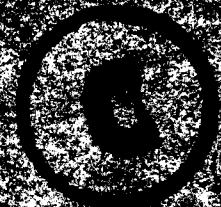


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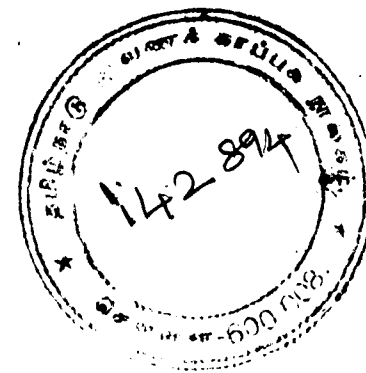
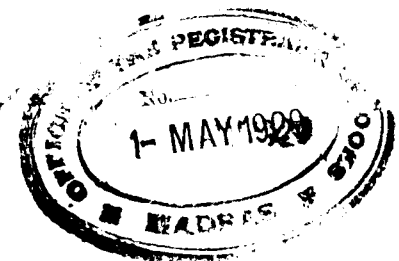
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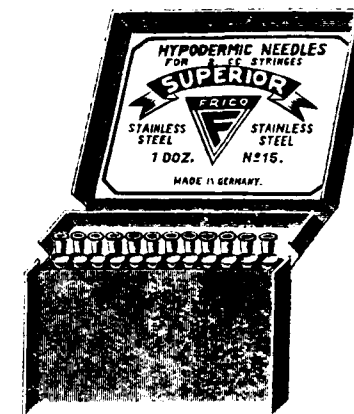
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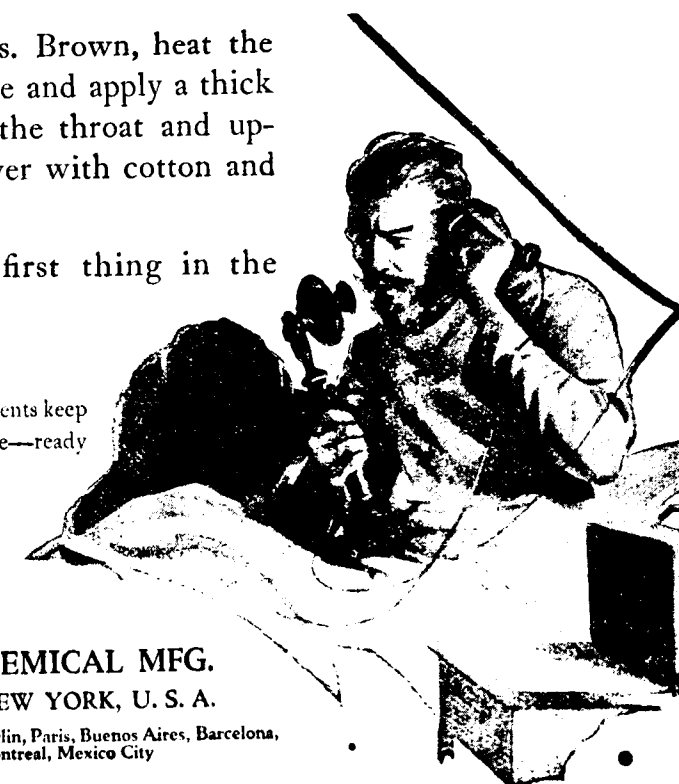
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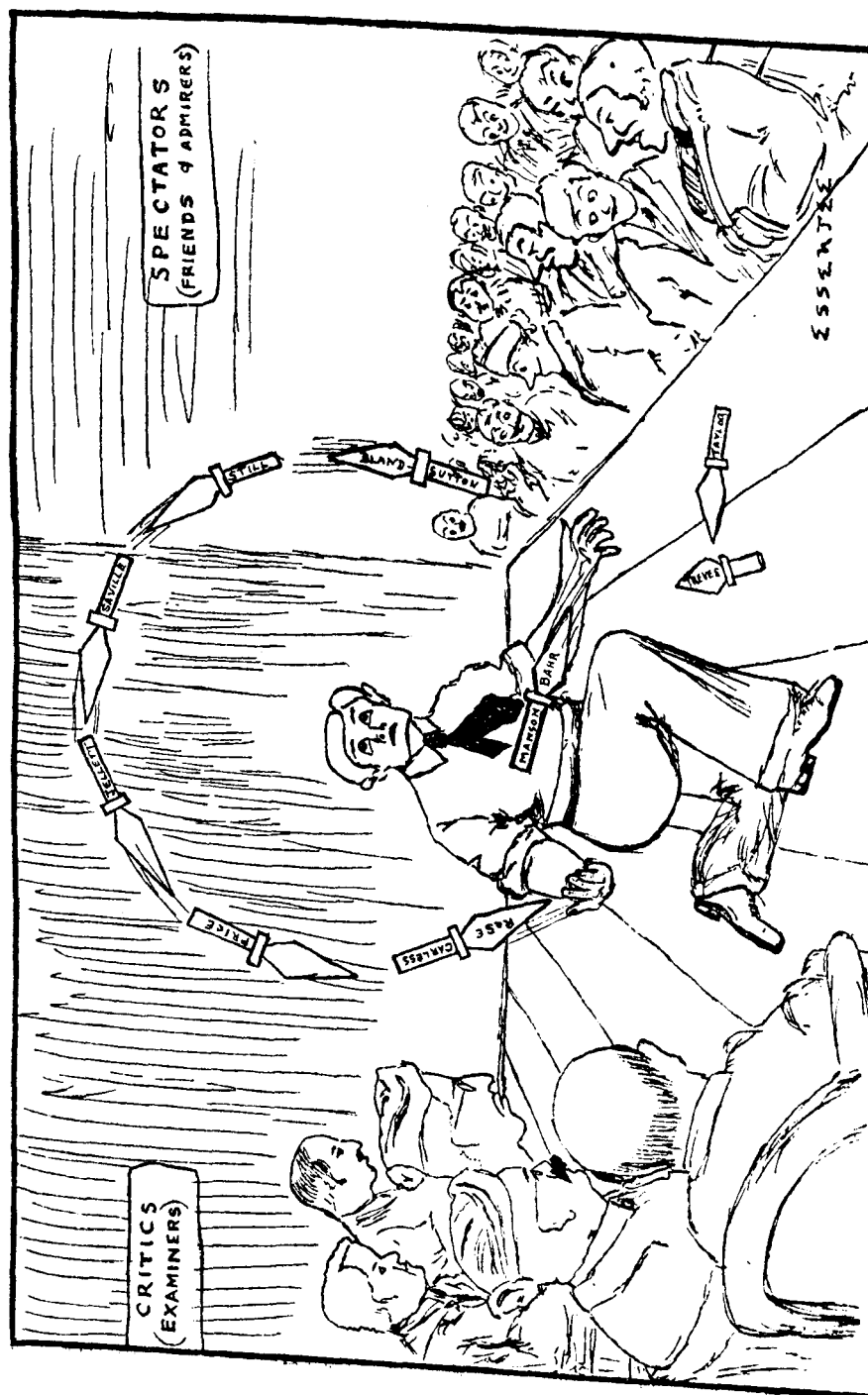
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Treatment of Peptic Ulcers*

BY MAJOR K.G. PANDALAI F.R.C.S., I.M.S.

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

The subject of these lectures is one of interest not only to us in India but throughout the world. As time passes one finds that in Madras the percentage incidence of the disease to the population is steadily increasing, probably due only to an increasing experience on the part of the Medical profession in the detection of these cases. A study of the records of the Madras General Hospital shows a rapid increase in the number of operations done for this condition in the last 6 years. This increase, again, is not due to any change in the habits or the other circumstances in the life of the people. These remain much the same as they were a quarter of a century ago. It is interesting to note that 25 years ago the Physicians of Madras used to treat in their wards a peculiar disease, called by them 'Malabar Dyspepsia' the clinical features of which I can now identify as those of Peptic Ulcers. Treatment other than medical was not thought of in those days and even to-day the same disease is

* Abstract of two University Readership Lectures delivered at the Madras Medical College in August 1928.

after food or any time after food and lasts for a variable time according to the nature of the food. Pain may be referred to various parts of the trunk, to the back, downwards to the navel, to the sides and front of the chest and very seldom over the shoulder. Acid eructations are frequent and vomiting occasionally occurs. Often the latter is self-induced and in such cases pain is relieved. Pain is also relieved by the taking of alkalies and sometimes the taking of food. Pains which keep the patient awake at night are characteristic. The appetite continues good but the patients are afraid to eat on account of the pain which may result. Constipation is the rule, and the presence of diarrhoea with these symptoms should arouse suspicion of other causes, either chronic colitis or Tuberculosis of the bowel. Hæmatemesis and Melæna are infrequent symptoms. These attacks are followed by intervals of freedom during which the patients learn to regulate their diet. This cycle may go on for years until the periods of freedom become shorter and shorter, and the pains become more or less constant. But the general health, with a certain type of patients does not seem to suffer at all. Others show a marked degree of emaciation.

These are the typical symptoms but it takes a certain amount of experience to elicit them. Patients differ in their method of narration of symptoms and the prominence given to individual symptoms. Movements of gas across the Abdomen are often complained of; this may be only subjective, but often a dilated stomach and successive waves of peristalsis can be seen. Some do not complain of pain at all but only a sense of discomfort after meals, which, however, follows the act of eating with such regularity that the stomach should be suspected. Loss of appetite is sometimes seen and periodicity is absent. In such cases complications like Pancreatitis and

Cirrhosis of the Liver are present. In these typical cases quiescent Tuberculosis of the lungs or Diabetes may co-exist. Systolic murmurs may be heard over the heart in some of these cases and do not contra-indicate surgical treatment if the Heart muscle is good. Gall stones occasionally simulate and sometimes accompany it. Stones in the Pancreas have been known to cause errors in diagnosis. There is a type of severe anæmia especially in some of the patients coming from Malabar associated with the condition. These cases are not suitable for surgery; if operated upon, they die, either of shock or of a peculiar condition of general dropsy from which recovery is difficult and protracted. It is assumed that the system had established an equilibrium between the Ulcer and the blood condition but that the operation has upset this balance which is only with difficulty recovered from.

The diagnosis is made in about 90 per cent of cases on the history alone. It is not our custom to employ test meals or X-Ray as a routine, but only in doubtful cases and our experience in such cases is that very little help is obtained. There are of course errors in making a diagnosis from the history alone and a few of the conditions which give similar histories are:—Early Tuberculosis of the Lungs, severe Anaemias, diseases of the Gall Bladder, Chronic Appendicitis, Cirrhosis of the Liver, Tuberculosis of the Intestines and Peritoneum, Chronic Colitis, Constipation and Chronic Nicotine poisoning. Some of these cases who, on Laporatomy have been found not to suffer from Ulcer but are the subjects of early Cirrhosis of the Liver, have returned with a recurrence of symptoms after a short period of curious freedom from all trouble and on a second exploration an Ulcer has been found thus lending support to the suggestion that these pathological processes which affect the upper abdomen are probably

the operation. The routine procedure is to make a vertical posterior 'retrocolic' anastomosis as near the centre of the stomach as possible, the jejunum being picked up just beyond the flexure. An opening nearer the Pylorus cannot be made large enough on account of the narrowness of the stomach in this situation, while an oblique or transverse opening, is inferior to the vertical one for effective and rapid emptying of the stomach. Occasionally the Mesocolon is too short for the Retrocolic operation and then the ante colic posterior anastomosis is carried out the jejunum being brought up through an opening in the gastrocolic omentum. A loop has to be left in such case to prevent obstruction of the colon. It is not necessary to use clamps either for the stomach or the jejunum. These instruments soon lose their gripping power and have to be fixed with tapes or strings. They have to be imported and this involves much time and money. Their advantage lies in a bloodless field; the operation could be done a trifle quicker, and, theoretically, there would be less chance of infection. But against them is their rigidity which prevents close coaptation of the Viscera, especially the ends of the suture line, the limitation of the size of the opening to the fold within the grasp of the clamps and the damage done to the mucous membrane which is a real and serious one as has been proved by post mortem examinations in cases which have died within the 1st week after operation. The only points which may be cited against the no-clamp operation are the slightly greater soiling of the operative field and the few more minutes spent in haemostasis especially of the stomach. I should say that these are not real disadvantages, for, the additional time spent in haemostasis is a guarantee against post operative hæmorrhage of which I have not had more than one serious instance in

my series. I do not think that the no-clamp operation causes any more infection either in the Peritoneum or the abdominal wall than the clamp method. The suturing is done in the customary manner in two layers, the outer being a Lembert, the inner including all the coats, catgut may be employed exclusively for the anastomosis but its durability should be beyond question and if doubt exists on this point, it is safer to use fine vaselined silk for the outer suture line. The opening in the Mesocolon is fixed partly to the jejunum near the greater curvature and partly to the stomach near the lesser. This step is desirable; but omission of this detail is not necessarily serious. It has been the custom before closing the abdomen to remove the appendix in practically all cases whether diseased or not. This is omitted only in cases where every minute saved is valuable to the patient. The appendix can comfortably be delivered through the abdominal wound and its removal does not take more than 2-3 minutes. The abdomen is closed in layers and as an additional protection, a few through and through tension stitches of silk worm gut are always employed and removed about the tenth day along with the superficial stitches.

Among the immediate complications, sepsis is an extremely rare incident. Occasionally it does occur particularly in cases with severe Bronchitis when it is probably a blood infection assisted by trauma in the wound the result of violent coughing. In some of these cases of wound infection surgical Emphysema of the abdominal wall has been noticed. Generally the infection is not serious and subsides with fomentations. Post operative vomiting of altered blood frequently occurs and is cured by lavage of the stomach. Vicious vomiting has been unknown in my series and if vomiting of any

his jejunum. In another patient in whom an operation of this type had to be performed for a secondary Ulcer, the jejunum after it was severed from the stomach was found too small to be closed and an end to side anastomosis was performed with the aid of a Murphy Button. Occasionally a patient comes in whom such an extensive operation is not feasible and in such a method which is still available, is to free the stomach proximal to the original anastomosis, to divide the stomach into two segments, close the distal opening, and anastomose the proximal opening with the jejunum a little lower down, the loop passing in front of the colon. The causation of these secondary Ulcers is easily understood. It must be the continuance of the cause or causes which led to the formation of the original Ulcer, although many theories have been advanced to account for their occurrence, for example the use of clamps and of silk for suturing; too small an opening in the stomach; too high an opening, or one too close to the pylorus, suture of mesocolon to the jejunum rather than to the stomach; the failure to remove the Appendix and so on. Most of these causes could be dismissed as unlikely excepting the use of silk for sutures. There is no doubt, that the presence of such unabsorbable material within the stomach does lead to the formation of these Ulcers. I have myself seen this in some of my own earlier cases as well as in those of others in whom silk was used. It is advisable therefore to avoid the use of silk or other unabsorbable suture material especially for the inner row of sutures.

I have spoken so far about the treatment of Duodenal Ulcers. As regards gastric Ulcers the various methods tried hitherto are as follows: Gastro-enterostomy excision of the Ulcer either with the knife or the cautery; sleeve resection; or partial gastrectomy by the Polys method or

its modifications. Simple excision of the Ulcer without any other measure does not relieve except for a short time. It is immaterial whether the knife or the cautery is used, the result is the same. Sleeve resection has its limitations for if the resection is done too freely the ends of the stomach will not come together easily and as a result of tension the sutures are likely to give way. Gastro-enterostomy for gastric Ulcers is not the ideal operation. I cannot deny, however, that quite a number of cases have healed and remained free from symptoms after a simple gastro-enterostomy. In fact some of the most striking results of operation for Peptic Ulcers have followed gastro-enterostomy for gastric Ulcers. Unfortunately there is a risk about the operation, *viz.*, that the stomach is not an uncommon site for Carcinoma and it is impossible to be sure to the naked eye whether a given Ulcer is simple or malignant. It is therefore necessary in all cases of gastric Ulcers to do something radical to the Ulcer itself as a routine. There is no doubt that if it can be done, a partial gastrectomy is the ideal operation and as far as I am aware there are no contra indications to this step excepting the general condition of the patient. If he can stand it then in every case do it, but if there is a doubt on this point, ordinary gastro-enterostomy may still be done. Partial gastrectomy as a method has a fairly high mortality. When done for Cancer, it is quite high, I should say about 30. Even in the cases of benign lesions of the stomach the mortality is unfortunately still high, higher in this country perhaps where nothing but Chloroform is used for anaesthesia. I can quote from an experience of 46 partial gastrectomies and the mortality of 12 roughly 25, I must acknowledge, is a high one. The causes when analysed would be found to be the same as occur in the case of gastro-jejunostomy, that is, condi-

Fevers of Madras *

BY M. R. GURUSWAMY MUDALIAR AND
S. RAMAKRISHNAN, MADRAS.

Introduction: Out of a total of 25240 cases which include both medical and surgical patients that were admitted into the In-Patient wards of the General Hospital Madras, 3715 were admitted for fevers of all kinds during 1927 and 1928. But the findings of this paper ought not to be taken as absolutely exact. The reason for this apology is that the statistics utilised is that of Hospital cases which form only a small proportion of the actual incidence of fevers in Madras. The relative incidence of these diseases as seen from Hospital statistics would again be misleading in as much as only bad cases which require careful nursing seek hospital treatment from among the middle classes while very few of the richer classes take hospital aid for medical ailments of this sort. It is mainly the poor and labouring classes that have contributed to these figures. Even among these only a certain proportion desire allopathic treatment and a still smaller number get admission into hospital.

Classification of the fevers has been made with respect to their aetiology.

Table I.

Malaria	1514
Influenza	990
Dengue, Sandfly group	
fevers of short duration	274
Kala-azar	469
Enteric	468

* A paper read before the Indian Science Congress, Madras, 1929.

Malaria: Practically every part of the city is afflicted with Benign Tertian infection while Malignant Tertian occurs for the most part in the northern divisions—Washermanpet, Tondiarpet and North George Town. The Quartan cases which number only a few are usually imported either from a distance or nearer home, from Ennore.

It has been our experience that Cerebral Malaria can be caused by B. T. parasites—a fact which apparently has been missed by most of the text book writers.

Influenza has not disappeared from our midst even though it was ten years ago that the epidemic made its appearance. Though it accounts for over a quarter of our admissions it has however lost all its terrors, not a single case having proved fatal.

Dengue, Sandfly group: The few cases of sand-fly fever have usually come from the vicinity of the Veterinary College. Considering the prevalence of *Stegomyia* in Madras and the absence of scarcity of the *Phlebotomus Papatasi*, it is strange that there are only so few cases in this group. We are certain that if we had not taken special precautions to exclude the influenza cases from this group the figures here would easily have mounted up.

Kala-azar which shot up in 1925 still maintains a fairly high level—nearly 13 per cent in our series of cases. Actually the figures for these two years, 1927-28, come up to almost the same as for the nine years 1913-22, which has been investigated by Cunningham and Varadarajan.

The distribution of K. A. incidence in the city of Madras shows that a very slow extension is occurring towards the suburbs of Madras as they are being opened up. Possibly the infection in these cases is not so much due to the vector, whichever it may be, that may be present in the localities, but actually to infected cases

Or by the probability of antibody fast organism being present in the system.

Of the positive blood Cultures in 200 cases—

Table III

Typhoid isolated in	182
Para A	10
Para B and C	0
B. Alkaligenis Fæcalis	5
B. Coli	3

From the table it is seen that the proportion of Para-typhoid infection to Typhoid is comparatively low, that infection with Para-typhoid B and C has not been recorded even once during these two years.

Haematuria*

BY N. MANGESH RAO, F.R.C.S.

(Asst. Professor of Operative Surgery)

Diagnosis of Haematuria. It is essential to demonstrate Erythrocytes by the Microscope, from a fresh specimen of urine after centrifugalising it if necessary. Such an examination of the deposit may show in addition epithelium from different parts of the urinary tract or the presence of bits of a new growth. Chemical and spectroscopic examination may show blood-pigments, which must be distinguished from Hæmoglobinuria. Bacteriological examination of the urine is also to be done.

The Four Glass Test. (1) The first glass receives the washings of the anterior urethra, with sterile normal saline. If this contains any blood a lesion of this part is to be suspected.

(2) Into the second glass the patient voids three or four ounces of urine. Being the first portion of his urine it washes the posterior urethra. If this is blood-stained and that in the third glass is not so, a lesion of the Posterior Urethra, Prostate, or Seminal Vesicle is to be suspected.

(3) Into the third glass the patient voids all his remaining urine except the last ounce.

(4) Into the fourth glass he voids the last ounce of urine. In lesions of the Bladder, and the Prostate, this glass would contain almost pure blood "Terminal Hæmaturia."

If the urine is found to be uniformly mixed with blood in the last three glasses it is of Renal origin. A

* A portion of this article appeared in the Madras Medical Journal July, 1928.

Carcinoma.—Undoubted carcinoma is a rare tumour and is usually an adeno, or papillary carcinoma.

Papilloma.—Is the commonest tumour of the renal pelvis and the upper part of the ureter. It has a great tendency to recur and to become malignant. Surface implanation of these growths may occur in the ureteral opening or the bladder.

Symptoms and Signs.—Spontaneous hæmaturia unaffected by rest, pain, gradual loss of weight and strength. Sudden development of a varicocele in an adult especially on the right side is always suspicious of malignant disease of the kidney. A palpable tumour may be present, but a carcinoma may give rise to no enlargement of the kidney.

Cystoscopic Examination.—Blood may be seen issuing from the ureter or worm-like clots may be seen hanging from the ureteral opening. Specimens of urine taken by ureteral catheter from both kidneys may show a diminished function of the affected side, also whether the opposite kidney is functionally good. A cytological and bacteriological examination of the specimens may help in the diagnosis.

Pyelography.—May show deformity of calyces or renal pelvis.

1. A partial or complete obliteration of one or more calyces.
2. A spider-leg distortion of the calyces.
3. A distorted renal pelvis from growth protruding into it, or a complete obliteration of the pelvis as sometimes seen in a large papilloma of the pelvis.

A good Radiogram may also show the shadow of an enlarged kidney.

Treatment.—Complete nephrectomy with the perirenal fat is to be done, provided the other kidney is proved to be functionally good. Palliative treatment in

non-operable cases morphia, aspirin, bromides for the pain, calcium and ergot for hæmaturia.

Poly-cystic kidney.—Hæmaturia is intermittent and usually small in quantity. The condition is by-lateral. One kidney may become palpable sometime before the other. Pain is usually absent. A high grade of renal inefficiency is also present. The condition becomes apparent at the age of about 40 or after, though the disease is a congenital one. No treatment is possible. Uræmia is the ultimate result ending in death.

Renal tuberculosis.—More common in young adults of either sex with a slightly higher incidence in women. Increased frequency of micturition both by day and night is characteristic. Hæmaturia is slight and intermittent, occasionally severe in advanced cases of ulcerating type. Urine is passed every half hour with pain before and after micturition, not relieved by rest. There is low fever, and gradual loss of weight. The urine is either faintly acid or neutral in reaction with a few erythrocytes and pus cells. Tubercle bacilli may be found. If on culture it appears sterile, a guinea pig inoculation test should be done.

Cystoscopy.—Retraction of the ureteral opening "the golf hole ureter" a symmetrical position of ureteral openings may be noticed, a pulling upwards and outwards of the ureteral opening of the affected side due to an involvement of the ureter in the tubercular process. Tiny greyish or yellow tubercles may be noticed around a congested ureteral opening. Catheter specimens of urine from the ureters should be taken for cytological and bacteriological examination and chromocystoscopy and other functional tests should be carried out at the same time.

Pyelography.—In the early stages a widening of calyces

repair and the other kidney is efficient nephrectomy is indicated. In these cases the bladder may be full with blood clot, which should be evacuated by Bigelow's evacuator or by supra-pubic cystotomy.

In Pyelitis especially that caused by *B. Coli* infection—a few erythrocytes and pus cells are present in a very acid urine with a faint fishy odour. Bacteriological examination will settle the diagnosis. There is fever and rigors may occur. Treatment—consists in converting the acid urine into alkaline by giving potassium citrate and other drugs with plenty of diluents. *B. Coli* growth is thereby inhibited. After temperature has come to normal, the urine is made acid again by giving acid sodium phosphate and small doses of urotropine as an urinary antiseptic.

Ruptured Ureter.—The ruptured ends should be sutured and extravasated urine drained.

Presence of free fluid in the peritoneal cavity is an indication for an exploratory laparotomy with evacuation of blood and fluid, suture of the tear and drainage.

Solitary ulcer of Ureter.—(Hunner's ulcer) May give rise to slight haematuria, with frequency of urine. These ulcers are due to septic emboli from focal sepsis. Treatment consists in eradicating focal sepsis and in giving urinary diluents.

Other Causes of Haematuria. Renal haematuria may occur by rapid emptying of an once chronically distended bladder, especially in prostatic cases. Slight haematuria may occur from intermittent kinking of renal vessels in a floating kidney. It may also occur in Hydronephrosis, Pyonephrosis, occasionally with Oxaluria. In Pyelonephritis it may be one of the earliest symptoms. It sometimes occurs in solitary abscess of bacterial embolism in an otherwise healthy kidney. It may also occur in

Haematuria

interstitial nephritis with high blood pressure, and in cardiac failure from a passively congested kidney. It also occurs in leukæmia.

Essential Haematuria.—It occurs suddenly without any sign of injury or infection, without pain except that caused by passage of clots. It stops as suddenly. Usually there is large quantity of blood mixed uniformly with urine, clots are rare. Radiography is negative. Between the attacks urine is clear and normal. Functional test show the kidneys to be normal. No apparent cause can be found. The possible causes of this condition are:—

1. Hæmophilia.
2. Purpura Hæmorrhagica.
3. Aneurysm of one of the branches of the Renal artery, which has leaked into the renal pelvis.
4. Infarcts of the kidney resulting from endocarditis.
5. Angiomatous condition of the renal pelvis, analogous to varicocele, varicose veins, etc.
6. A high blood pressure with a partial chronic nephritis limited to one kidney and due to some old organismal infection.

Treatment.—Rest in bed, hæmoplastin, calcium lactate, and morphia can be tried. Failing this exploration is indicated if the hæmaturia is severe. Removal of a papilla the seat of varix may be done. Hæmophilia should be first excluded. In cases of aneurysm, if small and limited to the kidney nephrectomy may be possible. As infarcts may become bilateral palliative treatment only is to be done.

Haematuria may be caused by administration of drugs in some people. Cantharidis, turpentine urotropine etc. are liable to do this. A few cases of haematuria have been reported following insulin treatment.

and pulmonary areas. Throughout the stay in Hospital there was a remittant pyrexia with however no periods of apyrexia. Puncture fluid from one of the glands showed marked eosinophilia. The Wasserman reaction was negative. The blood on first admission showed an R.B.C. count of 1,720,000. W. B. C. 58,000, Haemoglobin 56%. Polymorpho-nuclears formed 88%, lymphocytes 8%, myelocytes 3%, Eosinophiles 1%. The second examination of the blood showed 3,748,000 R. B. C., 56,250 W. B. C., with Polymorpho-nuclears forming 86%, myelocytes 3%, lymphocytes 9%, Eosinophiles 1%. Poikilocytosis was a well marked feature. Bio-chemical investigations showed a blood calcium of 8.6mg in 100c. c., blood fragility was complete in 0.4% of saline, Van den Berg's test gave a direct negative and indirect weak positive reaction. The blood pressure was 110m.m., systolic, 70m.m., diastolic. He was put under a course of deep X-Ray therapy under which the leucocyte count came down to 7,800, and the haemoglobin to 42%. Patient died after a fit on 13-9-27.

The autopsy showed marked enlargement of the anterior and posterior chains of the glands in the neck. There was a swelling in the middle line of the neck which on incision was found to be an abscess of the size of an orange with a well defined wall and containing yellow pus. There were a number of smaller glands in the axilla which were discrete and slightly movable, a group of glands could be felt also in the groin. There were obliterating pleural adhesions on the right side while in the left pleural cavity was an empyema pushing down the diaphragm and causing a pressure collapse of the base of the left lung which was adherent above completely shutting off the empyema. There was some Oedema of the tissues of the superior mediastinum. A lump of matted glands formed a large swelling surrounding the

bronchi and the aortic arch filling up the shoulder girdle and extending behind the heart. There was no infiltration of the pericardium. The left lung was oedematous at the apex, the base collapsed and the pleura thickened and adherent shutting off the empyema. The tracheo-bronchial glands were enlarged and pigmented and showed foci of caseation. The right lung showed pleural tubercles near the hilum suggestive of lymphatic spread. Microscopically, thickening of the pleura and miliary tubercles were in evidence. The heart showed brown atrophy. The liver showed a few miliary tubercles both underneath the capsule as well as inside the organ. Microscopically there was acute congestion in addition to miliary tubercles. The spleen was not enlarged but smaller than normal and showed white opaque areas of variable size which on microscopical examination proved to be caseating and conglomerate tubercles with well developed giant cell systems and commencing caseation. There was marked fibrosis. Both kidneys showed pyaemic abscesses and a few retention cysts. The other organs were healthy except that the peri-pancreatic glands were enlarged. The periosteum of the right clavicle was infiltrated and the marrow of the bone itself involved.

The glands on section presented those curious yellowish white opaque flecks which had a resemblance to tubercular caseous material but were rather more firm, more opaque and discrete. They stood out prominently from the surrounding tissue. Some glands showed a number of these tiny opaque flecks which were not fused together like tuberculous caseous material. Other glands showed marked enlargement and on section there were no necrotic areas but typical gelatinous areas with strands of fibrous tissue running into the gland from the capsule. There was some periadenitis in the

The Tuning Fork Tests for Hearing

BY P. V. CHERIAN, F.R.C.S.E.

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The tuning fork tests are very important in Otology as aids to diagnosis. They help us to find out the degree of deafness and more important than that to localise the pathological changes causing deafness. They enable us also to determine whether the cause of impaired hearing is in the sound conducting or in the sound perceiving apparatus, *i.e.*, the middle ear or the Internal Ear. These tests are still more important in that, they alone can help us to determine accurately the result of treatment. In making use of the tuning fork tests we must examine the power of perception for the waves of sound passing from the air to the Tympanic Membrane as well as its perception through the cranial bones. The tuning fork generally used for the purpose is, one with 256 vibrations per second. It should ordinarily be provided with a flattened disc shaped end to enable it to be closely applied to the Mastoid region.

The three most important Tuning Fork tests are

1. Weber
2. Rinne
- and 3. Schwabach.

We shall now examine these tests assuming that the deafness is unilateral.

Weber:—When a vibrating tuning fork is placed on the vertex, part of the sound goes directly to the Labyrinth or Internal ear. This is known as Direct bone conduction. Another part goes to the middle ear or tympanic

cavity. This is known as Indirect bone conduction. From this indirect bone conduction part of the sound goes to the Labyrinth inwards and the other part is reflected outwards. If the external auditory meatus on one side is closed with the finger, part of the sound instead of being reflected outwards is directed inwards and the sound is consequently heard better on that side. The same phenomenon happens with wax in the ear and all diseases of the external and middle ear including perforations of the drum. This is because the waves of sound are transmitted outwards through molecular movements of the ossicles and tympanic membranes and any interference with these movements results in increased hearing by bone conduction on the side affected. When the tuning fork is heard better on one side by this test we say Weber is lateralised to that side. When Weber is lateralised to the affected side it is a sign of external or middle ear disease especially the latter.

The result is different with Internal Ear disease. Here when the vibrating Tuning Fork is placed on the skull the waves of direct bone conduction go straight to the Internal ear but as this, the sound perceiving apparatus, is diseased all the sound waves are not perceived. The same also applies to the part of sound waves reflected inwards from Indirect bone conduction. The normal side therefore gets more impressions of the sound waves. So here Weber will be lateralised to the sound side. Weber lateralised to the sound side is an indication of Internal Ear disease.

Rinne: This is a comparative test for air and bone conduction. When the vibrating tuning fork is held in front of the ear-testing air conduction the sound waves go direct to the labyrinth or Internal ear. When it is placed on the Mastoid-testing bone conduction we have

* From the Madras Medical Journal October, 1928.

middle ear disease he will hear the tuning fork longer than the surgeon on his skull as has been shown before. So we say here that Schwabach is lengthened. Lengthened Schwabach is a sign of Middle Ear disease. If on the other hand the tuning fork is placed on the head of a patient with Internal Ear deafness--where the sound perceiving apparatus is not normal--he will hear it only for a shorter time than the surgeon. Here we say that Schwabach is shortened. Schwabach shortened is a sign of Internal Ear deafness.

Apart from the above three tests we can also test the patient's power of hearing high and low tone tuning forks. The low tones have very weak power of penetration and are long drawn out. Therefore for the brain, to perceive them they require a transmission apparatus which is provided by the tympanic membrane and the ossicles. Therefore in middle ear disease the patient will not be able to hear the low tone tuning fork. So we say that in middle ear deafness the lower tone limit is raised.

The higher tones have small elongations and great power of penetration. These are normally perceived and do not need the tympanic membrane and ossicles so much as the lower tones to transmit them, *i.e.*, they are easily perceived by the Internal Ear. So if the Internal Ear is diseased the power of perceiving high tones is relatively bad compared to the low tones. Here we say that the upper tone limit is lowered.

To conclude let us take the left ear.

In middle ear disease here--

Weber is lateralised to the left

Rinne is negative

Schwabach is lengthened

Lower tone limit is raised

Upper tones are good.

In Internal ear disease

Weber is lateralised to right

Rinne is positive

Schwabach is shortened

Lower tones good

Upper tone limit is lowered.

In total deafness of the left side

Weber is lateralised to right

Rinne is infinite negative

Schwabach is shortened

Lower tones gone

Upper tones gone.

appears with a greater rise of temperature with return of all the pains. However, in some cases both fever and pain are less severe than during the primary.

This interval separating the two periods of pyrexia gives a chart designated as "saddle-back" rise of temperature. There may also be cases with only a single rise of temperature. The second attack of fever is attended with pain and greater depression. It is however of a shorter duration and during this period, a universal mottling of the skin occurs, and this is the terminal rash which is the most characteristic feature of the disease. The rash appears first on the palmar surface of the hands and soles of feet, advancing up the forearm and the leg. Later on, it may involve both arms, legs, face and trunk. The rash much resembles measles, but lacks the dusky red appearance and *never* papular. It may however be punctiform and resemble scarlet fever.

The terminal rash may be ushered in by crisis, such as profuse sweats, marked diarrhoea, epistaxis and haematemesis. The rash persists for 2 or 3 days and as it subsides a slight branny desquamation occurs, which is often attended with itching. Some writers describe enlargement of glands in dengue, but they are not very often seen here.

Convalescence is apt to be prolonged, and the patient may suffer from malaise, neurasthenia, nervous depression and apathy.

Leucopenia with a poly-morpho-nuclear reduction, which may be as low as 42% appears in the blood by the second day of the fever. Eosinophils are found to be decreased during the attack of the fever but it is noted to be increased during the convalescence, when the skin condition especially happens to become worse.

Clinical Types: The types seem to vary very much in

different epidemics and one of the symptoms of the disease seems to be the most dominant feature in each of the epidemics. Of these types it may be noted:—

(i) The pulse slower for the temperature-rise, (Faget's law) and thus producing a phenomenon, which is very common in yellow-fever. This may be the only symptom in dengue.

(ii) In some epidemics glandular enlargement is quite common. In others the swellings are so slight that they are over-looked.

(iii) The "saddle-back" temperature is the most common in many out-breaks of this disease. It is also possible that these atypical fevers may be due to Phlebotomus fever or Seven-day fever, instead of dengue.

(iv) In some epidemics the rash is quite significant or may be slight. In India especially on dark skins it is very hard to notice the rash even if it exists.

(v) The patient with an atypical history of fever may complain of joint pains alone and this symptom of pain may be the only clinical feature of the disease.

Diagnosis: To be made from Influenza, Yellow fever, Measles, Scarlet fever, Articular rheumatism and from a fairly early case of Small-pox. It is very difficult to diagnose Dengue from Influenza. In fact the great pandemic of Influenza of 1890 was mistaken by many doctors to be a form of Dengue. The respiratory symptoms in *Influenza* may be slight and nervous and intestinal symptoms may be prominent. Rash, slow pulse, and blood findings should assist in the diagnosis of Dengue. Albuminuria starting on the 2nd day, jaundice appearing on the 3rd day are the characteristic symptoms of *Yellow fever* Albuminuria being absent in dengue. *Measles* is recognised by the running from the nose and eyes, Koplik spots and the rash first appearing on the face are distinct-

ive enough. *Scarlet fever* is an uncommon disease in the tropics. It is rarely associated with sore-throat, severe articular pains and enlarged glands, and by its occurring in hot weather. Its characteristic temperature, rapid pulse and leukocytosis in blood are distinctive enough to diagnose it from dengue.

Acute Rheumatism is likely to be mistaken for Dengue. Rheumatism is rare in the tropics. Secondly it has no rash but has profuse sweats and true articular pains.

Head-ache, severe back-ache and rash, are also prominent symptoms in *Small-pox*. Leucopenia is the most prominent feature in Dengue and this, as a rule differentiates it from *Small-pox* during the first 3 days.

Prognosis: As regards life, prognosis is excellent. Death practically never occurs. If ever it occurs it is from such complications as a weak heart, hyper-pyrexia in the worn-out patients. In most cases the acute symptoms pass off within 8 days. Painful joints and crippling may be found in the patient after the fever leaves him. This disease appears to confer a very short period of immunity. Fresh relapses may occur.

Prophylaxis and Treatment: Prophylaxis consists in destroying the mosquitoes and preventing the mosquitoes from biting the patient as in malaria, with the exception of using quinine for treatment.

Treatment: does not very much differ from the ordinary hygiene necessary in fevers. The patient should rest in bed, which advice the patient readily accepts, and should be put on a light nutrient diet. Cold sponging for insomnia; for the pain in the limbs belladonna antipyrin, phenacetin and even morphia in small doses may be given for the severe forms of headache and pain. No particular drug seems to modify the course of the disease.

During convalescence tonics can be prescribed.

Asthenia is supposed to be due to adrenaline deficiency, and so adrenaline can be given internally. The subsequent anaemia and asthenia are very troublesome and difficult to treat.

Phlebotomus Fever: is caused by a filterable virus. The fever lasts for 3 days. It affects the new-comers in the summer months in Crete, Mesopotamia, Egypt and some parts of India also. The virus appears to be present in the peripheral blood during the first 24 hours and disappears into the deep blood-vessels afterwards. It is a widely spread disease. The transmitting agent is *Phlebotomus papatasi* or the sand-fly. The insect is very small and it bites at night. It dislikes sun-light and wind.

Symptoms: After an incubation period of 4 to 7 days a rigor occurs followed by severe head-ache, fever, severe pain in the eye-balls, brow, back and calves of the legs. The eyes are congested, the face flushed and the tongue is coated. Here we get a fever lasting over 3 days, and the other symptoms exactly resemble Dengue. Slow pulse and only 3 days' fever with absence of eruption differentiate it from Dengue.

Treatment. Is purely symptomatic. Opium is one of the drugs that can be used with safety during the early stages. As prophylactics, apply eucalyptus or cassia oil to the exposed parts and fumigate the rooms with sulphur.

Seven-day Fever: Rogers described Dengue-like fever occurring in India as seven-day fever. The fever may be either "saddle-back" or continuous. Spleen may be enlarged. In 10% of cases alone eruption is commonly seen and generally an erythema may be seen on the extensor surface of the fore-arm and that too about the 4th day. Temperature does not come down to normal before the 7th day and the fall is by crisis as in Dengue.

Etiology: In clinically similar cases of seven-day fever

a spirochaeta (*Leptospira Hebdomadalis*) resembling that of Infective Jaundice was noted; which organism can be differentiated from the latter from immunity reactions.

The disease can be transmitted by injecting the blood of an infected patient into guinea-pigs. The organism can be cultivated by Noguchi's method. The spirochaeta is found in the urine and probably this acts as a source of keeping up the infection. In Japan, field-mice are supposed to be the intermediary host. Recovery is the rule in all these fevers and the treatment is simply symptomatic.

Sand-fly Fever: This Dengue-like fever in India is identical with Phlebotomous fever. Sand-fly fever does not confer any immunity to an individual that has suffered from Dengue and *vice versa*. Enlarged glands and pains "saddle-back" rise of temperature are found in Dengue and none in sand-fly fever and these differentiate the two.

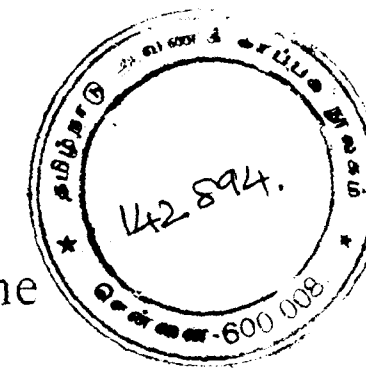
Six-day Fever: Deeks describes a disease occurring at Panama almost resembling Dengue in all its clinical course. Blood findings and pulse-rate are approximately normal. Some cases showed scarlatiform rash. If there is a slight enlargement of spleen with a continuous fever of 6 days coming down by crisis on the 6th day we can be certain that the disease is a six-day fever and not Dengue.

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The Pathology of Gall-stone formation

IN THE LIGHT OF RECENT RESEARCH

BY R. SUNDARAM IYER, FOURTH M. B. CLASS.

The Bio-chemical and Bacteriological investigations of recent years have contributed a great deal to the solution of one of the many riddles of human pathology *viz.*, the pathogenesis of gall-stones. Still our knowledge of the cause and mode of formation is rather meagre as we know but little of the functions of the gall-bladder. Various hypotheses have been put forward each based on a theory of the function of the gall-bladder, though none of them is comprehensive in itself.

THE BIOCHEMISTRY OF GALL-STONE FORMATION.

It is a common observation that cholesterol is an important constituent of the majority of gall-stones. It is present in normal bile up to .16 percent and is held in solution by the bile salts glycocholate and taurocholate of sodium. Cholesterol is therefore likely to be precipitated whenever the quantity excreted in the bile is increased or the amount of bile salts available for its solution is reduced. The increase of cholesterol may result from catarrhal disintegration of the mucous cells lining the gall-bladder; while the diminution in the amount of bile salts may occur in certain obscure conditions where the liver is unable to form sufficient bile salts to dissolve all cholesterol. Under both the above conditions the bile becomes saturated with cholesterol which is consequently precipitated in the form of gall-stones.

three factors, *viz.*, cholesterolaemia, infection and biliary stasis.

A NEW EXPLANATION OF THE FORMATION OF GALL-STONES.

Very recently a new hypothesis concerning the formation of gall-stones has sprouted up, based on an entirely different function of the gall-bladder. According to this new conception, the gall-bladder is not a reservoir for the storage of bile to be expelled whenever there is a call for it in the intestines, but an organ the function of which is the returning of the important constituents of the bile into the circulation. In other words it is assumed, that the mucous membrane of the normal gall-bladder is capable of absorbing certain of the bile constituents. Any disturbance of this absorptive function is the factor leading to biliary stasis. The site of the disturbing process may be in the gall-bladder itself or it may be in the liver or in both the gall-bladder and the liver.

"This new theory of the function of the gall-bladder therefore leads to a differentiation of three types of stasis, each of which is accompanied by gall-stones; the hepatogenous stasis accompanied by the formation of pure gall-stones, the cystogenous stasis accompanied by the formation of mixed gall stones and the chronic stasis of bile in the gall-bladder accompanied by the formation of combined gall-stones."

In the case of pure gall-stone formation the liver is probably primarily responsible. The excessive secretion of stone-forming substances (eg. cholesterol) by the liver is more than the mucous membrane of the normal gall-bladder can deal with. Consequently the cholesterol content of bile in the gall-bladder becomes greater and

greater until it may reach a point at which the cholesterol will crystallise out at the slightest provocation.

The formation of mixed gall-stones is associated with cystogenous stasis. Infection and inflammation damage the mucous membrane of the gall-bladder so that the constituents of bile are not reabsorbed. Retention of the stone-forming elements occurs and this combined with stagnation, is responsible for the formation of mixed gall-stones.

Lastly, in the formation of combined gall-stones, chronic stasis due to both a disturbed functioning of the liver and a pathological condition of the gall-bladder may be responsible.

My thanks are due to Cap. P. N. Basu, I. M. S. for his valuable suggestions.

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weakens the patient & his heart, it lowers the B. P., and decreases resistance by diminishing leucocytosis.

Those who have taken full doses of Quinine orally, (not to speak of intravenous administration) well know what an amount of weakness and general depression it causes. The direct introduction into the blood of a patient, who may, in the course of the disease require all his strength to fight against Cardiac and Respiratory failure and toxæmia, of a drug which is a Cardiac, respiratory and protoplasmic poison, does not seem to be a safe procedure. In Pneumonia, the pulmonary impairment causes deficient oxygenation of the blood, and by administering Quinine, there is the possibility of increasing this deficiency, because in the presence of Quinine, the haemoglobin loses a part of its activity in taking up oxygen.

A word may be added regarding the intravenous injection of Quinine. Those who witness innumerable intravenous injections of Arsono Benzol remedies daily in the venereal department, are apt to entertain a mistaken idea that Quinine—which is a better known drug, which is more widely used and which is supposed to be less dangerous, (because it is not credited with the production of the toxic effects of Arsono Benzol derivatives, like acute yellow atrophy, fatty degeneration of Cardiac muscle or various anaphylactoid symptoms)—can also be given intravenously with impunity. I have myself given and closely watched the effect of many intravenous injections of Quinine on malarial patients, while I was in another hospital, where, wisely or unwisely, intravenous injections of Quinine were given as a routine measure in all cases of Malaria. The authorities there were wise enough to order that at least half an hour should be taken for the injecting of the material into the blood stream. (10 grains of Quinine bihydrochlor in 10 c.c. of water.) Even with

this interval which is long in comparison with the three minutes prescribed in some well known text books; in certain cases, many anxious and untoward symptoms were noticed, like cyanosis, fall in B. P. feeble fluttering pulse, cold clammy sweats etc. in fact, all the classical symptoms of a severe collapse. In some few cases there was vomiting of Blood also. These symptoms occurred in patients who were not very ill, who were fairly healthy and strong. It can well be imagined what the result would be, if the injection is made in the usually prescribed 3 minutes, in a patient who is weak, or is suffering from a grave affection like Pneumonia. It is my conviction, and that is derived from experience, that if about 10 gr. of Quinine is given intravenously in about 3 minutes, most patients will fall into a condition of collapse, from which it would be difficult to bring him round. It is to guard against this fatal end that some cautious authorities recommended to give Quinine intravenously, *only* by the slow infusion method. (10 gr. in a pint of water slowly introduced into a vein.)

Busy practitioners will do well to withhold intravenous Quinine as far as possible, and at all events to be armed with the necessary things for the treatment of collapse in case they give intravenous Quinine.

Though foreign to the theme of this article, it will be interesting to review the various drugs that were from time to time recommended for treatment in Pneumonia. These days are now almost obsolete in the treatment of Pneumonia.

(1) *Aspirin*: 10-15 gr. at the onset of the attack, repeated every four hours so long as any raised temperature persisted. In every case the disease was aborted and the drug has the power of curing Pneumonia. (Strange words these !!)

ounces of blood were let out, so that the blood pressure was reduced to 120 mm. or less. At one stage we used to transfuse normal saline into the veins with the hope that thereby the toxins in the blood would be diluted.

We hold that these measures are unnecessary and undesirable. Since 1922 we have used veratrone, the active principle of *Veratrumviride*, to reduce the blood pressure; 1 c.c. of veratrone (P. D. & Co.) is given subcutaneously if the blood pressure is above 140 mm. and $\frac{1}{2}$ c.c. if it is below. This produces a sharp fall in the blood pressure in 15 to 20 minutes and the blood pressure is kept down for varying periods afterwards. In most cases two injections at an interval of 2 to 3 hours sufficed. We have however given as much as 6 c.c. of veratrone in 24 hours with no bad results. In cases where a high blood pressure persists in spite of repeated injections of veratrone, we have performed venesection with good result. This method of treatment was adopted in a case where the patient had 72 fits. The injection of veratrone produces a rapid and considerable fall in blood pressure and a corresponding fall in the pulse rate. Occasionally the blood pressure falls very suddenly and alarming signs of collapse occur, but these are rapidly overcome if the patient is given an injection of strychnine, and later saline and glucose per rectum.

We have used veratrone very largely as a prophylactic in cases of threatening eclampsia (albuminuria with persistent high blood pressure) with uniformly good results. The injection of veratrone occasionally causes severe vomiting, the patient sweats freely and feels a sinking sensation in the epigastrium. The symptoms, however do not persist for long and in a couple of hours, the patient perhaps dozes off to sleep.

Besides the injection of veratrone, morphia is given

to check the fits. We start with an initial dose of $\frac{1}{4}$ to $\frac{1}{3}$ grain and repeat it at intervals of 2 to 3 hours if fits persist. Since commencing the use of veratrone we have noticed that it is not necessary to use morphia in such a large dose, the maximum we have used being 1 grain in 24 hours.

Care should be taken to see that the patient is kept quiet in a darkened room, and that she is disturbed as little as possible, particularly when she is at all restless or mentally excitable. Under such circumstances it is wise to give an injection of morphia and as soon as she is under its effects to proceed with examination, to draw off the urine or to give her an enema.

When the patient is quiet she is given a large soap and warm enema which is followed by sodium bicarbonate bowel washes (1 drachm to 1 pint) every 4 hours.

We have given up the idea of gastric lavage which at one time was extensively practised in this hospital. It has not in the least interfered with the recovery of the patient, but on the contrary we are convinced that lung complications occur much less frequently without it. Thus while such complication occurred in more than a third of the cases in the days of gastric lavage, our figures show that they occurred in less than 10 per cent of the cases at present. If the patient is conscious she is given a saline purge, an ounce of magnesium or sodium sulphate.

We hold that no food of any description should be given for at least 12 hours after the woman ceases to have any fits and regains consciousness. Eclamptics stand starvation quite well and any attempt at forcing food, even if it be milk, increases the chances of fits and might increase the tendency to deglutition pneumonia. When the patient is conscious she is given milk and barley water.

Editorial

The quarter that is now coming to a close has been one of great social and other activities in the College. Among others we have had our annual Sports and Tennis social. These were organised and conducted by the students themselves and were an unqualified success as acknowledged by all. Full reports are appearing elsewhere in this issue of the magazine.

* * * *

We have pleasure in congratulating Lt. Col. R. E. Wright, I.M.S., on the well merited distinction of C.I.E. which has recently been conferred on him. The services rendered by this energetic and talented officer to the public of this Presidency have been widely appreciated and we are glad that the powers that be have realised his worth and rewarded him in a manner which has given universal satisfaction, particularly to his professional brethren in the College.

* * * *

We became aware recently of the existence of an interesting magazine which is being edited for circulation among the House Surgeons and House Physicians of the General Hospital. A publication such as this deserves a wider circulation and we wish it all success. In order that our magazine may assume its due and proper role as the organ of the younger generation of medical men in this province and contribute in fullest measure to their advancement we are anxious to enlist the sympathy and support of the talented promoters of the House Surgeons' magazine. We welcome their contributions and particularly their pencil sketches and caricatures.

* * * *

We are very much indebted to Capt. Bernard and the Staff of the X-ray Department, General Hospital for kindly sparing us the prints of several skiagrams.

It has been felt for sometime that our College Association is warped in its natural development by financial limitations and proposals have been made more than once with a view to enhance our resources by a slight addition to the annual subscription now levied from its members. Perhaps a subscription of Rupee one per head per year would be admitted by all to be too miserable a sum for our needs and not good enough for the members of a College that is second to none and better in many ways than most other Colleges in the Presidency. We hope we shall have the unanimous support of all to enhance the annual subscription from one to two rupees.

We are pained to see in lay papers the policy of "open market" for recruiting the teachers for medical colleges is being attacked. This is a policy which was memorialized for by the Provincial Service Officers at least for 2 decades. After such a long time the policy is being adopted by the Government and immediately some of the ill informed lay papers are attacking the policy. To make a close preserve of these teaching appointments to any particular *service* or *race* is certain to bring down the standard of efficiency of teaching. Those that have at heart the real good of the country and wish to have our boys as well trained as possible would see the reasonableness, we hope, of affording the Government as wide a field for choice as possible.

Perhaps it is a lurking suspicion of possible bias on the part of the advisers to Government that is at the

ever since the development of the disease and hence has not fractured any of his bones. In patients who are able to get about in addition to thinness of the shaft, there is also a slight shortening, showing that the disease is not limited to membranous ossification but that the endochondral ossification is also affected to a certain extent. The disease is also characterised by a deficiency of calcium in all tissues including bones and hence the Sclerotics also develop a bluish tint owing to extreme transparency.

This case has been sent to us as one of Still's disease, which is an acute febrile disease occurring within the first 5 years of life and with enlarged tender joints, the swelling being periathritic than synovial and the condition is accompanied by universal enlargement of all lymphoid tissue in the body. The condition is apt to run a chronic course and the patient as a rule gets absolutely well or is carried off by inter-current disease.

Two points against Still's disease are :-

(1) Age

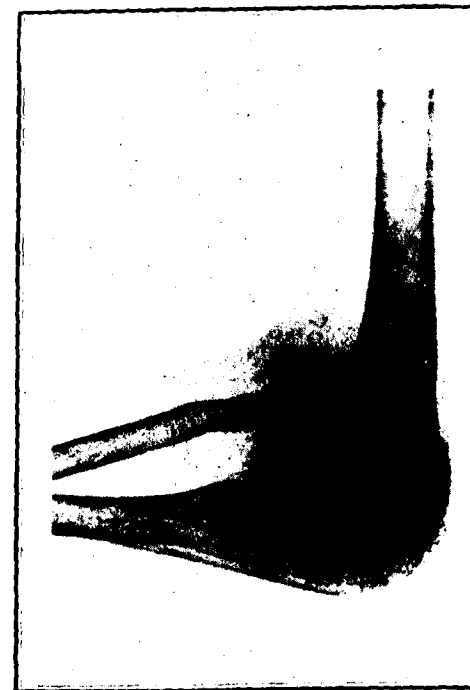
(2) Still's disease does not leave behind any arthritic complications.

The case under consideration is obviously a case of multiple rheumatoid arthritis which has become chronic. There is a variety of rheumatoid arthritis occurring in children in teens, which usually persists and is called Infective arthritis of children. Here the poor development of bones and the necessarily limited blood supply, have predisposed to this type of rheumatoid arthritis, which has left the patient in a crippled condition.

By kind permission of M.

A Case of Caesarean Section

A diminutive looking Hindu woman, named Chittu Pillay, with a childish face, but said to be aged about 21, but measuring only 3'—4" in height, and 36 Lbs. in weight, was admitted into the Government Head Quarter Hospital, Madura, for difficult labour. She looked no bigger than a child of four, and was literally carried in arms by the attendants and placed on the labour board. She had thick arched eye brows meeting in the middle line, and long eye lashes. She had profuse growth of hair on the head, a



Skiagrams show extreme atrophy of the shaft of long bones, and thinness of compact tissue

—By the courtesy of the X-ray Dep



"The little Girl" with the child is the mother. The other woman by the side is for comparison.

low hair line, axillary hairs were well developed, but the pubic hairs were downy. Both conjunctivæ were axerotic.

Dentition:—Wisdom teeth had not erupted, upper central and lateral incisors were irregular, crowded, stumpy and carious. Lower lateral incisors were irregular and carious. Bad pyorrhoea was present.

Tonsils normal. No adenoids.

Skin over both extremities dry, wrinkled. Goose skinning of the extensor aspects of both fore-arms was present. No half-moon markings were developed on any of the finger nails. No hairs on the dorsum of the phalanges or toes.

Family History:—She is the fourth child of a family of three brothers and two sisters aged 29, 27, 23, and 18, respectively. Her younger sister is aged 18 of normal appearance and development. The other brothers are of normal height, growth and development.

Previous Illnesses or Injuries:—Patient is said to have had whooping-cough when a year old which lasted for two months. She had mumps when six years old. She has been successfully vaccinated in infancy.

Sexual History:—Patient attained puberty when about 15 years of age. Periods were regular. Has well developed breasts and external generative organs. But the Cervix appears small. She is unmarried and is said to have had no sexual relations until 10 months ago when she says she was seduced one night. She denies subsequent sexual relations.

Pelvic Measurements:—Interspinous— $6\frac{1}{4}$ ".

Intercristal—7".

External conjugate—5".

Course of Pregnancy:—Patient had vomiting for the first three months and a smart hæmorrhage in the eighth month which lasted for a day.

Circulatory System—Normal.

Respiratory System—Normal.

Digestive System—Patient was heavily infected with round worms, and was given Santonin treatment with good result. No enlargement of liver or spleen. No history of malaria.

Kidney—Urine Sp. Gr. 1010. No sugar or albumen. Reaction acid.

Nervous System—The head appears rather small; but intelligence and the reflexes normal. Voice: drawling.

with weak associations, and a tumorous temperament.

E. *Dermal*:—*Teeth*, upper incisors enlarged, lateral occlusion bad, hair fairly persistent lanugo over back.

F. *Temperature*:—No record available as to the usual temperature in health.

G. *Pulse*:— Ditto.

H. *Blood pressure*: Normal.

A posterior pituitary deficiency is not thought of in this case, as the posterior pituitary lobe is considered to be the great initiator of organic rhythm, and is said to start the onset of labour pains at full term. The patient went on to full term and had vigorous pains. She, menstruated a little late, but had no irregularity or abnormality connected with this function.

Until more definite knowledge is obtained about these living Lili-putians, one can but hazard a guess and incriminate the anterior pituitary for what was after all a freak in Nature. My thanks are due to Lieut-Col. T.W. Harley, C.I.E., I.M.S., for permission to publish this case and the photograph.

C. S. S. Sarma.

* * * *

A Case of Ruptured Uterus.

Mrs. M. Aged 20, Hindu, Primipara admitted into the Government Maternity Hospital on 6-12-'28 at 10.5 A.M. She was in labour since 10 P.M. the previous day. Membranes were ruptured. She was examined by a barber Midwife and later by a doctor who plugged the Vagina. On admission Temp, 101.6, Pulse 160, urine contains albumin, bladder emptied, F. H. not audible, palpation revealed the existence of full term foetus a tonically contracted uterus, and the head not fixed to the brim of the Pelvis.

At 10.45 A.M. the patient was examined under chloroform. The chloroform report reads as follows:—"Primipara in labour since 10 P.M. Yesterday—interfered outside by a barber midwife, uterus tightly wrapped, round the child. Foetal parts not palpable. F. H. Not audible. Mother's condition exhausted—Pulse quick-160, Poor Volume—Suspected Rupture

of uterus. No portion of uterus felt in the peritoneal cavity. Temp. 101.6. P. V. on admission. A large head floating above brim, as fully dilated, Prolapse of cord, cord not pulsating. Forceps applied and peforation done—size of head reduced by cranio-clast and chephalotribe and head extracted with difficulty. Double cleidotomy done and child extracted. Placenta expressed, uterus found ruptured posteriorly near the attachment of the cervix and the Vagina. Rent plugged with gauze. Wt. of child 7½ lbs.

11.20 A.M. ½ c.c Pituitrin injected

11.25 A.M. ½ c.c Pituitrin injected uterus massaged placenta expressed; Morphia ¼ gr. injected.

11.30 A.M. Submammary saline started, foot of bed raised and extremities bandaged—Pulse very rapid volume and tension poor—adrenalin 1 c.c. injected.

7-12-28. Patient's condition is unsatisfactory. Pulse 154, rapid and rather feeble. Temp. 101" slight distension of abdomen present, under chloroform uterine plug was removed and another plug lightly put in. 1 c.c of pituitrin given—Put on Soda Sulph 2nd hourly stimulents 4th hourly. 10-30 A.M. Anti-septococcal Serum 20 c.c injected 6.46 P.M. Pt's condition is surprisingly good. Pulse 144. There is no distension whatever. Bowels have not moved—1 c.c pituitrin given. To get Turpentine enema Soda Sulph continued 2nd hourly.

8-12-28. Pt. brought to table and plug removed, catheterized, urine turbid, plug offensive, general condition improving; Pulse 144 Volume fair. Abdomen distended. To continue the same treatment.

6 P.M. Pt's condition remarkably good. No distension—Soda Sulph, enemata, Stimulents and Turpentine Stupes to abdomen to be continued.

9-12-28. Pt's condition improving—No distension, urine turbid—Put on Hexamine 30 grains, 55 c.c. collosol Iodine given intravenously 7 P.M. Pt's condition fair, no distension, Pulse 140, slightly feeble ½ c.c. pituitrin given 10-30 P.M. Luminol gr. III ordered by the Supdt. if necessary.

11-12-28. Pt. complaining of slight cough: slight congestion of rt. base, a

few Ronchi over the same area. Incontinence of urine. Pt. on mist Hexamine c. expectorants. Pulse 124 Vol fair - collosol Iodine 80 c.c injected intravenously.

12-12-28. Examined on table - no. V. V. F., slight bruising of the urinary meatus.

13-12-28. Pt. has no distension, was examined on the table urine is slightly turbid, uterus is full of pus, drained, general condition is fair.

15-12-28. Pt's. condition is very fair urine turbid and alkaline, uterus contains slight reddish discharge, drained. Mist Hexamine to be continued.

18-12-28. Pt. has parotitis, left side to be dressed with ichthyol glycerine, urine is acid. Put on alkaline mixture. P. E. uterus is involuting fairly well, no mass felt in the pelvis.

19-12-28. 1 c.c. of collosol iodine to be given. Put her on Mist. alkaline.

20-12-28. Pt. has parotitis on the left side and commencing on the right side. Gargles to be continued. To have antiphlogistin dressings to parotid. 7 P.M. Pt's. condition is fair. There is no distension, Pulse was slightly feeble $\frac{1}{2}$ c. c. pituitrin given 10 30 P.M. luminol gr. III ordered by Supdt

21-12-28. Pt. is fairly well. No distension. Pulse 125, Vol fair, no cystitis. Hexamine to be continued mist. alkaline given.

22-12-28. 2 P.M. Pt's abdomen distended, turpentine stupes ordered. Collosol iodine injections daily.

23-12-28. 11 P.M. Pt. complains of severe burning pain on passing urine - mist alkaline 1 oz. every 4th hour. Very restless and noisy. 1 c.c. of Omnopon given.

25-12-28. Urine acid, contains pus cells. Put on Potassium citras mixture. Parotitis improving.

26-12-28. Condition much better. Pt. still complains of burning sensation on passing urine.

29-12-28. Swelling on parotid region considerably reduced.

This case with all the dangers attendant on rupture of the uterus made a miraculous progress towards recovery.

My thanks are due to the Supdt for permitting me to report this case.

A. S. JOHNSON, V M.B.

Mnemonic for K. A.

	A naemia
	B lackening of skin Butterfly pigmentation of face
	C achexia
	D iarrhoea (late)
Signs and Symptoms	E nlarged Spleen and Liver
	F all in weight
	G ood appetite—Remarkably clean tongue
	H aemorrhages (late)
	I rregular fever.
	J el-Test $\left\{ \begin{array}{l} 2 \text{ months \& less. Negative} \\ 2-4 \text{ months, Positive in 2 min.} \\ 4-6 \text{ months, Positive in 1 min.} \end{array} \right.$
	alk alinity of blood reduced. Sometimes reduced coagulability also
Blood Picture	L eucopenia
	M ononuclear increase
	N .N.N. medium culture, Positive
	O val bodies in blood (L. D.)
Possible Vector	P hlebotomous Argenteippe
Diagnosis	Q uinine administration test (Exc. Malaria)
	R atio of R. B. C. to W. B. C. (1: 1000 or more)
	S pleen Puncture (Parasites in Endoth. Cells)
	T wo-hourly Chart (Double rise and occasional treble rise.) Exc. Typhoid.
Treatment	U rea Stibamine injection (Intravenous)
	Begin with 125 gram dose
	Subsequent doses, double previous
	3 injections every alternate day
	Subsequent at suitable intervals
	Total adult dose 1.8 grams
	Total dose for Children 1.3 grams.

Treatment	V on Heyden 471 (Meta-cheloc-paro-acetyl-amino-phenyl-stibiato of Na)
	Intravenous injection, '1, '2, '3 gram every 2 days
	W eed out intercurrent affections
Prognosis	'X amine urine frequently for Sb (Overdose)
	Y ields to treatment with antimony.
	Z ealous upkeep of health
After treatment	Avoidance of endemic area
	Blood tonic
	Clean teeth
Complications	Good food, fresh air, sunlight
	Regulate bowels, moderate exercise
	Asthenia
	Dysentery
	Oris Cancrum (children)
	Pneumonia
	Tubercle.

T. P. SUNDRAM, IV M.B.

Our College Activities

The College Annual Sports

The Annual College Sports is to Our Students, an event brimming with opportunities for merriment. The day's events began punctually at 2-15 p. m. with the Hundred yards Dash. Other standard items were gone through in quick business-like succession, thanks to Mr. Buck, our starter who always believed in order and thoroughness—

The ladies' events which have always been popular were all well contested for this year. In the Hundred yards Dash Miss Cama who had carried the prize three years in succession managed to win it this time only by a narrow margin—ample caution for her that other 'hopefuls' are gradually invading the field!

The old students' race also afforded great merriment to the guests. It was a sight to see the galaxy being arranged from front to rear by Col. Malcolmson according to age and service. The older people made up in enthusiasm what they may have lacked in speed and energy. It cannot be that Dr. Bhaskara Menon really meant to finish the race the way he did!

Much credit goes to the professors this time in winning for the first time for so many years the Tug of War with the students! There is no denying the fact that Captain Basu formed the Professor's sheet anchor. But Col. Wright and Major Pandalai tugged for all they were worth and Dr. Happer did a good 'special' bit too. Dr. Mannadiar also added his weight to the contest!

In these days when papers are full of speed stunts, we also did not want to be behind in motor events. Acceleration tests were held both on cars and motor cycles. The distance was a humble fifty yards. When Mr. Pereria shot past the winning post a few others seemed to be taking things rather coolly and were only settling the preliminaries for the expedition.

Compared to the Pandemonium that prevailed when the cycles had their go the car-test was a tame, quiet and serene event. A 'Buick' two-seater gracefully glided across the tape and won the prize.

The most amusing item of the evening was the disguise competition. It was too early in the year for Father Christmas to make 'his' earthly visita-

tions! The lady who arrived in the car did not seem to be very punctual if she wanted to witness the sports: And the U. T. C. men who guarded the entrance should have known better not to let in the tumultuous mendicants before a group of respectable ladies and gentlemen. The arrival of the 'performing bull' and the monkey's dog-cart were not notified in the programme. Father Christmas, however, gathered a few presents! Collections for the next year?

The events having come to a close by six o'clock Mrs. Megaw distributed the prizes. Mr. Beetles (1st year) was accorded the championship amidst loud applause and shouts of 'Beetles the beatless!'. Thus ended an enjoyable evening all too soon.

Much credit goes to the Secretary Athletic Assn. for the care with which the day's programme was organised and gone through and he deserves our congratulation. Thanks are also due to the U. T. C. for its voluntary and unstinted help.

The Tennis Social

Another pleasant function came off on Saturday the 23rd February when the members of the Tennis section celebrated their annual social. A noteworthy feature of this function was the presence of the distinguished Tennis players of Madras Messrs, Balagopal, Venkataramanjulu, C. K. Lakshmanan and C. K. Pillay who played a few exhibition games. Tea and refreshments were served on the college grounds after which the party was entertained by our wellknown College Vocalists Messrs. N. Srinivasan and S. R. Rajagopalan. The tennis secretary Mr. K. Chandrarao then thanked the guests in a neat little speech and thus concluded a very pleasant function.

U. T. C. Annual Social

This came off on Tuesday the 5th instant. It is a pity that the principal and many other members of the staff could not be present. There was tea and a small variety entertainment. Mrs. Megaw was requested to present two cups, one for the best company shot, and the other for the best shot among recruits. The function concluded with the singing of the 'National song' and 'God save the King'.

The Eighth Annual Meeting

THE MADRAS MEDICAL COLLEGE ASSOCIATION

The eighth annual meeting of the association was held on Saturday the 16th February '29 with Major K. G. Pandalai, F.R.C.S., I.M.S., in the chair.

The chairman after a short introductory speech called upon the Secretary to read the Annual report for the year 1928-29. It was passed unanimously. The next item in the Agenda was nomination of candidates for the Secretaryship for the year 1928-29, the following being duly proposed and seconded.

- (1) Mr. G. W. Roberts IV Year.
- (2) Mr. G. R. Naryanaswami IV Year.
- (3) Mr. K. Parthasarathi IV Year.

In his concluding speech the chairman remarked that the year had been a very successful one and thanked the outgoing Secretary.

With a vote of thanks to the chairman the meeting came to a close. The result of the polling on 20th Febry. 1929.

Mr. G. W. Roberts	279	Votes
„ G. K. Narayanaswami	79	„
„ K. Parthasarathy	65	„
Invalid	5	„

Mr. G. W. Roberts was duly declared elected.

THE ANNUAL REPORT

Mr. President, Ladies & Gentlemen.

It is with great pleasure that I am submitting the Annual Report of the working of the Association for the year 1928-29.

The first General Body meeting was held on the 12th July '28 for the election of office-bearers, of which you all know the details.

The Graduates Reception came off on the 24th August '28 and it was admittedly a great success.

I had the opportunity of welcoming our Patron Surgeon General J. W. D. Megaw, and giving a send off to our popular Principal Lt. Col. C. A. F. Hingston.

An important feature of this year was the election of a student Secretary for sports for whose existence we ought to be very much indebted to Major Pandalai.

MEETINGS

There were only a few meetings this year and I do feel that I must

apologise to the members of the Assn. for not having been able to get up more.

But in doing so I am bound to say that there were certain difficulties which prevented me from organising more meetings. I beg to draw your attention to the fact that as a result of the fire in the Bio-chemistry section, we were left without a suitable hall for conducting our meetings without disturbing the students making use of the College Library in the evenings. Further I was rather unlucky in my attempts to get two distinguished visitors to the city, viz., Sir John Bland-Sutton, and Dr Ansari as their stay in the city was far too short.

MAGAZINE

The magazine has been quite regular in spite of the difficulties of getting contributions. There are complaints from a few students that the journal is not sufficiently scientific. But I should like them to remember what Major Pandalai said on a former occasion that the College Journal was meant more to reflect the life of the students than to compete with either the *British Medical Journal* or the *Lancet*.

FINANCE

I started out with a deficit of about Rs. 400, and the prospects of my bringing out the four issues appeared very gloomy. But fortunately I have been able to collect enough funds to meet the deficit, and leave a balance of about Rs. 200 after meeting all expenditure upto date. I have yet to realise about Rs. 250 and I am sure to leave a small, but not negligible surplus after meeting the expenditure of the 4th issue which is now in the press.

I always considered it a privilege to be given the opportunity of serving the Association and I have endeavoured to discharge my duties to the best of my limited ability.

I cannot feel sufficiently nor can I repay that debt of gratitude I owe to Major K. G. Pandalai, F.R.C.S., I.M.S., and Dr. M.R. Guruswami Mudaliar M.D., for the interest they have evinced and for the help they have rendered.

To those members of the Committee and other Ladies and Gentlemen, who have so kindly co-operated with me in the management of the social functions, I wish to take this opportunity for conveying my sincere thanks.

Medical College
16th February '29

R. LAKSHMANAN,
Hony. Secretary.
[1928-29.]

THE MADRAS MEDICAL COLLEGE ASSOCIATION ACCOUNT
Year ending 28th February 1929.

ASSOCIATION ACCOUNT.

RECEIPTS.		PAYMENT.	
	Rs. A. P.		Rs. A. P.
Subscription from students	514 0 0	To Graduates Entertainment	480 2 6
" " life members	10 0 0	" Arranging meetings	5 0 0
" " sundries	4 9 0	" Cash on hand	43 6 6
Total	528 9 0	Total	528 9 0

MAGAZINE ACCOUNT.

RECEIPTS.		PAYMENTS.	
	Rs. A. P.		Rs. A. P.
Balance from Savings Bank Account	335 2 3	To Printing: Last year's arrears	620 0 0
Subscription from students	448 0 0	" " Current year	907 0 0
" " Staff	130 0 0	" Postage	76 0 3
" " Mofussil	333 4 0	" Establishment: Last year's arrears	50 0 0
" " Advertisements	656 12 0	" " Current year	94 9 3
Sale of old magazines	5 9 0	" Cash on hand	161 1 9
Total	1,908 11 3	Total	1908 11 3

Major K. G. PANDALAI, F.R.C.S., I.M.S. M. R. GURUSWAMI MUDALIAR, B.A., M.D. R. LAKSHMANAN,
Vice President. Editor and Treasurer. Hon. Secretary.

University of Madras

Medical Examination December 1928.

The following is the list of successful candidates at the Medical Examinations held in December 1928:—

Pre-Registration Examination.

SECOND CLASS.

Medical College, Madras.

Rank.	Reg. No.		Rank.	Reg. No.	
1	48	Kasivisvanathan, P.	26	39	Jagannathan, N.
2	45	Joseph, P. T.	27	81	Paul, T. C.
3	10	Chako, Lizamma.	28	133	Venkatakrishnan, G. N.
4	68	Mamman, Mary T.	29	35	Govindan Kutti Nayar, A.
5	49	Kesavan Nayar, R.	30	26	Ganpathisundaram, S.
6	78	Pancharatnam Kanagambal, T.	31	128	Vasudeva Shenoi, V.
7	91	Ramankutti Wariyar, T. V.	32	41	Janardhanan Poti, A.
8	113	Srinivasan, T. V.	33	72	Muhammad Jehangir.
9	94	Rama Rao, K.	34	34	Govindan, S.
10	9	Burby, G. E. J.	35	92	Ramanuja Ayyangar, N.
11	56	Krishnamurti, V.	36	97	Rodricks, J.
12	83	Pereira, J.	37	118	Syed Sibgathullah.
13	137	Venkatesvara Rao, T.	38	60	Kutti Ettan Raja, P. K.
14	65	Kuruville, V.	39	104	Seshappa Shenoi, L.
15	50	Keshava Ayyar, K.	40	115	Subba Rao, P.
16	70	Mathai, P. M.	1	2	Achyutan Pillai, C. A.
17	4	Asirvatham, M.	18	18	Dandayudhanani, D. A.
18	122	Vaidyanatha Ayyar, A.	32	32	Gopala Pillai, M.
19	90	Ramakrishna Upadyaya, K.	42	42	Jagoroyan, M.
20	166	Subrahmanya Sarma, A. V.	60	60	Krishnaswami, A.
21	64	Kurien, P. V.	75	75	Narayanan, K.
22	141	Yegnanarayanan, M. S.	79	79	Pandidurai, C. S.
23	23	Drus Lizzie.	84	84	Porinchu, A. A.
24	29	George, P. V.	87	87	Raghavachari, K.
	80	Parthasarathi, S.	121	121	Titus, K. K.
			130	130	Vedachalam, V. R.

First M. B. & B. S.

(Under Regulation in force from July 1926.)

SECOND CLASS.

Medical College, Madras.

Rank.	Reg. No.		Rank.	Reg. No.	
1	165	Subhadra Devi, I. J.	9	162	Rama Wariyar, E. W.
2	154	Manjappa, H.	10	167	Venkatajagannatha Rao, P.
3	161	Rajaram, S. R.	11	146	Damodar Das, D.
4	164	Sankara Adyanthaya, N.	12	150	Koman, Pushpavalli.
5	156	Nagabhusanam, E. R.	13	155	Mathew, Achy.
6	142	Abraham, P. Z.		158	Padmanabha Menon, P. K.
7	161	Venkatesvara Mallaya.		159	Pereira, F.
8	153	Madhusudan Tampi, M.		160	Rajam, K.
				145	Balakrishna Pillai, P.

First M. B. & B. S.

(Under Regulations in force prior to July 1926.)

SECOND CLASS.

Medical College, Madras.

169 Ganapathy, K. V.

Second M. B. & B. S.

(Under Regulations in force from July 1926.)

SECOND CLASS.

Medical College, Madras.

Whole Examination.

Rank.	Reg. No.		Rank.	Reg. No.	
1	288	Chinnaya, Thelma E. A.	2	298	Krishnamurti Rao, B.
			3	303	Muthuswami, L. K.

PART I.

Register number and name of candidate.

172	Abdul Jameel.	230	Mariamamma, C. V.
174	Alexander, Chandu.	231	Masilamani, H. A. Premavati.
180	Balakrishna Panikkar, K. C.	236	Muthukaruppa Pillai, S.
181	Balakrishna Pillai, P. R.	240	Narayana Ayyar, K. V.
182	Balamani, M.	241	Narayanan Nayar, K.
186	Bhaskara Menon, T.	242	Natesan, M. R.
190	Devadasan, N. P.	248	Philip, M. J.
191	D'Vas, N. J.	249	Ponnamma, K.
193	Alphonso, D. Fernandez.	250	Rajabathar, A. T.
194	Francis, A. M.	253	Ramakrishna, C. M.

THE ANTISEPTIC

Silver Jubilee, April 1929

The Antiseptic, the oldest Monthly Medical Journal in Southern India edited by Hon'ble U. Rama Rau and U. Krishna Rau, M.B. B.S. will complete its 25th year of existence and its April 1929 issue which will be out on or about the 30th April 1929 will constitute its Silver Jubilee Edition. This Special Edition which will be of the usual royal octavo size of the regular issues of the Journal will contain 256 pages or 4 times the usual number. Among those whose contributions will appear therein may be mentioned:

Dr. James Burnet, M.A., M.D., F.R.C.P., (Edin.).

M. I. Balfour, C.B.E., M.B.

C. F. Chetty, M.B., B.S., (Bom.), D.T.M., D.P.H. (Lond.).

N. N. Bey, L.R.C.P., L.R.C.S., (Edin.), L.F.P.S., Glas.).

Jahar Lal Das, D.P.H. M.R.San., I. (Lond.).

D. R. Dhar, M.B., D.T.M. (Cal.), M.R.C.P. (Lond.).

Lieut. P. C. Dutta, I.M.S. M.B., (Cal.), F.R.C.S., (Edin.), D.G.O., (Dub.), L.M., (Rot.).

Col J. Froilano De. Mello, M.D., (Oporto) D.T.M. Lisbon.

Dr. P. V. Gharpure, M.D.

Dr. Ekendranath Ghosh, M.Sc., M.D.

Suresh Chandra Das Gupta, L.M.S.

M. D. Joshi, M.B., B.S., D.M.R.E.

V. M. Kaikini, B.A., M.B., B.S., F.R.C.S., (Edin.).

Rao Bahadur Dr. M. Kesava Pai, M.D.

Major Lebernadie, M.D., M.S.P.E., (Paris).

J. P. Lockhart Mummery, B.A., B.C., F.R.C.S.

Dr. E. Mair, M.D., F.R.C.S.

Dr. H. C. Menkal, M.D.

H. B. Mylvaganam, F.R.C.S.

Frank Noronha M.B., C.M., D.P.M. (Eng.)

V. D. Nimbkar, F.R.C.S., (Edin.)

R. K. Paul, M.Sc., M.B.

P. S. Pybus, M.S., F.R.C.S.

S. B. Surti, F.R.C.S., D.P.H. (Irel.) L. M. & S. (Bom.)

S. Subba Rao, B.A., M.B. (Madras), M.R.C.S. (Eng.) D.P.H. (Cantb.)

Y. G. Shrikhande, M.B., B.S., B. Sc.

Rao Sahib T. S. Tirumurti, B.A., M.B., C.M., D.T.M. & H. (Lond.)

Dr. Ch. W. F. Winckel.

A. Winklerfried Williams, M.B.C.M., D.P.H.

G. Zicariab, M.R.C.S. L.R.C.P.

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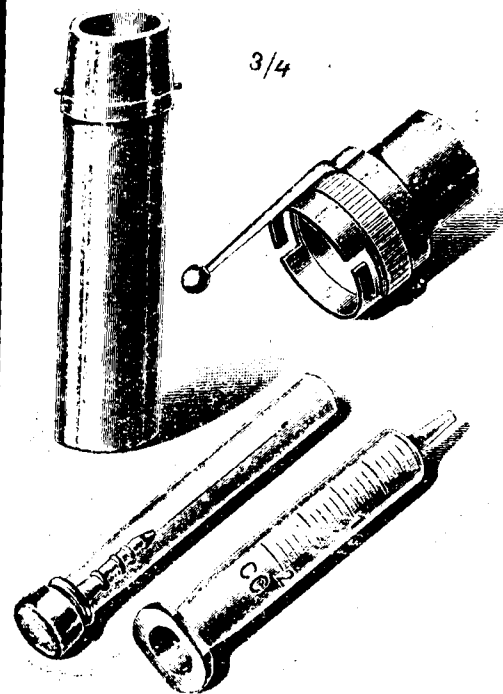
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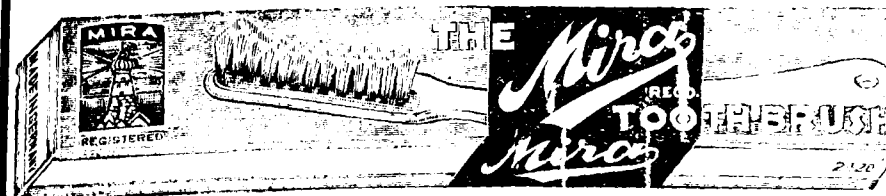
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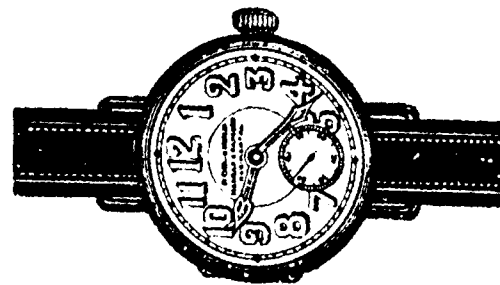
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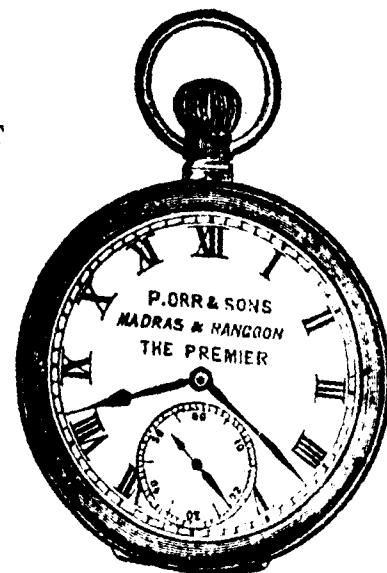
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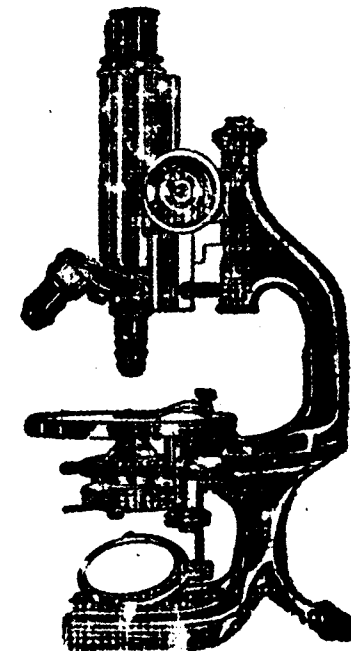


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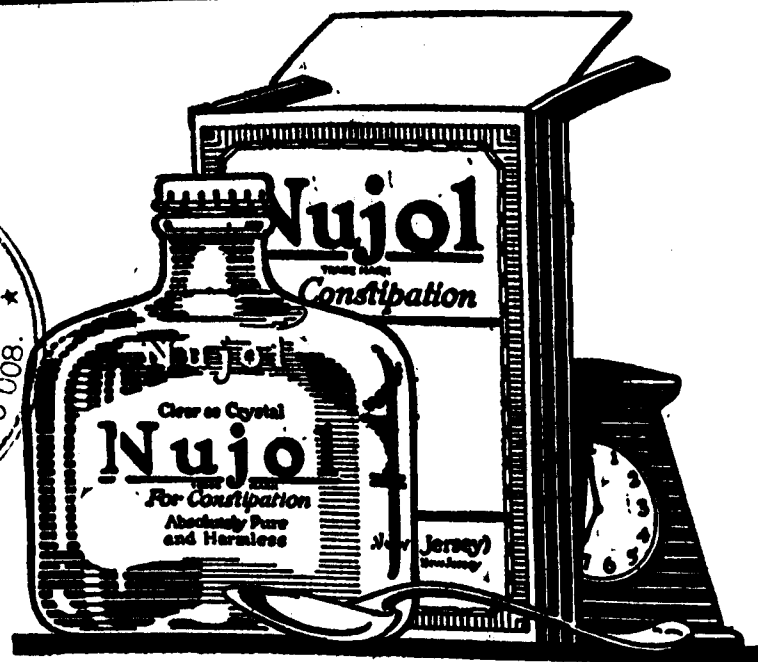
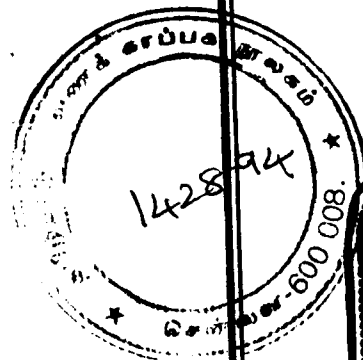
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