst-laden food or drink, passes into the small intestine, is hatched into the vegetative form. The amoeba being a tissue parasite, is not content with wandering in the lumen of the gut, passes between the cells lining the Lieberkuhn's follicles in the large intestine and then entering the lymphatics, makes its way through the muscularis mucosae into the sub-mucosa, where it lives and feeds upon the tissue-cells, R. B. C's, and the lymphocytes and plasma cells are invited in large numbers; there is a certain amount of exudation of serum into the sub-mucosa with the result that the m. membrane is pushed into the lumen of the gut. Now comes the difference of opinion. Some say that the mucus membrane is stretched by the oedematous infiltration in the sub-mucosa, and eventually bursts forming the amoebic ulcer, while others say that the pressure exerted on the vessels obliterates them and the ulceration is a direct result of the anæmic necrosis and now, some others say it is due to cytolytic action of the enzyme secre-

ted by the amoeba causes ulceration. The first method of production may cause oval ulcers with their long axis in the long axis of the gut where as in the second method the long axis of the ulcer is transverse to the axis of the gut, a fact which can be correlated with the branches of the mesenteric artery supplying annular portions of the gut. The ulceration may affect the whole, or some portion only, of the large intestine, particularly the caecum, the hepatic flexure, sigmoid flexure and the rectum. In severe cases the whole of the intestine is much thickened and riddled with ulcers, with here and there islands of intact mucus membrane. Sometimes massive gangrene of the gut, especially in the neighbourhood of the caecum, may occur leading to fatal peritonitis.

*Symptoms.* At the outset it may well be said that amoebic dysentery is insidious in its onset, chronic in its course, with a tendency to relapses and marked by its latency.

*Incubation* period is long and indefinite, on an average 20—90 days.

*Onset* is generally insidious and the patient may complain more of diarrhoea than of dysenteric symptoms. Too often one has seen perforation, leading to fatal peritonitis occurring in a patient who, judged by clinical data was not considered to be suffering from dysentery at all.

The Symptoms may be classified into 4 types.

- (1) Acute
- (2) Chronic
- (3) Latent
- (4) and Mixed

(i) Acute Type.—

The onset is abrupt with tenesmus. Severe griping pain in the lower abdomen. Motions rarely exceed 30 per day. Tongue is moist and is often coated with a white fur; anorexia, nausea and vomiting may be present; pulse and respirations rapid; There is often some fever of a remittent type.

*Blood Examination.* R. B. C's diminished; sometimes leucocytosis (upwards of 20,000 per c. m. m.) and at times, the number of Eosinophiles is increased, even when there is no concomitant helmenthiasis (Billet).

The temperature falls to normal, pain and tenderness abate.

These may be favourable signs, or may be merely a prelude to a gangrenous complication or a hæmorrhage. If recovery is to take place,

the motions become less frequent and more faecal, and contain less blood and mucus and gradually improve until normal motions are passed.

(ii) *Chronic Type.* May follow an acute attack or begin insidiously. Number of motions may be 10-12 per day. Usually they are passed somewhat more frequently at night than during the day. Chronic dysentery may persist for years and cause the patient slowly to emaciate, and indeed the emaciation may be so grave, that Sir William Osler says, that with the exception of cancer of the oesophagus, and anorexia nervosa, no such extreme emaciation is seen.

(iii) *Latent Type.* Amoebic ulceration of the gut may be seen in a P. M. without any dysentery during the life of the patient. These patients may develop liver abscess at any time.

(iv) *Mixed Type.* Amoeba and Shigha-Kruse Bacillus, -motions numerous from the first. Fever, nausea, vomiting, and great constitutional disturbance. Motions:—very offensive and contain sloughs, indicating a gangrenous condition of the bowel.

The patient may become delirious, gets exhausted early, and may die of uraemic coma or from peritonitis.

#### Course.

The disease may terminate

(1) By rapid fatal exhaustion and gangrenous sloughing of the whole gut or

(2) It may quickly clear up, only to relapse after an interval of weeks, months, or it may be, of years.

More often the patient continues to pass loose semi-formed motions, attacks of diarrhoea alternating with constipation. After any physical exhaustion, chill, alcohol, or dietetic indiscretion, a fresh exacerbation may supervene.

#### Complications and Sequelae.

The most frequent complication of amoebic dysentery is liver abscess.

The ulceration in the bowel may involve the muscular coat and proceed to the peritoneum. As a result of this there is always nature's defensive mechanism by which the gut-wall is locally thickened. Adhesions may form between the coils of the intestine, between the gut and spleen or liver or abdominal or pelvic wall. If nature has not been enough forewarned perforative peritonitis results. Another thing may happen. The ulcer

### Dysentery

heals up by granulation tissue formation, appearing at the seat of activity of spindle shaped cells which later on become fibrous tissue; the fibrous tissue contracts and cicatrises and what is the result? Especially if the ulcer happened to be large or annular, stenosis of the gut results leading to chronic intestinal obstruction. With the stenosis goes sacculation of the gut, distension and intractable intestinal stasis.

Rarely, during the process of ulceration a large blood vessel in the intestinal wall may be invaded into and fatal hæmorrhage may result.

While talking of liver abscess, it must be mentioned that abscesses elsewhere may also result e.g., abscess in the spleen, abscess in the lung, cerebral abscess, abscess in the testis and epididymis etc.

Sprue is often said to be a sequela of dysentery but this is doubtful.

Death may occur either due to:—

- (1) Exhaustion
- (2) Perforation
- (3) Intestinal hæmorrhage
- (4) Liver abscess.

*Diagnosis.* It must be diagnosed from all the other conditions producing dysentery, particularly from the Bacillary form. The following points are worth remembering.

|                                           | Amoebic.                                                                    | Bacillary.                                                                                                                |
|-------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1. Onset                                  | Insidious                                                                   | Sudden                                                                                                                    |
| 2. Toxæmia                                | Slight                                                                      | Marked                                                                                                                    |
| 3. Fever                                  | Rare, unless complicated.                                                   | Common                                                                                                                    |
| 4. Course                                 | Long                                                                        | Short and Sharp.                                                                                                          |
| 5. Tenesmus                               | Not much usually                                                            | Very severe                                                                                                               |
| 6. Signs.                                 | Local tenderness and thickening, mostly over sigmoid flexure, and cæcum.    | General tenderness over the whole abdomen more marked over sigmoid flexure.                                               |
|                                           | —ve                                                                         | +ve                                                                                                                       |
| 7. Agglutination test.                    |                                                                             |                                                                                                                           |
| 8. Appearance of mucus membrane of rectum | Small deep ulcers with no inflection round about Scraping is +ve for amœbæ. | Granulation tissue so that mucus membrane looks like the cortex of a granular kidney after the capsule has been stripped. |

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- (6) Mental depression
- (7) Neuritis which may affect a particular group of muscles
- (8) Fine branny desquamation of the skin.
- (9) Atrophic condition of the nails.

The injections of Emetine alone do not suffice for the thorough eradication of the infection. The cysts have yet to be killed. For this purpose a number of drugs are recommended each having its advantages and disadvantages. These are in seriatim,

i. *Bismuth Emetine Iodide* (26% of Emetine).

The Emetine is set free by contact with intestinal juices. 1. gr. of the drug in gelatin capsules, jam or syrup or with a cup of hot tea, three times a day for 12 days. Vomiting and diarrhoea are to be expected in the earlier part of the course and are indications of the drug being absorbed. The drug is nasty on account of—

- (1) Vomiting
- (2) Diarrhoea
- (3) Severe griping
- (4) Depression of the heart.

ii. Next comes the *Emetine per-iodide*, less toxic than its predecessor. 1 tablet of ox gall 5 gr. and 2 gr. of E. P. I. in a capsule

t. d. s.

iii. There is an arsenical preparation by the French called *Stovarsol*. This is quite good.

4 gr. twice a day is often effectual. This drug is given intermittently for a few weeks. If the patient still continues to pass cysts *Pilula Ipecac* 5-10 gr. by night may be taken.

iv. *Alcrest* is another useful drug administered 4 gr. t. d. s.

v. *Yatren No 105* is Iodine-oxyQuinoline-Sulphonic acid. By mouth 4 gr. t. d. s. for 10 days. Stop the drug for a week. Use it again for another 10 days.

It can be used subcutaneously, intravenously or as an enema. When used as an enema; 200 c-c of a 2.5% solution of Yatren are introduced through a stout rectal tube and should be retained for some hours. This is done for 14 days and repeated 3 times with a week's interval between each course. Strict dieting and rest are absolutely necessary.

## Dysentery

Yatren also acts as an aperient to begin with, so that the number of motions may be increased temporarily but this should not scare us.

Other drugs recommended are *simaruba officinalis*.

Tablets of *Kurctice bark* etc.

*Intestinal irrigations.* When the acute symptoms have passed away, intestinal irrigations are useful, and should be administered every other day or once or twice daily.

Acid Quinine Hydrochlor 1 in 5000 to 1 in 1000 solution.  
or Solution of Tannic acid 1 in 200.

$\frac{1}{2}$ —3 pints should be very slowly injected by gravity by means of a soft rectal tube well-greased with boric vaseline. The injection may be preceded by a morphia suppository  $\frac{1}{2}$  hr. previously.

*Surgical Treatment.* In gangrenous cases the only chance of saving the patient is to do appendicostomy and irrigate the whole lower bowel with Quinine solution 1 in 1000.

If at any time amœbic hepatitis threatens to produce an abscess, full and repeated doses of emetine,

Saline aperients,

Rest

Low diet

Fomentations

Dry cupping

and if necessary hepatic phlebotomy may avert the danger.

Lastly a word about *Prophylaxis*.

Hunt out the house-fly.

Efficient sanitation.

Avoid eating raw vegetables and contaminated food.

Boiled and filtered water should be used.

No Hystolytica carrier should be employed as a cook and lastly treatment of all carriers with Emetine Bismuth Iodide or Stovarsol.

*Now about the Bacillary dysentery.* This is an acute epidemic disease due to invasion of the mucosa of the large intestine by specific bacilli. Pyrexia, symptoms of toxic absorption and the discharge of blood-stained mucus in the stool usually occur. In severe cases colliquative necrosis of the mucosa may take place and quickly lead to death. In the milder forms the clinical symptoms may be those of a simple diarrhoea.

Examination of stools is most important. The differential points between the stools in amœbic and bacillary dysenteries are :—

|                              | Amœbic.                                                   | Bacillary.                                |
|------------------------------|-----------------------------------------------------------|-------------------------------------------|
| 1. No. of motions.           | Fewer                                                     | Many                                      |
| 2. Quantity at a time.       | Larger                                                    | Scanty                                    |
| 3. Mucus                     | Clear and jelly-like and stained dark-brown               | Bright blood-red, gelatinous, and viscid. |
| 4. Odour.                    | Very offensive, smelling of decomposing blood.            | Odourless as a rule.                      |
| 5. Reaction to Litmus.       | Acid.                                                     | Alkaline                                  |
| 6. R. BC's.                  | Shrunk, dark brown and agglutinated.                      | Unchanged                                 |
| 7. Polymorphs                | Polymorphs less, much damaged, and moth eaten appearance. | 70% with clear-cut ring nuclei.           |
| 8. Eosinophiles              | Many                                                      | Few                                       |
| 9. Macrophage cells          | Scarce                                                    | May be numerous                           |
| 10. Other organisms          | Mobile bacilli in large numbers.                          | Few visible micro-organisms.              |
| 11. Charcot-leyden crystals. | Common                                                    | Not found.                                |
| 12. Entamœba Histolytica     | Found                                                     | Not found.                                |

#### Treatment.

*General Hygienic measure.* Absolute rest in bed; bed-pan and urine bottle must be used; every time the bed pan is used it must be dry and warm.

#### Diet.

Milk is well tolerated often enough in moderate cases. If not well-tolerated one may add 8 gr. of citrate to every 1 oz of milk, or one may peptonise the milk before administration. In an acute case whey and albumin water flavoured with lemon should be used.

With the onset of convalescence the diet should be cautiously and gradually increased care being taken that no acid foods nor hot foods are taken. Cheese, pickles, fats, alcohol, red meat etc should be sacredly avoided.

*Symptomatic treatment.* Griping and tenesmus are relieved by a hypodermic injection of  $\frac{1}{6}$  gr of morphia, or by small enemata of 40 m of laudanum in 1 oz of mucilage of starch, or by a ( $\frac{1}{4}$  gr) morphia suppository. Laudanum stupes to the abomen may be used.

*Medicinal Treatment.* Special drugs must be preceded by a purge—castor oil is the most appropriate.

*Ipecacuanha* is the best drug. This is now superceded by Emetine, one of its alkaloids. In those days, when Emetine was not known, the patient was given first in the morning, a large bolus containing as much as 60 gr of Ipecacuanha (usually 20-30 gr). The pillow was removed from beneath his head; a screen was put round the patient thus cutting off all light, the physician being afraid of a reflex stimulation of the vomiting centre; the room was kept silent and the nurse stood by the side of the patient with a piece of cloth in her hand to wipe off the dribbling saliva. Now-a-days 10-20 drops of laudanum is given and the ipecac administered when the patient is coming under the effect of the laudanum. Meanwhile a mustard poultice may be applied to the epigastrium. This cuts off to a great extent the chances of vomiting. Sometimes tannic acid is given with the same effect because tannic acid forms a coating for the stomach wall and prevents the irritative action of ipecac. After 6 or 8 hrs when all feeling of nausea has disappeared small quantities of food are given. 1 or 2 doses will abort the dysentery but it is wise to take the ipecac or emetine for at least a week longer.

*Emetine.* This drug is extensively used at the present day. 1 gr. of Emetine in 1 c. c. of  $H_2O$  injected intravenously or hypodermically every day for 12 days. The symptoms subside within the first couple of injections.

Before finishing with Ipecac and Emetine it must be noted that pushing these to excess renders the amœbæ emetine fast. Courses of treatment should therefore be given at intervals, notwithstanding the presence of amœbæ in the stools. In excessive doses, emetine more than 1 gr, a day produces toxic symptoms such as :—

- (1) Asthenia
- (2) Cardiac irregularity
- (3) Low B. P.
- (4) Emaciation
- (5) Loose yellow motions

A number of organisms have been found to cause this condition and statistics show that among all cases.

Y-type is the commonest infection 35%.

Flexner type accounts for 25%

Hiss type 12%

Strong type 9%

Shiga-Kruse type 6%

The Shiga type has been found to be most toxic, then comes the Flexner and the least toxic is the Strong type. It may here be said that Shiga type was not found in children under 1 year of age.

*Experimentally* it is found that the exo-toxin of the B. Dysenteriae affects especially the splanchnic nerves. Observations on 100 cases in human beings show death in 36 with characteristic symptoms of collapse. The patient suddenly becomes worse; the temperature subnormal; extremities cold; skin and lips pale as from great loss of blood; pulse slow, of low pressure, regular; cardiac boundaries not enlarged and heart sounds audible. The B. P. falls to 10 m m of Hg and may be unmeasurable. In adults collapse lasts longer and may be repeated.

Autopsy showed engorgement of blood vessels in the abdomen. Heart contracted; the left ventricle usually empty. Heart muscle is only slightly degenerated and there is no oedema of lungs. The colon and small intestine show very little change. Thus it is shown that death is said to have caused by the dysentery toxin paralysing the splanchnic nerves and producing blood stasis in the abdominal vessels. The condition of the patient is made worse by the derangement of heat regulation and production mechanisms.

#### *Symptoms.*

*Incubation* period is usually about 1-7 days.

*Onset* may be sudden or insidious and in all degrees of severity.

Bacillary dysentery may be clinically classified under

i. *Mild or catarrhal forms* where diarrhoea leads on to dysenteric symptoms, stools may not number more than 12 in the 24 hours.

ii. *Acute type*—The onset is abrupt. Within a few hours of its commencement the disease may be in full swing. The faecal matter disappears from the stools. Intense griping and tenesmus. Griping is greater when the intestinal lesion is near the caecum, and tenesmus greater when the

lesion is near the anal canal. The patient is practically glued to the commode.

The face is anxious and pinched. Thirst may be considerable, anorexia complete and the tongue is thickly coated. Slight delirium and mental confusion may be added to the clinical picture. In a week or more the symptoms may diminish and the attack tapers off into a subacute or chronic condition, or it may end as abruptly as it began.

iii. *Fulminating type*—begins abruptly with severe toxæmia. The patient soon sinks to a collapse and dies perhaps before dysenteric stools are passed. This type may sometimes very closely simulate cholera or paracholera.

iv. *Chronic Bacillary dysentery.* After an acute attack, very often the stools do not become normal for a considerable time. On the slightest indiscretion either of food or of drink, the old symptoms reappear. There is a tendency to constipation alternating with diarrhoea. The patient may not pass a perfectly healthy stool for months or even years. Emaciation is of an extreme degree and an adult man may weigh less than 60 lbs. Considerable anaemia may develop with cardiac failure and dropsy.

Death in Bacillary dysentery is either due to toxæmia or exhaustion.

#### *Complications and Sequelæ*

- (1) Polyarthritides,
- (2) Parotitis,
- (3) Peripheral neuritis,
- (4) Eye complications e.g. Iridocyclitis etc.
- (5) Perforative peritonitis is very rare.
- (6) Perityphlitis and
- (7) Periproctitis may occur
- (8) Pleurisy
- (9) Pericarditis,
- (10) Endocarditis

Extra systoles and auricular flutter, and occasionally pyæmia may complicate the severe attacks.

Mucous retention cysts in the sub-mucosa may show virulent dysentery bacilli and are the cause of a convalescent carrier condition.

Stricture of the gut is an occasional sequelæ and even when this occurs it is likely to be localized so that excision may be practicable.

Lastly Tuberculous infection may be super-imposed upon a chronic ulcerated dysenteric bowel.

*Diagnosis.* B. Dysentery may simulate typhoid and cholera. Mild cases pass for simple diarrhoea. It must be distinguished from the other varieties of dysentery by,

- (1) Microscopic examination of stools
- (2) Culture of stools
- (3) Agglutination test.

(4) Sigmoidoscopic examination may all be used for a definite diagnosis. But to wait for a culture report and to withhold anti-dysenteric serum is disastrous, and the patient may lose the only chance of recovery in an acute case.

*Treatment.*

*General management:*—The patient should be placed in bed on the appearance of the first signs and should on no account be permitted to get up in order to pass his motions. The bed pan should be used. In fulminating or choleraic cases in which the passage of stools is incessant and the physical exhaustion is consequently very great, it is advisable to dispense with a bed-pan altogether. The patient should be placed on a water-proof sheet and the buttocks well-padded with tow, which when soiled can be collected and burnt. The motion should be examined repeatedly because, this supplemented by the appearance of the tongue and general condition of the patient denotes the progress of the case. Care must be taken that a chill breeze does not reflexly stimulate the intestine and increase the number of motions.

*Diet* should be nutritious and easily assimilable leaving as little residue as possible. Milk which is the sheet-anchor of the allopathic practitioner should be avoided as far as possible and if given, the milk should be diluted and citrated (8 gr. to the oz.). It is wise to feed the patient on whey and albumin water; rice congee, arrow-root congee; sago congee, soups as stimulants; sanatogen; jellies; beef-tea; chicken congee. Any of these may be given at two hourly intervals in small quantities 6—10 oz. slightly warmed at each feed. It must be always borne in mind that the physical exhaustion necessitates a nutritious diet and it is therefore inadvisable to attempt to feed dysenteries over a long period on albumin water alone.

*Medicinal Treatment.* The action of the anti-dysenteric serum is purely

anti-toxic rather than anti-microbic. The idea underlying its administration is that of neutralising the toxæmia and of preventing if possible, cellular necrosis of the mucosa. A few points to remember in this connection are:—

*i* Not all cases require serum. Indications for serum administration are fever, rapid pulse, dry tongue, a large number of stools and abdominal pain.

*ii* Serum must be administered as soon as possible. Delay makes it practically useless.

*iii* Before administration of serum enquire into any previous administration of serum, asthma or hay fever. If any such history is forthcoming give  $\frac{1}{2}$ —1 c-c of serum subcutaneously and wait for 2 hrs for any untoward symptoms of anaphylaxis.

*iv* Cowardly doses of 10 or 20 c-c of serum should not be used. Give subcutaneously into the flanks or intravenously according to the urgency of symptoms, 40—60 c-c of serum. If there is no improvement give the same dose or more the next day. Don't give a smaller dose than that, lest you will be courting trouble. In very severe or fulminating cases give the serum diluted with 1 pint of saline into the vein by the open method. Give the diluted serum at a temperature of 100° F and while giving see that the serum is clear and shows no deposit.

*v.* The serum should be of a fresh stock.

*vi.* Serum-sickness if anticipated give Calcium Lactate gr XX per day for 3 days.

*vii.* Serum Treatment is of no use in chronic cases.

In all cases, even in the severest, the routine treatment with saline aperients is followed.

The patient gets Castor oil oz. 1 }  
Laudanum m. 30 }

This is followed by drachm doses of Soda Sulph every 2 hours for the 1st day and afterwards every 4 hours till the stools become fæcal or the evacuation becomes absolutely serous. This will take about 48 hours generally.

Some do recommend the routine treatment with Bismuth Salicylas drachm doses every 3 hours.

For 10 days after the temperature and bowels are normal the patient

may be given.

Liq Hydrarg Perchlor dram  $\frac{1}{2}$   
Soda Salicylas gr xxx  
aqua ad oz. iii  
oz. i t. d. s.

This acts as a chologogue and relieves the liver.

During the acute stage the two symptoms that have to be treated are pain and collapse.

*For Pain—*

- (1) Fomentations,
- (2) Turpentine Stupes,
- (3) Starch oz. 2 and opium m. 30 as enema.
- (4) Morphia suppository
- (5) Rectal lavage with warm boric may be used.

A good sedative enema will be

R. Bismuth Salicylas drams ii

Tr. Opii m. xxx

Thin Starch oz. ii

*For collapse*, intravenous saline and warmth.

*Treatment of chronic Bacillary dysentery* should be considered under medical and surgical methods.

*Medical Treatment* cannot be considered to be very satisfactory. The diet should be carefully regulated milk, beef-juice, eggs etc. Small doses of aperient salines are given at regular intervals. Gentle massage over the course of the large intestine. After an initial dose of castor oil, Tannalbin 10—20 gr in cachets t. d. s. may be tried. Bismuth may be used in large doses every 4 hours during the day. Opium should not be given as a routine measure as there is a great danger of forming a habit. Boiled ripe Bael Fruit well squeezed into milk and strained and taken is reported to be good.

*Vaccine.* Much success is not reported. Nowadays this is being tried by the mouth because it is suggested that more extensive antibody-formation takes place after oral administration of the vaccine than when it is injected hypodromically. Vaccine in doses of 3 million have been given by mouth daily for 3 days, at least an hour before food.

*Colonic irrigation* is most rational and must be carried out thoroughly.

The patient is kept in bed for 2 or 3 days. oz.  $\frac{1}{2}$  of castor oil is given the day before to clean the bowels. Early in the morning a simple enema of drams 2-3 of  $\text{NaHCO}_3$  to a pint to desolve the mucus. Then at about 10 a.m., Argylol  $\frac{1}{4}$ — $\frac{1}{2}$  per cent is used for irrigation. Pints  $1\frac{1}{2}$  of the solution is used slowly, taking roughly  $\frac{1}{2}$  hour for the process. The patient must be encouraged to retain the enema as long as possible. One irrigation a day is usually enough.

Some use Ag  $\text{NO}_3$  solution 1 in 5000 at first and increased to 1 in 500. With improvement the frequency of the irrigations should be reduced. To any ulcers in the bowel which can be reached Ag  $\text{NO}_3$  solution (25%) should be applied.

*Surgical measures* consists in appendicostomy.

or Valve cæcostomy, or open cæcostomy.

or Ileostomy, allowing the faecal matter to pass through a tube put in the wound, and daily irrigation of the lower bowel with boric lotion. Thus the large intestine is kept at rest and cleaned at intervals and this will ensure repair of the mucosa. This may have to continue for 3, 4 or more months, recovery being noted by sigmoidoscopic examination.

Manson Bahr summarises in the British journal of surgery as follows:—

i Chronic Bacillary dysentery is usually not amenable to medical treatment and life may be preserved only by surgical intervention.

ii Indications for operation lie in the *persistance of toxæmia and loss of weight inspite of colonic lavage.*

iii Appendicostomy may be performed as a measure of relief but Cæcostomy may be required.

iv Cæcostomy with the use of the tampon-tube supplants ileostomy except in cases in which the small bowel is involved.

v. The question of closure is a matter of careful consideration in each case; temporary closure with dressings assists the operator in making his decision.

vi. Stenosis of the bowel to any serious extent is rare and when it does occur it is likely to be localized, so that excision may be practicable.

vii. Tuberculous infection may be superimposed upon a chronic

ulcerated dysenteric bowel. In 3 cases he has been able to demonstrate the tubercle bacilli in sigmoidoscopic scrapings of the bowel wall.

*Management of a convalescent from Bacillary Dysentery.*

- (1) Dysenterics ought never to feel cold
- (2) Cold bathing is very dangerous to them
- (3) Avoid alcohol.
- (4) Food must be simple.
- (5) Beef, mutton, cheese, bread, pickles, coarse vegetables and the like are not, as a rule, well-borne.

Fruit and fine well-cooked vegetables in moderation are necessary and often beneficial.

- (6) Constipation should be avoided and an occasional dose of castor oil is recommended.

Lt. Col. Leslie observed Hypo-chlorhydria in most cases of dysentery whatever might be the cause of infection and he suggests dil. HCl acid 10 m. doses t. d. s. to be given to the patient. He believes that with proper treatment, one should not see chronic cases of dysentery. Among dysenteries Col. Leslie thinks two chief clinical types could be noticed. One the Uræmic and the other the B. Coli type.

## Forceps

With facts the senior student's mind is crammed,  
His brains stand still like a wedge that is jammed,  
And pages myriad has he to read  
Till into the sickly world he is freed.

And so to help his memory  
I want to write some poetry.  
And future Doc! remember me,  
And pay me later half your fee.

To Forceps let us turn our thoughts  
For that in practice brings us lots  
To indicate its use are reasons five  
Remember them and you will surely thrive.

The foetal heart if feeble and fast  
Above a hundred and a score and forty,  
But if it is slow, it is worse than the last,  
Its limit is just a hundred and twenty.

And if the kid is kicking hard,  
Tumultuous movements as they say  
Remember then the tipper bard  
And bring your forceps into play.

And if by P. V. you make out  
The third signal for forceps' use  
An urgent one—a large caput.  
Delay! and sure the child you loose.

A vertex with a prolapsed cord  
Another reason for forceps.  
If head's unfixed, be on your guard,  
The softer breach is better perhaps.

And if meconium comes out pure  
 Unmixed with liquor amnii  
 Exclude a breach, and then you are sure  
 That forceps you must quick apply  
 But always have in mind the "Ifs"  
 For forceps --Of chloroform some whiffs,  
 Membranes ruptured, head quite fixed  
 In suitable way --you will get mixed  
 If the os is not four fingers loose  
 And if the uterus is sleeping sound,  
 It is a horrid job to bring her round  
 From P. P. H. : And always use  
 A catheter at first : With bladder full  
 It's useless, however hard you pull.

by the author of  
 "INAUGURAL STRUTTINGS"

## Undescended Testis

BY D. GOVINDA REDDY, M. B. & B. S.

(House Surgeon, General Hospital, Madras).

In Undescended Testis, the testicle during its migration from the abdominal cavity to the scrotum, is stopped short before it actually reaches the scrotum. For the proper descent, it depends upon the normal development of the gubernaculum, which appears about the eighth week of intra-uterine life. The gubernaculum grows through the inguinal region of the abdominal wall and divides into six separate bundles. These pass to the scrotum, root of penis, pubis, perineum, inguinal ligament, and saphenous opening. That going to the scrotum is the largest, and later when it begins to grow short, it causes the testicle, preceded by the processus vaginalis to descend from the posterior abdominal wall through the inguinal canal into the scrotum. The actual passage of the testis from the abdominal cavity to the scrotum takes place at about the end of the eighth month of intra-uterine life. In the above condition the testis may remain in the abdominal cavity itself or found just within the internal abdominal ring. More frequently it occupies the inguinal canal or just outside it.

The causes might be 1. Unnatural development or attachment of the gubernaculum 2. Adhesions due to intra-uterine peritonitis 3. Too short a cord 4. Enormously large epididymis 5. or a more rare cause, contracted condition of the external abdominal ring.

*Ectopia.* In ectopia testis the organ has traversed the inguinal canal but instead of reaching the scrotum is found in some abnormal position. In these cases, the gubernaculum for some unknown reason becomes separated from the body of the testis. Thus the testis is deprived of its natural guide and allowed to wander along a path of least resistance. So the testicle after leaving the external abdominal ring finds its way between the deep fascia of the abdominal wall and apenurosis of the external oblique. Finally depending upon the length of the cord the testis comes to be 1. Over the dorsum of penis—called *Penile Ectopia*. 2. *Perinal Ectopia*, where the testicle after passing over the pubic crest lodges itself in the perineal division of the fascial space.

Among the rarer types is the *crural type* in which the testicle is found lying in the scarpa's triangle, in the neighbourhood of saphenous opening.

*Diagnosis.* The absence of testis in the scrotum proper. The abnormal position where it is found giving the testicular sensation and occasional inflammatory pain due to torsion and pressure. Perhaps where the organ is entirely abdominal the testicle is not found at all.

*Complications:* 1. Repeated orchitis 2. Torsion of the cord and gangrene 3. Occurance of hernia 4. Malignant disease of the testis.

*Functions of an undescended testis.*—By one and all it is said that undescended testis does not generally possess the spermatogenic function. Thus where both the testes are undescended sterility is not an uncommon occurrence. But as for the internal secretion is considered, it is in no way hampered. That is why the surgeon always tries to save these organs as much as possible.

#### *Treatment.*

*Expectant treatment.*—Perhaps this can be considered only in very early age roughly up to the 4th year. (P. G. Wakely), when the testicle is in the inguinal canal, light massage with traction might be tried.

*Operative Treatment.*—In view of the complications it is always advisable to operate such a condition and the best age according to Philip Turner is between the age of six and twelve. There are three such operative procedures (1) Orchidopexy or fixation of testicle in the scrotum (2) Orchido-cœlioplasty or replacement in the abdominal cavity (3) Orchidectomy or removal.

From all points of view perhaps it is best to try to bring the testis to its natural home. But unfortunately such an operation often fails because, 1. The length of the cord will often be insufficient 2. In trying to bring the testicle into the scrotum the division of the spermatic artery is often inevitable—thus the testicle has to depend upon the artery to the Vas a supply which is so poor that the testicle can't grow and function properly. In all the above operations the integrity of all the structures of the cord should be maintained. In many cases of ectopia on the other hand it is easier to bring the testicle into the scrotum and obtain a permanent anchorage.

*Technique.* Generally there will be hernia associated with the above condition. The operative procedure is just as for a hernia. The hernial-sac closely adherent to the spermatic cord has to be patiently dissected out

## Undescended Testis

without injuring any blood vessel. The gubernaculum attached to testis, is well brought out and a silk suture is passed through it. The radical operative treatment for hernia is at this stage finished. The silk suture that is passed in the gubernaculum is now passed through the scrotum and gradually tightened to bring the testicle into the new home made in the scrotum previously. Any rough handling of the testis should be avoided. The tightening of the silk suture might not be done at one sitting, but gradually day by day. The patient is kept in bed for a fortnight and a careful watch is kept upon the ligature to see that it is always tight.

End results of the above procedure are not always encouraging. In a few cases the testicle might thrive well in its new home. Sometimes the testicle retracts to its original place again. Mostly the handling of the testis leads to chronic orchitis and atrophy in the end.

Some suggest that a better method of dealing with the misplaced testis would be transplanting the testis through the septum to the opposite side of the scrotum. The advantages claimed are:—1. That it can't retract to its original position. 2. That no sutures are passed through the organ thus avoiding inflammation and further atrophy of the testis.

*Orchido-Cœlioplasty:*—This operative method is chosen in those cases where the cord is not long enough to bring the testis into the scrotum and in bilateral cases where orchidopexy has failed upon one side. The technique consists in first placing the testicle in a bed made for it in the extraperitoneal tissue and retained there by cat-gut sutures and then dealing with the hernial sac as for radical cure in hernia.

*Orchidectomy.* This procedure is mostly indicated 1. Where the testis is gangrenous or atrophied 2. Where signs of malignancy are suspected 3. Where Orchidopexy has failed.

#### *The End-results of Treatment.*

In those cases where bilateral undescended testes are present, the patients are generally sterile. In them every attempt should be made to see that at least one organ functionates properly. Here one has to remember that the testicle has got two functions, the spermatogenic function and the production of an internal secretion. A misplaced testis fortunately does not lose the latter function, as such castration of both the testes should be avoided as far as possible.

*Conclusion.*

Cases where there is an undescended testis on one side and a well formed testis in normal position on the other side.

Cases where both the testes are undescended.

Try to bring down the testis to its natural home—failing Castration.

(a) Always try to save the testes in whatever position they are so that the most valuable internal secretion is not lost.

(b) Try to bring one testis down to see that spermatogenic function is established at least to a certain extent. If successful, on a later date deal with the other testis.

(c) Try to bring down one testis and replace the other in the abdomen.

## The “ Water-Stunt ”

(A SHORT STORY)

“ Ah, there it goes! Oh! Glorious day! How blessed am I to get a case so early as 10 O'clock when sometimes I had to wait all day long without even a single case turning up!”

Thus muttering, with “Three castles” at an insolent angel from the corner of his lips, Dr. P. K. Ram M. B. B. S. (for that is the name of our hero) opened the door of his spacious Consulting Rooms in the centre of the City, in answer to the ringing of the electric bell; and you could have heard him swear the biggest and loudest “Damn” on seeing a patient fellow, not a patient—for that is the lot of these bill-collectors; they have to be jolly-patient and put up with any amount of swearings and abuses.

“ Oh, these bills ” raved young Ram “ They are getting on my nerves. I wonder how on earth this credit could grow so! Thank God he at least gives me credit when my own father refuses to give me any more money. All that he gave has been consumed by this blasted consulting room, which doesn't attract a single well-to-do patient.”

Though he was the best during his college days, here he was, jumping eagerly at every ringing of his bell which was very rarely from patients which when even it came, it was from one who was a non-payable—I mean a non-paying-patient. Sometimes, because young Dr. Ram is a kind-hearted man these patients turn out to be “payable”—for they usually manage to get some ‘baksheesh’ from their medical attendant besides treatment free.

There was one piece of luck for him, however. And that was his land lady—a kindly old soul who used to live upstairs and had let the downstairs to young Dr. Ram. Yes! she was indeed kind to him—had been that for the past six years—throughout his medical course—and never had insisted on regular payments for she had taken a strange liking for our young hero and didn't like to worry him. She was just the sort of landlady for him. Were it not for her endeavours (which are better unsaid) our friend wouldn't have had any patients, nor would he have had his brass-

plate bright and shining every morning. This polishing of his name-plate was not only a hobby to her, but also her pride. And every morning it was a hard job indeed for the poor old creature to collect the papers strewn about and to clear the quantity of tobacco-ash from the floor which indicated either the number of unslept hours the previous night or the number of medical friends who had spent the night with him.

\* \* \* \*

Such was our Doctor's position and he thanked the Lord he had no brothers and sisters to support, and he wasn't married, though he would very much like to be (but that is another tale and reserved for another issue).

This Ram—this hero of ours—had a class-mate of his school-days who was a school-master in the same place and he was a source of comfort to our friend. Well, as usual, they were talking of their younger days reviving memories pleasant and unpleasant, but the inevitable and unpleasant present grappled him by the throat and held him a sad victim.

Our pedagogue friend gave a jump for he had divined what was worrying his doctor-friend and patting him on the back, said: "Here's an idea, old chap! and here's to your health!"—So saying he took one more cigarette from Ram's cigarette-case and lighting it, went on: We'll go out for a stroll this evening over the bridge just when there is thick traffic, and I know a portion of the railing which is white-ant-eaten—and—and—I shall lean on it and drop down. Now, now, don't you prevent me from proceeding further. You need't fear about me—I won't die. You know I am an expert swimmer. Well, I shall fall into the river and pretend to be drowning. Some one of the crowd will haul me out. I will pretend to be collapsed. You rush to the scene—and there you are—your future is made!"

\* \* \* \*

It wasn't without misgivings that Ram had his walk over the bridge with his pedagogue—friend who was about to do the "Water-Stunt".

The plans were ready and our friends were walking along the bridge. Suddenly there arose a big cry from the bridge. "He's drowning, He's drowning! Help! Help! Quick!" Shouted the people from the top of the bridge and a stalwart young fellow was seen doing a graceful dive from the bridge into the waters below and his rescue of the drowning man was

## The "Water Stunt"

watched with much admiration and cheering by a bridge-load of humanity. Well, he was a successful malingerer: the rescued man was unconscious and any amount of first-aid wouldn't revive him and hearty sympathy was expressed for the poor, dying man", when a fair young fellow was seen pushing his way thro' the crowd towards the patient. He declared himself to be a doctor and ordered immediate removal of the patient to his Consulting Rooms as the prospect of life depended upon an immediate and difficult operation.

\* \* \*

And so two stalwart men carried Mr. Maligner to our doc's house, and behind the closed doors "The immediate and difficult operation" of a couple of chotapegs' revived him and they were having a hearty laugh over it. The landlady put out her beautiful old head out of the window and issued a bulletin orally: "He lives! He lives! Thank the Lord! God bless our young Doctor!"

And there went up a cry of joy and relief from those without who were in suspense and excitement till then.

That evening's papers contained a paragraph about the "Rescue from the Jaws of Death" of a drowning man by a brilliant young doctor of the place who had scored a number of academic distinctions and congratulated the place on having such a distinguished man to minister to their sick.

Yes—the "Water-Stunt" had succeeded and now the electric bell continues to ring every second much to the annoyance of the now-over-worked Dr. Ram and much to the pride of his land-lady whose "doctor darling" she loves more than ever, and whose name-plate shines brighter than ever.

L. S.

## “Finishing up the Portions”

Some one had fused the wires. All the lights were out. The world was left to darkness and to me. I shut up my book and began to muse.

Things proceed at a pretty pace in this jolly world of ours. Here I am in the middle of August and not one page turned and they are myriad countless as the stars that line the milky way. Wish I were a poet instead of a medical student. I could wear what I pleased, never read at all, and scribble something when so minded or cash ran out. But the damned trouble is I can't rhyme two lines together. Somehow the majestic in me revolts at the thought of jingling words together like bracelets on a wenches wrist; and blank verse, with all its sublimity does not pay. Unlike small-pox it does not catch the public. Could not be a poet.

But how about finishing one's portions. To enumerate it were to prescribe chloral to you—as soporific and as nauseating. Medicine, “the noble art of healing” as the ignorant public call it, is vaster than they imagine. They all mind the Treatment portion of it alone. But to the unfledged Medical cove it is crammed with facts and figures, —etiology incubation period, dosage, prognosis, culture media, reaction of degeneration and the like. It is hard to compress it into this manuscript—not even a Brhama Press can dare it. If one could, how like hot cakes it would sell. There is a fortune in it for you, ye inventors!

Then there is surgery: Your layman covers the whole field by saying “the knife” or “operation” or some such meaningless abbreviations. When the hy-no-means uptodate practice of modern surgery fills half the General Hospital, (crammed and crowded, patients on the floor, etc. etc.) with prospects of expanding over an acre more, how, I demand of you, how can a poor medico cram it all into his cranium, though his convolutions be compactly packed like a belt in a waistcoat-pocket?

Midwifery is a tough bit I can tell you. I really must get a rubber stamp; for “If the os is closed.” “If the membranes are ruptured” etc. They recur so often that you really can learn something better if you can substitute these terms by some mechanical symbol or at least a rubber stamp. And when am I to learn all the Punch and Judy show of presentations and mechanisms? O God! O God! would that I were a layman that I may say “Delivered in hospital! and never worry any more about it at all.

## ‘Finishing up the Portions’

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And look at these chaps adding fuel to the fire! They want special lectures on Venereal diseases, E. N. T. and what not. Ears and Throats were cured without all this fuss before, chancres healed, skin eruptions vanished and gummata melted before the healing finger of our elder brethern (aided by adequate treatises). But now they want to hurry the whole thing. I don't mind it a bit, but there are examinations, and examinations mean references, and references mean more figures in the expense column you know. I liken this heaping up of ever increasing subjects in the curriculum to mixed infection, or to superfoetation, and foetus paprecious, and carbon dioxide poisoning. Too many in a room. Over crowding, over work, extra fatigue all these contribute to run down the present day medico and soon, the Jolly type of a ragging, fagging dasher will give place to the cachectic parched up, bent-double book-worm.

I really don't know how to finish my portions. Looking up a little list of possibilities that I have drawn up I find:—

1. I could waste the midnight oil or to put it in modern terms, run out the midnight current. But there will be the dues to pay at the end of it. Also I have a strong conviction that electric light is positively harmful to the assimilating brain. Whether it sets up cerebral anæmia or causes cortical inflammation I know not, but the deeper I proceed into the night with the glowing wires on, the more I see flashes of light before my eyes, and the worse grows my headaches. I get attacks of transient giddiness, head heaviness, lack of concentration and a pathological craving for cushions and couches. Till at last I resolve to wake up early in the morning and continue my studies, only to find it too late next morning on awakening to have a shave and ‘bike off’ to hospital.

The next item of the programme is to “read in the tennis courts”—a sort of representative statement which I would have you interpret as reading during recreation hours. To me and to any healthy minded chap, shinguards, goal nets, crease lines and whistles (not to mention iced-drinks and shower baths) are metal more attractive than lifeless pages, pages that are tossed about by the wind, pages that are eaten by asses. And if you practice reading while you wait for your chance in the game, well don't blame me if you get a black eye or a bump in your head or if the boys take to jeering at you. Every one likes to read. But no one likes to be jeered at. So they all join in the jeering. They don't know your difficulties you know. You never told them that Osram lamps rattle you.

Another item I have here is to copy out notes on all the subjects. Perhaps it is with a view to accommodate chaps with such an intention that the authorities are contemplating extending the course to six years. But then it is such a trifle—only one year more. But never fear, Persevere my friend: "Little drops of brandy topples even a saint" your grand kid at least may profit by it—the sins of the father visited (atavistically) upon the third generation. With the advent of the (water-tight) compartment system—medicine in one compartment, surgery in another and so forth instead of medicine, surgery, and midwifery, in one corridor and ophthalmology and jurisprudence in another corridor—one other guiding instruction crops up—that of specialising in certain subjects:—It works out like this: supposing you want to specialise in, say, surgery. You go to the medicine class, give your attendance, (proxies get caught by our keen assistant professors, hence arises the slight personal inconvenience) and between the exit of the assistant professor and the advent of the professor (don't hurry, there is always time to do it decently), you skid it—give the leg and go home and specialise in surgery: or go to sleep which is much the more probable. Ditto for other classes, other than surgery; or if you rely on your own powers, (self reliance is an honourable thing) ditto for surgery too! Some chaps take to answering past question papers. It is comparable to locking the stable door when the horse has decamped. Fancy an examination where the questions repeat themselves! Knowing this as the average students' logic, the examiner catches us napping and repeats the last paper bang like a uniovular twin. On these occasions they usually have a large surplus of the previous year's papers. But that is rare, rare as a total eclipse. But frankly if you master these papers, well you would have mastered the text-books and more than that, you would have torn them to tatters in turning them over and over. Honestly, it is better to begin at one end and somehow cross the slough of despond and find yourself at the other, with an intact book in the bargain.

Other drastic methods suggest themselves to me such for example as "Chucking the Stethoscope"; "Sailing for England," "Copying in the examinations" etc., etc. But their defects are too glaring to need pointing out. Moreover, my light has come back and I am off to study.

*By the author of "Inaugural struttings."*

## U. T. C. Notes

With legitimate pride we receive news of the honour done to our Ex-Commandant, Captain F. Maxwell Lawford in being made a member of the British Empire. No recognition at the hands of his Majesty would be too much for this tireless man who not only did all the pioneer work for our University corps and set it on its present firm footing but also endeared himself to every student that came in contact with him. As we offer our congratulations to him for the distinction he has received we would also assure him that memories of him will ever remain fresh in the minds of his old comrades of the U. T. C. The experience Captain Lawford has gained in India is bound to stand him in good stead in the new work he has taken up in West Africa.

We welcome the news of the success of three of our veterans in the recent selection of Assistant Surgeons to the Madras Medical service. "M. U. T. C." is day by day becoming the watchword for smartness and efficiency.

The musketry cup has again glided into our hands. Padmanabhan, our "crack-shot" left us long ago. But we have always proved our capacity for what may be called 'rising up to an occasion'. At a pinch all our men have shown the resourcefulness which is probably the characteristic of our procession. We have every reason to pat ourselves on the back of this triumph. We hesitate to do it now; for we are convinced that there is more in the same line awaiting us.

Captain Kini our O. C. has chosen to remain with us another year before he crosses the seas for higher studies. His interest in the corps has never for a moment flagged, nor has his popularity waned and under his able leadership we have already begun to get glimpses of the day when once again the 'Battalion will move to the right in fours, B. company leading'.

We celebrated the annual 'At Home' of our company on Monday the seventh of March. It was a remarkable success. What! With the proximity of the University Examinations and the terrors and anxiety associated with them, our men could not devote as much time as they would have wished to for the get up of the entertainment, which, even as it was done provided plenty of amusement.

The gala-day began with tea that was arranged in the garden to the North of our College—near the fountain—the place had been neatly decorated with flags, bunting and evergreens and by 5 O'clock guests began to pour in

Almost all the local worthies who either belonged to or were interested in the U. T. C. were present. Among the former group may be mentioned the names of Captain Candeth, Captain Kunhi Raman, Lt. Abdul Quadir, Lt. Ranganathan, Lt. Chacko, Lt. Mahadeven and a host of others. To begin to recount the names of our Surgeons, Physicians, and Professors who belong to the latter group with their official designations would swell the length of this small account enormously and we do not dare to do that. Suffice it to say that they all thought it their religious duty to be present and they did come with their wives. By dusk all the guests had fairly gone through their tea and now they were taken to the Biology-shed where an entertainment had been got for them. There were in all 14 items presented which provided variety in every sense of the term.

The proceedings opened with a prologue in verse by Pte. Seshadrinathan.

1. Fair ladies and dear gentlemen,  
We crave your indulgence till ten,  
We'll show 'The Disorderly Room'  
A specimen fine of drinking den.
2. A merry time we promise you,  
With a nice play in Telugu,  
And in the programme you will find,  
A classic scene in Tamil too.
3. Fine music on violin and flute  
By singers of world-wide repute,  
And other tunes your ravished ears  
Will hear with rapt attention mute.
4. Your encouraging presence here  
During this busy time of year,  
To patronise "B" company's shows,  
Moves our young hearts with joy and fear.
5. We all are budding Medicoes  
Who know more of a B. P. dose  
How can we ever act quite well,  
When exam-night-mare nearer grows?
6. As members of the U. T. C.,  
In its rough studies, we're busy;  
No spare time can we hope to steal,  
Such is our position, you see!
7. Please pardon all our petty flaws:  
When it is dull, pray don't be cross.  
We hope to do our best and win.  
Your free ungrudging warm applause

It was soon followed by a love scene from the 'Fall of Vijayanagar' in which Ptes' Satharama Rao and Sreenivasan acted hero and heroine respectively. A small party headed by Lt. Col. Verghese now held the audience in uproar with 'John Brown's Whiskey Bottle etc.'

What was probably the crowning scene in the show and most typical of the U. T. C. came on now in the 'Company Disorderly Room'. In the get up and management of this item our thanks are due to our Staff Sergeant—Instructor Draper. Cpl. Kalamegham was the O.C., Cpl. Kuppusawmi took the part of Sergeant, Pte. Masilamani acted as accused and L.Cpl. Verghese as witness. The parody reached the acme of ludicrousness and held the audience roaring when all unawares the Commandant entered the room and the O. C. with all the gravity he could command shouted 'Party! Attyengshun!!! and saluted.

The TAMILIAN friends mustered up and followed this boisterous show with a couple of scenes from 'Two Sisters' which, short as it was, was fully appreciated.

Interspersed among these group items were also solos of all descriptions—vocal, flute, violin and what not. A distinctive feature of the entertainment which lasted an hour and half and which closed with national anthem, was that no item fell flat on the audience.

We extend our thanks to all those who directly or indirectly had a share in the unique success of this function and as we do so we cannot forget the deep debt of gratitude we owe to the staffs of our College, Hospitals and U. T. C.

\* \* \* \*

With the close of the old year and the beginning of the new a few vacancies have necessarily occurred in the ranks of our company and a few of our men got promotions. We congratulate L.Cpls. C. R. Paul, K. Narayanamurthi and Verghese on their becoming full corporals; Corporals Kurian and Kalamegam becoming Sergeants. Last but not least we are to congratulate perhaps our popular C. S. M. Hanumantha Rao (who is now the Secretary of our College Association) on his long overdue appointment as the R. S. M. and Sergeant Velayudam stepping into the shoes of our C. S. M. We anticipate that Pte. George and some others to become L.Cpls.

We are glad to observe that men of the right type and with the right spirit have applied, have gone through the preliminary selection and are awaiting Medical examination. We reach out of our arms in welcome embrace to our new comrades, but would hasten to remind them that we expect them to keep up our motto.

"Rough, tough, we are the stuff,  
"We want to fight and can't get enough."

M. C. GEORGE.

## Sports Notes

## Sports Notes

It is early in the year and our sporting activities if they can be so styled, have scarcely begun. I shall say something about our Athletic Association. Despite renewed attempts all round and the increasing facilities one finds our sporting activities few and scarcely worth the name. And if this state of things persists I shall have nothing to report on, in the following issues.

Like our other doings in the college we either display a short fulminating type of interest or sink into a chronic lethargy punctuated by mild rises. Go into the history of our past successes and you find we have come down by crisis.

Only in 1922 Lord Willingdon styled the Medicoes as "selfish" so complete was the monopoly we held in Inter-Collegiate events. Last year our position was unenviable. We were among the alsorans.

There is something wrong somewhere and to my mind it lies here.

We do not lack the type of sportsman, but somehow their enthusiasm and interest flags on their joining the College. That keenness and *esprit de corps* so marked, and mainly responsible for our past successes are badly wanting. On players sooner play for outside teams where the chances of a cup are closer than help to work up as a solid combination in the college.

Another reason is the lack of interest and encouragement from the majority of the staff who look on or rather show nothing more than an academic or far off interest in the whole affair.

The remedy for these two, lies in the parties themselves. I shall now suggest a change with far reaching results. The Athletic Association should be run under the auspices of the Medical College Association.

This will give the students more say in the matter, increase their responsibilities and proportionately rouse their interest.

This system is generally prevalent in most colleges, government or otherwise in the Punjab, United-Provinces and the Bombay Presidency. The whole working is in the hands of the students: and popularity and high measure of success is testimony eloquent enough.

To increase our facilities we must raise the scale of sports fees. The present low figure scarcely suffices for the year's working expenses, leave alone providing a balance. Now a balance is essential to any new step being taken and it is the first thing any self-respecting self-supporting institution ought to look to.

Early in July the various old players met to elect their Captains for the year 1927-28. Captain Subba Rao our Honorary Secretary took the chair.

For the fifth successive year Mr. Bhandari was elected Cricket Captain. Mr. Peter now captains the foot ball team. Mr Ghanni is the Hockey Captain while Mr. Chandra Rao continues as Tennis Secretary. The Captains are too well-known to say anything destructive about. But I should be failing in a primary duty if I forget to mention the thoroughness and keen interest of our Honorary Secretary who carried out the year's programme with a smoothness scarcely possible under such trying conditions. It is to him we owe the Inter-class Tournaments and the thoroughly enjoyable sports-day which comes but once a year.

## TENNIS

The Tennis Courts are ready and though the membership has been limited to a handful, the Courts are crowded. One has to assert oneself if he wants a set for they do not all serve who stand and wait.

There is an attempt to increase the Tennis subscription. One sees the absolute necessity for this step but adequate accommodation must be provided by the raising of a couple of new courts to meet the rush.

## HOCKEY

The Inter Collegiate tournaments have begun. Our Hockey Team has played three matches so far and have lost one point. In the opening game of the season against the Christians a shower of rain close to the finish saved us of a defeat and necessitated a replay. Against Pachiappa's College the match ended in a draw, but on protest it is to be replayed.

Playing with Loyola College on their grounds on Wednesday last, we had the game in our favour but we eventually drew with them the score being one all.

The defence is strong and reliable but the forward line combination is poor and their shooting deplorable. This has been the case for the past five years. Let us hope we will soon pick on a sound quintet—speedy and shooting straight.

## FOOTBALL

Football is our *forte* this year. The team is strong and has a good reserve to fall back on. Three games were played this month and we came off successful in two, drawing with the Lawyers after a strenuous struggle ending in one good tie. We beat Presidency College by six goals to one and the Christians by three goals against two. The three games were characteristic of individual attempts by various forwards. This selfish play though productive at times is not to be encouraged as all round team work and combination is far better from the point of the various members of the team and is more productive.

CRICKET

We played the Lawyers in Crickest match on the 13th. The match ended in a draw. Going in to bat we scored 125 to which Dharmalingam and Shunker contributed 28 and 21 respectively. The Lawyers put up 119 for 9 wickets when closure had to be applied.

The fielding of our men on this occasion was deplorable and catches missed were many. The slips and outfielders were the chief offenders.

In the second game against the Engineers we had a broad margin victory. Going in to bat first our opponents hit up 103.

Dharmalingam and Rangappa opened for us and runs came in quickly. Rangappa hit up 38 while Bhandari put up 30 not out. On hitting up 106 for two wickets we closed down.

M. C. Condillac.

The Madras Medical College Association

The first business meeting of our college association was held under the presidency of Major M. G. Pandalai F. R. C. S. I. M. S. on 15-7-1927. The following representatives for the year for the Association and the Magazine were elected.

Vice-presidents.

|                                             |     |                          |     |
|---------------------------------------------|-----|--------------------------|-----|
| Major K. G. Pandalai F. R. C. S., I. M. S.  |     |                          |     |
| Dr. A. Lakshmanaswami Mudaliar B. A., M. D. |     |                          |     |
| Mr. K. Narayanamurthi                       | ... | Asst. Secretary          |     |
| D. Kameswara Rao                            | ... | Representative of V year |     |
| M. Sitarama Rau                             | ... | do. IV                   | do. |
| J. P. Cotelingam                            | ... | do. III                  | do. |
| C. L. Shunker                               | ... | do. II                   | do. |
| Velayudham                                  | ... | do. I                    | do. |
| M. C. Condillac                             | ... | do. Military Students    |     |
| Miss Cama                                   | ... | do. Lady Students.       |     |

(B. S. Sc class not elected)

Magazine Committee.

|                                                      |   |  |                              |
|------------------------------------------------------|---|--|------------------------------|
| Dr. S. Mannadi Nair M. B., B.S., P. H. D. President. |   |  |                              |
| Dr. M. R. Guruswamy Mudaliar B. A., M. D. C. M.      |   |  | General. Editor.             |
| Dr. T. K. Raman Menon M. D.                          |   |  | Associate Editor.            |
| Mr. S. Pitchumani                                    | } |  | Student editors.             |
| Mr. M. C. George.                                    | } |  |                              |
| S. Hanumantha Rao                                    | } |  | <i>ex-officio</i> . Members. |
| K. Narayanamurthi                                    | } |  |                              |

This year in order to get in more professors into the organisation the provision in the bye-laws was fully made use of, by electing two vice-presidents for the Association, separate from the Magazine Committee. An important feature of this year's election worthy of mention is the election of the Asst. Secretary who was returned unopposed. Mr. K. Narayanamurthi is to be congratulated on his unopposed return. Technically taken he enjoys the confidence of the whole college. Major Pandalai was for over 3 years the Vice-President of the Association. His election again indicates what he really is. He is readily accessible to students and always gives due consideration to their wishes. Dr. A. Lakshmanaswamy Mudaliar is a new figure to our Association although not new to many of us. We are sure he will be a

new source of inspiration to us and the Association will no doubt be imbued with new and novel ideas. For the Magazine Dr. M. R. Gurusawmi Mudaliar was re-elected as Editor. He was associated with the Magazine ever since its start and the present condition of the Magazine is not a little due to his efforts. Drs. Mannadi Nayar and Raman Menon, the President and Associate Editor are a new asset to the Magazine. The choice could not have fallen on better persons.

After the business meeting, Major K. G. Pandalai F. R. C. S., I. M. S., delivered his inaugural address. He dwelt at length mainly on the physical culture of students making a particular reference to the University Training Corps. He advised all students to join the corps and hoped to see a day when the whole Medical College would be converted into one battalion.

The following resolutions were moved at the 1st business meeting:

1. This meeting is of opinion that the Association should invite all the old students of the college to join it, paying a minimum subscription of Re. 1 per year, or a life membership of Rs. 10 and become its members.

Mover, Secretary S. Hanumantha Rau.

2. This meeting hereby resolves that a consumer's co-operative society be started by the association for the supply of books and accessories.

Mover E. C. Srinivasan.

3. This meeting hereby resolves that the Madras Medical College Athletic Association be run by the Madras Medical College Association.

Moved by M. C. Condillac.

4. This meeting resolved that a Common Room for students is an immediate necessity and suggests that the committee should go into the question and suggest measures to be adopted for its realisation

Moved by the Secretary.

As the Association has adopted the resolution regarding the old students of the college, they are welcome to join the Association and take part in its activities. The Association will in future, be a common link between the old and the present students. The other resolutions are receiving the attention of the committee.

The first issue of the magazine is no doubt considerably delayed. The causes of the delay are not far to seek. In July everybody has to settle down before he can put himself to work. It is also true of the Magazine. The running for articles, getting them and passing through responsible hands who in their own way are busy bodies, are some of them. The printers at whose mercy we have to place ourselves are not at any rate the least, responsible. It can never be too late, if this is worth waiting for. We may assure our readers

that we will not fail to bring out the 4 issues sooner or later, the 2nd issue coming out by the end of October.

The collapse of the Bio-chemistry department has considerably inconvenienced the students who make use of the library. The principal has agreed to keep the library open as usual till 9 P. M. on the representation made by the secretary except during those hours when classes are being held in the library. The principal is more sympathetic than we presumed. Rumours are in the air that the Biology Hall will be converted into a permanent Library Hall. Let us wait and see

The graduates reception for the year is fixed up for the 27th August. Major General F. H. G. Hutchinson C. I. E., K. H. S., has kindly consented to address the graduates. It is the first time for the Surgeon General to accept an invitation of the kind. Let us therefore look forward for the day.

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## In Lighter Vein

Who's hands works day and night?—A Clock.

\* \* \*

What bird carries the heaviest weight?—The crane.

\* \* \*

"I am happy and all that, of course, old chap; still, I wish my wife wouldn't talk so much about her last husband"

"Forget, it, old man—mine's always talking about her next."

\* \* \*

What is it that makes plain women and pretty women look alike?— The dark.

\* \* \*

Why is the book-keeper like a chicken? Because he has to scratch for a living.

\* \* \*

The Visitor: "What an innocent looking face your little girl has!"

Her Hostess: "I had not noticed it. Dorothy, what have you been doing?"

\* \* \*

"What is good for my wife's fallen arches?"

Doctor:—"Rubber heels".

"What shall I rube'em with?"

\* \* \*

"I never knew Omman had twins"

"My dear! He married a telephone girl, and of course she gave him the wrong number."

\* \* \*

Wife: "Doesn't your conscience hurt you for telling those lies?"

Hubby: "Why should it? You don't believe me."

\* \* \*

A dignified, famous M. D.

Was treating a chorus-girl's knee.

As he bound up the limb,

She whispered to him:—

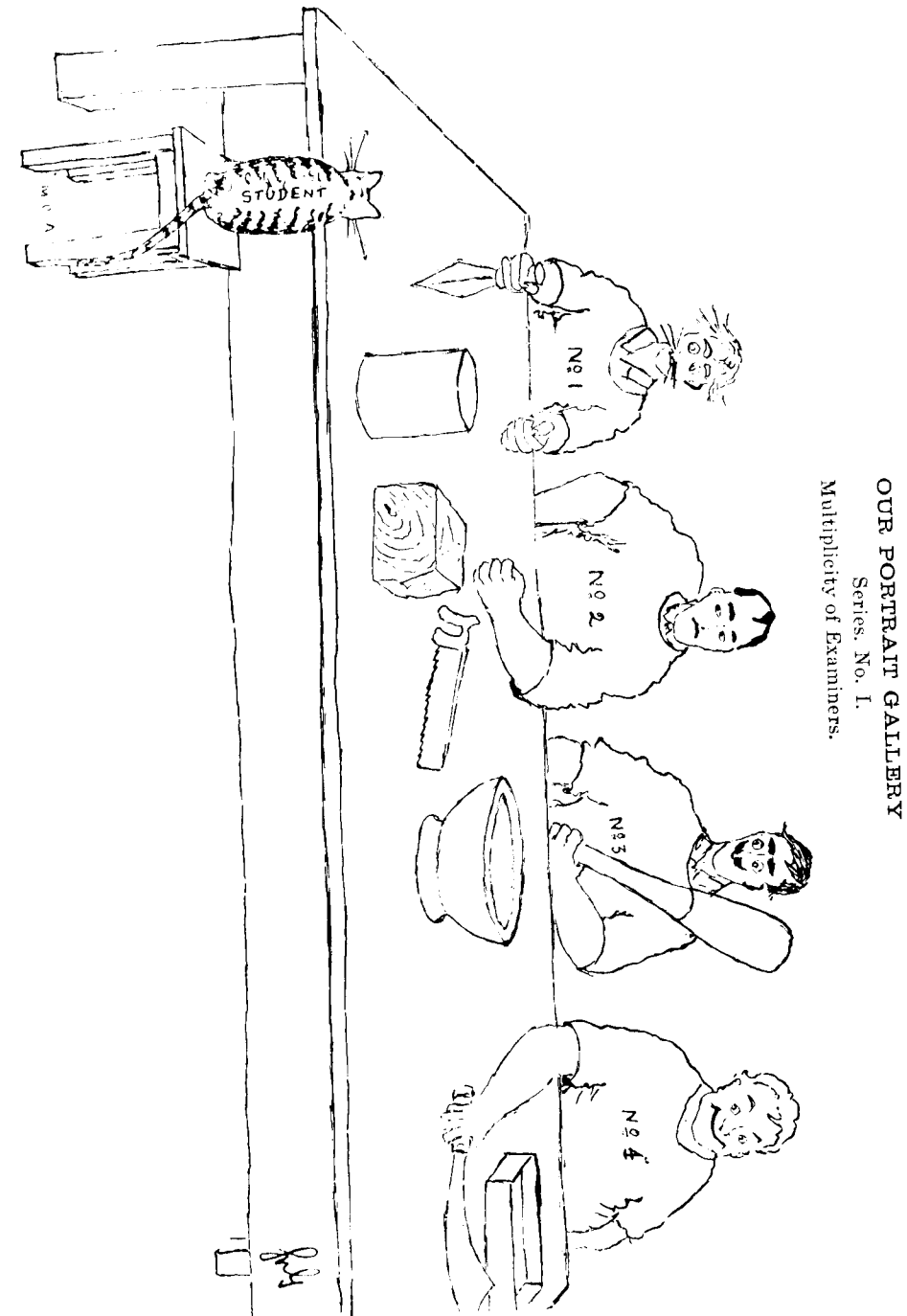
A clever young boxer called Bing,

When he injured his hand in the ring,

Just did up his first in

Hot Antiphlogistine.

Young Mary McFadden McForce



*In Lighter Vein*

Took her first lengthy ride on a horse  
 As she got off the roan  
 She said with a groan :—  
 Come, ye Doctors, one and all  
 From this rebus take a fall.  
 When the tendon's sheath inflames  
 This Antiphlogistine tames.

*(From Enigma-Publication of the National Puzzlers' League.)*

\*

\*

\*

When little Tommy was a child,  
 He oft had tonsilitis,  
 And later he had rheumatism  
 Combined with slight nephritis.  
 So, when young Tom to manhood grew,  
 To his great consternation  
 The lining memb of his heart  
 Showed signs of inflammation.  
 His mitral and tricuspid valves  
 Were both quite badly leaking,  
 So Tom to Philadelphia  
 In quest of help came seeking.  
 Examination made with care  
 Disclosed a grave prognosis.  
 Now tell me, you who ought to know,  
 What was the diagnosis?

*(A. F. Klemcamp, M. D.)*

K. N. M.

# Medical Examinations

The following is the list of successful candidates at the Medical Examinations held in March and April 1927:-

## First M.B. & B.S. (New Regulations).

MEDICAL COLLEGE, MADRAS.

### SECOND CLASS.

Gopalarajan,  
Christadas Williams.  
Narayana Menon, M.  
Chathurbhujdas, M.  
Bushanam, David.  
Muthuswami, L. K.  
Rangayya Gupta, P.  
Visvanathan, P.  
Kuriyan, K. T.  
Rangaswami, C. T.  
David, C. S.  
Chacko, K. C.  
Manavikraman Raja, P. K.  
Joseph Selvam.  
Lakshminarayana Aiythala, K.  
Chandramouli, S.  
Ramachandran, A.

Kuruvilla, P. J.  
Verghese, G.  
Singaram, T. A.  
George Fletcher, S.  
Jubai, M.  
Trivikrama Pai,  
Kasturirangachari, K.  
Manuel, A. S.  
Seshachalam, P.  
Gopalakrishna, U.  
Kolappa Pillai, N.  
Madusudan, S.  
Pais, O. F.  
Rangaswami, A. R.  
Srinivasan, N.  
Pubalarayan, G.

## Second M.B. & B.S.

### FIRST CLASS

Narasimha Rao, K.  
Srinivasan, E. B.

Anantanarayana Ayyar, P.  
Meadppa, T. B.

### SECOND CLASS.

Narayana Menon, V.  
Parthasarathi, G.  
Solomon, D.  
Abdul Jabbar, M. M.  
Vasudavan Nambissan,  
Muhammad Saifullah.  
Ramachandra Kamath, V.  
Jacob, M. K.  
Sundarajan, M. S.  
David Mercy.  
Krishnaswami, V.  
Sambasivan, K.  
Raghavendra Charya, P.  
Kumara Pillai, V.  
Rangachari, V.

Vaidyanathan, P.  
Sundarm Ayyar, R.  
Duraiswami Ayyar, R.  
Kalamegham, R.  
Mahadevan, M. N.  
Siva Ayyar, S. V.  
Krishnaswami, T. N.  
Raghavendra Nayak, P.  
Parthasarathi, K.  
Sivaraman, K.  
Curtner, Dorothy, E. L.  
Cotelingam, J. D.  
Rajagopalan, T. R.  
Robert, G. W.

## Third M.B. & B.S.

### FIRST CLASS.

Masilamani, J. A. S.  
Sitaramaraju, C.  
Sitarama Rao, M.

Srinivasan, C.  
Govinda Menon, K.

### SECOND CLASS

Govinda Rao, P.  
Krishnamurti Rao, S.  
Kanthamani, D.  
Ramachandran, A. S.  
Sundaram, N.  
Sebastian, A. P.  
Joseph, P. M.  
Lakshmanan, R.  
Verghese, Anna K.  
Ganapatisundaram, S. N.  
Gnanavolivu, J. K.  
Rajagopala Ayyar, S. N.

Joseph Ross, B.  
Mammen, Anna T.  
Philip, Sosa C.  
Durairaj, G.  
Lakshminarayana, T.  
Sambasiva Rao, M.  
Alankaram, S.  
Swaminathan, P.  
Kesava Menon, C.  
Sankaran, C.  
Aiyaswami T. V.  
Gnanesvaran, S.

## Final M.B. & B.S., Part I.

MEDICAL COLLEGE, MADRAS.

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Chandrasekharan, T.  
De Lemos, N. J. C.  
Durairaja, P. S.  
Kalyani Amma, M.  
Kamulamma, B.  
Kamesvara Rao, D.  
Krishnaswami, K. G.  
Lakshminarayana Rao, K.  
Lasrado, A. F.  
Muhammad Shafiuddin Mehkri.  
Nagendran, R.  
Narayana Menon, P. P.  
Narayanaswami, B.  
Padmanabhan Menon, C. K.  
Paramesvaran, M. V.  
Parthasarathi, S.  
Paul, Sarah J.  
Pichumani, S.  
Rajagopalan, V.

Ramachandra Hebbbar, K.  
Satur, Dorothy, M.  
Selvaraj, A.  
Seshadri, T. R.  
Seshadrinathan, L.  
Seshagiri Rao, S.  
Sivasankara Pillai, S.  
Srinivasan, L. V.  
Srinivasan, V.  
Subbanarayanan, S.  
Subbaramayya, B.  
Sundaram, C. S.  
Thayumanaswami, V. R.  
Thimma Reddi, G.  
Umapati, A.  
Vadamalayan, P.  
Vareed, K. P.  
Venkatakrishnayya, T. D.  
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MEDICAL COLLEGE, MADRAS.

Achar, S. T.

### SECOND CLASS.

Ratnaswami, P.  
Madhaviah, Saraswati.  
Subrahmanya Ayyar, D.  
Sanjivi, K. S.  
Raghavachari, P. T.  
Visvanathan, G. S.  
Ranganathan, C.  
Venkataswami, V. K.

Satyanarayanamurti, G. V.  
Balasubrahmanyam, S.  
Chettur, R. K.  
Govinda Reddi, D.  
Jesudasan, Dhairyam.  
Ramaswami, S.  
Narayana Menon, V. R.  
Sundaram, T. A.

## Second L.M. & S.

MEDICAL COLLEGE, MADRAS.

Booth, A. H.  
Cama, Freany A

Damodaran Nambiyar, N.  
Krishnaswami, N.

Kuppuswami, M.  
Padmanabhan Nambiyar, K. T.  
Subbaraman, A. N.  
Subrahmanya Ayyar, K.  
Subrahmanya Ayyar, V.  
Sudarsanam, G. C.  
Vittappa Kamath, M.

Peter, J. G.  
Narayanaswami, G. R.  
Azariah, E. P.  
Daivasikhamani Mudaliyar, S.  
Lushington, L. T.  
Satur Josephine F.  
Raghunathan, R.

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MEDICAL COLLEGE, MADRAS.

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George, M. C.  
Jagannadharaju, M.  
Jagannadhaswami, D.  
John, T. M.  
Kanniappan, K. G.  
Kondalarayudu, K.  
Mathew, M. I.  
Pavayya, Accamma, C.

Radhakrishnan, C.  
Raghavan, R.  
Ranganathan, A.  
Ranganathan, T. K.  
Samuel, Mariam, P.  
Sankararama Ayyar, R.  
Shripada Rao, M.  
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Virayya, P.

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Madhab Patnaik, R.  
Madhavan Nambiyar, K.  
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Mascarenhas, J. A.  
Mathai, Elachi.  
Mathuranayagam, Florence, K. nee Jesudoss.

Narasimhamurti, B.  
Rajamannar Nayudu, K.  
Ramayya, B. J.  
Ratnavelu, M.  
Satyanarayanamurti, T.  
Savarirayan, J. C.  
Shinappa Brandari, K.  
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Subrahmanyan, N.  
Sunarsanam, R.  
Velayudhan, P. A.  
Venkataramayya, G.

**Final L.M. & S., Part II**

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

Asthagiri, A. A.  
Chandramouli Sastri, A.  
de Rozario, K.  
Gopala Menon, K.  
Krishna Ayyar, N. S.

Krishnan, V.  
Narayanan, T. K.  
Thomas T. Achamma.  
Venkatasubban, K. R.  
Samuel, Esther, J.

**First L.M. & S.**

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Vadivel, P.

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Chacko, Anna, W.  
Chacko, T. N.

DeLemos, J. B. C.  
Dharmarajan, C. K.  
Hart, Florence M.  
Janaki, S.

Lakshmanan, K. C.  
Martinus, Shelagh, A.  
Ommen, P. K.  
Padmanabha Panikkar, T. G.  
Ramaswami, S. S.  
Rama Varman Tirumalpad, T. N.  
Reddi, N.

Subrahmanyan, M. K.  
Sundaram, T. P.  
Varughese, P. K.  
Visvanathan, B. S.  
Dharmalingam, C.  
Parthasarathi, N.

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Balakrishnan, V.  
Govindankutti Menon, I.  
Itty, Sarah P.  
Narayanaswami, Ayyar, A.

Natesan, N.  
Sankaranarayanan Unnithan, S.  
Venkatachalam, A. S.  
Venkatarangam, M. P.

**Final M. & S.M., Part I.**

MEDICAL COLLEGE, MADRAS.

Bhaskar Rao, R.

Eapen, A. J.

**Final L.M. & S., Part II.**

MEDICAL COLLEGE, MADRAS.

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

Anantachari, M. D.  
Chandrasekhara Rao, V. N.  
Eapen, J. J.  
Gopalan, S.  
Kesava Menon, U.  
Krishna Menon, M. K.  
Krishna Rao, K.  
Krishnaswami, R.  
Madhavan, P.  
Mathias, M.  
Muttayya, R. E. S.

Narasimha Pandit, T. L.  
Narayan Prabhu, M.  
Sambandam, K.  
Sundaram, P. K.  
Varghese, M. C.  
Venkatarama Ayyar, T. S.  
Verghese, Saramma.  
Joseph, P. J.  
Sankararaman, S.  
Padmanabhan, R. V.

**B.S. Sc. Degree. Part I.**

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Balasubrahmanyan, D.

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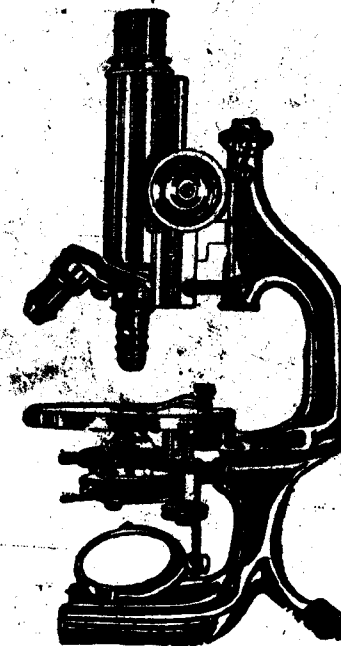
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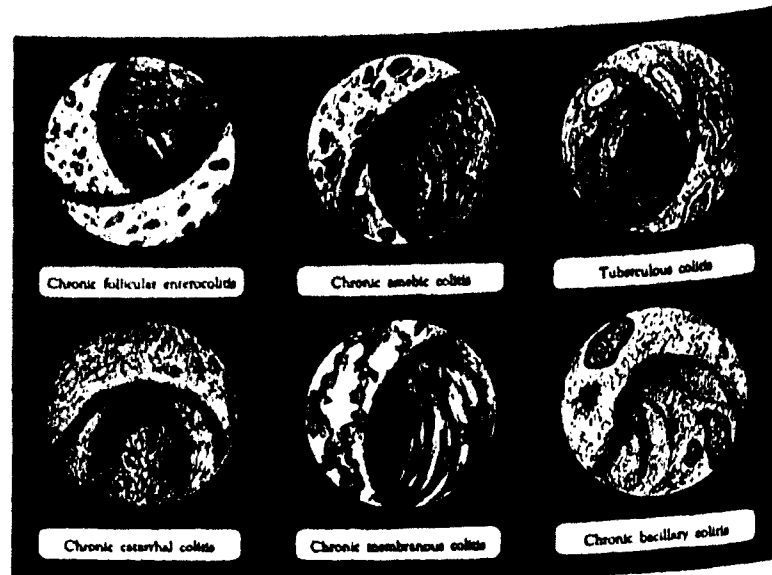
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