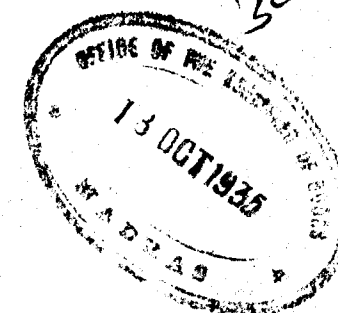


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We regret that owing to unavoidable circumstances the publication of the JOURNAL from July, 1935 has been considerably delayed. We hope to resume normal publication shortly.

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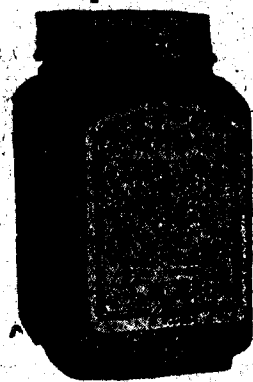
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JOURNAL OF SOUTH INDIAN MEDICINE

(INCORPORATING THE BULLETIN OF THE SOUTH INDIAN MEDICAL UNION)

VOLUME II

JULY, 1935

NUMBER 1

A CASE OF TORSION OF OVARIAN CYST *

E. ACHYUTHA MENON, F.R.C.S. (Edin.)

*Surgeon, Government Hospital for Women and Children,
Egmore, Madras.*

Heera Bai, Hindu, 28, married, was admitted into the antenatal wards of the Government Hospital for Women and Children, on the 5th January 1935 for vomiting and giddiness. She also complained of slight discomfort in the lower abdomen. The vomiting was of a week's duration and was severe, the patient bringing up whatever food she took. The giddiness was not marked. Both these symptoms were present to a slight extent off and on for the last few months.

History.—Her menstruation began at the age of 13 and has been quite regular, coming on every 28 days and lasting for 4 days. Four years after marriage she had a baby, the pregnancy and labour being quite normal, and the child which is alive is 11 years old now. Since this time, however, the menstrual periods have been scanty, lasting only 2 days, and often irregular, sometimes missing several months. She has not had another pregnancy since. The last period was about 4 months ago. She has not felt well since, having had loss of appetite and slight salivation. She felt her abdomen slightly enlarged, was anxious to have another child and suspected that she was pregnant, but was not sure that she could feel foetal movements. There is nothing else in the previous history of any importance.

Examination.—The patient is a healthy-looking young woman; is not anaemic, Temp. 99°, Pulse 92 per min., tongue slightly coated, heart and lungs

* This case was exhibited at the meeting of the South Indian Branch of the British Medical Association held at the Government Hospital for Women and Children, Egmore, Madras, on 9th April, 1935.

nil abnormal, spleen and liver not enlarged. *Abdominal examination:* There is a rounded tumour situated in the middle line of the lower part of the abdomen reaching up to two fingers below the umbilicus. It was cystic to the feel and had a regular even contour and was in no way unlike a pregnant uterus. No rigidity of the abdominal muscles. The abdomen could be palpated without causing her any pain. No foetal heart nor foetal movements could be heard on auscultation.

Vaginal examination:—There was some softening of the vaginal walls but no discoloration; the cervix was not soft; continuous with the cervix was a soft rounded cystic tumour, bulging the anterior fornix, about the size of a 20 weeks pregnancy; lateral and posterior fornices—nothing abnormal could be made out. Braxton-Hick's sign and internal ballotment negative.

Urine: sp. gr. 1020, acid, no albumin, no acetone bodies, no pus cells on microscopic examination.

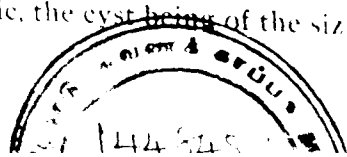
Blood Pressure 128 mm. Hg. Systolic; 90 mm. Hg. diastolic.

A skiagram was taken which did not show any shadow.

She had slight spotting on 7-1-35. Another examination done on 8-1-35, after emptying the bowel with an enema, did not give any fresh information. The Friedman modification of the Zondek-Ascheim Test was done on 10-1-35 and the result was negative. Then a uterine sound was put into the uterus and it was found this organ was of normal size and was situated immediately behind a soft cystic tumour which could be moved independently with the sound *in situ*. A probable diagnosis of ovarian cyst with torsion of the pedicle was made and the patient was advised an operation. But in the meanwhile her symptoms had disappeared with rest in bed and the usual gastric sedatives. So, hoping that the diagnosis of the tumour was incorrect, the patient refused an operation and was discharged on 16-1-35.

On 19-2-35, she was readmitted with a history of another attack of vomiting with slight pain, similar to the previous one, of 3 days' duration. The pain was not at all marked and the clinical findings were the same as before. The tumour was of the same size as at the previous examination. Abdomen was opened on the same day on a diagnosis of subacute torsion of an ovarian cyst. The operation notes by Dr. A. L. Mudaliar ran as follows:—

"Abdomen opened by a median subumbilical incision. The right ovary was cystic, the cyst being of the size of an unhusked Malabar cocoa-



nut. The pedicle was clamped and ligatured and the cyst removed entire. The pedicle was twisted through three-fourths of a circle, from right to left. The opposite tube and ovary were healthy, as also the uterus. Abdomen closed in layers." She made an uneventful recovery.

COMMENT

In the diagnosis of this case, considerable difficulty was experienced to exclude conditions incidental to pregnancy, such as hyperemesis, threatened abortion, subacute pyelitis of pregnancy, vesicular mole and hydramnios.

The history of amenorrhoea and the physical examination suggested pregnancy, though Braxton-Hick's sign and internal ballotment were negative.

Skiagram.—A radiogram is not always helpful in the diagnosis of pregnancy at this stage. Although it is sometimes possible to do so in some cases as early as the 12th week by this means, the absence of the shadow at 16 weeks or even later is not unusual and cannot be considered positive proof of the non-existence of pregnancy.

Molar pregnancy does not give any shadow of the foetus, and the symptoms of giddiness and discomfort amounting to pain in the abdomen and slight bleeding on the day after admission did not help to clarify the diagnosis.

Pyelitis was excluded easily by the absence of pain in the costo-muscular angle and from the urinary findings.

The negative Zondek-Ascheim test was the crucial point in the diagnosis and emboldened one to pass a sound into the uterus, and the absence of the uterine enlargement definitely excluded pregnancy in that organ. The presence of a tumour in front of the uterus was the most important point which caused confusion and suspicion of pregnancy. The presence of a movable cystic tumour of the size of a 20 weeks pregnancy, with vomiting and discomfort in the abdomen, slight rise of temperature—all these points, by exclusion, therefore, pointed to subacute torsion of an ovarian cyst. The only other condition that remained to be considered was the rare condition of cystic degeneration in a subperitoneal fibroid tumour with torsion of its pedicle. It was not possible definitely to exclude the possibility of this.

Torsion of the pedicle of an ovarian cyst is one of the commonest of complications arising with these tumours. OLSHAUSEN in 1886 was the first to recognise this condition as a clinical entity. No age seems to be exempt. The condition has been reported in children and occurs with more frequency in adults of all ages. It may occur also during pregnancy. WILFRED SHAW has come across this complication in 11 per cent of 300 cases of ovarian tumour reviewed by him. GREEN-ARMYTAGE has seen it in 37 out of 437 cases. It occurs in both ovaries with equal frequency. Tumours with a long pedicle are naturally more liable to torsion, and it is generally the medium-sized ones that show greater tendency to it. As a rule, they do not undergo this change unless they are of the size of a foetal head. AIMES thinks that in right-sided cases, the twist is in a clock-wise direction, and in the left-sided ones, counter-clock-wise. Torsion seems to occur whatever the nature of the tumour; but malignant ones, being more liable to contract adhesions, are less prone to it. The degree of torsion varies from 1 to 4 complete turns, and SCHWARTZ refers to one case in which the tumour had undergone 6 turns.

As for the mechanism of torsion, SCHWARTZ says: "The pedunculated tumour has a normal range of movement which permits of its migration from the pelvis to the abdomen. In the pelvic stage, the tumour drops into the cul-de-sac on account of its weight and causes displacement of the uterus to the front and to the opposite side. As it enlarges, its upper pole extends above the sacral promontory which forms a fulcrum on which it can rotate. The pedicle which is at first in front, is turned to one side or other and thus becomes twisted".

Once torsion has started, it tends to increase. According to WILFRED SHAW's haemodynamic theory:

"With each pulsation of the artery contained in the twisted pedicle, a volume of blood is forced through it. This momentum is spent against the wall of the artery, the force being exerted always in the direction of the twist. The pedicle is therefore subjected to a series of small impulses, each of which tends to increase the extent of the twist. The result of each impulse is small, but the combined effect of the impulses, which occur at 72 times per minute, must be considerable".

Clinically, external violence, sudden body movements, even turning over in bed, sudden changes in intra-abdominal pressure — the result of coughing or vomiting or straining at stool, have all been mentioned as

causes. Movements of the sigmoid colon may also cause it. Asymmetrical growths and growths in which one portion is heavier than another may be responsible. A full bladder is mentioned as an important cause in children.

The tumour may, as a result of the torsion, undergo degeneration from interference with the blood supply; haemorrhage may take place into it, or it may form adhesions to surrounding organs, or infection or gangrene may occur. Again the tumour may completely get detached from its pedicle. It is possible that in some cases the tumour untwists itself and recurrence of torsion may occur later.

Symptoms caused by torsion: Pain, most often of an acute and severe character, is the most common and important symptom and was present in 33 out of 35 cases of WILFRED SHAW's. It is probably due to increased tension of the tumour from engorgement with blood due to partial occlusion of the veins. Nausea and vomiting are present in only about half the cases. BECKWITH WHITEHOUSE is of opinion that vomiting is the most important symptom in subacute or chronic torsion. Rigidity of the abdomen and tenderness are important signs which are present in all the acute cases.

The condition has been mistaken for other acute abdominal conditions — acute appendicitis and appendicular abscess; a ruptured ectopic gestation; ruptured pyosalpinx and tubo-ovarian abscess; torsion of a hydrosalpinx; a twisted pedunculated fibroid; acute intestinal obstruction and renal colic.

The features of interest in this case are:

1. The difficulty of diagnosis from pregnancy conditions and the help given by the Zondek-Asheim Test.
2. The mild nature of the symptoms — the only noticeable one being the vomiting.
3. The recurrence of the attack was again accompanied by equally mild symptoms.

My thanks are due to the Superintendent, Government Hospital for Women and Children Madras, for permission to publish the notes of the case and to Dr. A. L. Mudaliar for the operation notes.

THE SYMPTOMATOLOGY AND DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS

V. GOVINDARAJULU, M.B.B.S.,

*Honorary Assistant Physician,
Government Royapuram Hospital, Madras.*

PHTHISIS, or Pulmonary Tuberculosis, is a disease characterized by destructive lesions in the lung, due to the implantation and multiplication of the tubercle bacillus, combined with a general toxæmia resulting therefrom. Infection with the tubercle bacillus is extremely wide-spread. It is stated that about 90 per cent of the population of the civilized world are infected with the tubercle bacillus; and it is believed that of these infected individuals almost all show pulmonary lesions. But, though the infection is so ubiquitous, it has been estimated that only 9 to 10 per cent of those infected die of the disease: this shows that the natural tendency of the tubercular lesion is to heal, or, at any rate, not to progress. It follows, therefore, that if diagnosed early and treated properly phthisis can be cured. Hence, it becomes very important to be thoroughly familiar with the symptoms and signs of early phthisis so as to be able to recognize the disease as early as possible.

Phthisis manifests itself invariably by symptoms of systemic intoxication, which may be sharply divided into (1) those that are due to toxæmia, and (2) those that are directly due to the presence of the lung lesion. There may be active phthisis without physical signs which could be detected even by the most careful examination; but there is never any active phthisis without some constitutional symptom such as cough, fever, expectoration, hæmoptysis, pain in the chest, emaciation, tachycardia, and so forth.

COUGH IN EARLY PHTHISIS.—A good number of patients with early phthisis complain of repeated attacks of "cold" and bronchial catarrh, each attack being brought on by the least exposure to wet or cold or by any inclemency of weather. In these cases, the cough is usually mild, consisting mainly in "a clearing of the throat" in the morning, and is productive of little or no sputum. This cough is due to the irritation of the sensory nerve endings of the vagus in the bronchial mucus membrane by the secretion derived from the tuberculous lesion. Sometimes the cough is violent and

paroxysmal, and when unproductive, it is very distressing to the patient, keeping him awake at night and causing pain in the chest and exhaustion. This paroxysmal cough is believed to be due to ulceration of the trachea at its bifurcation, but is met with also in tracheo-bronchial adenopathy and adherent pleurisy. A type of cough which has been termed "emetic cough", because it invariably ends in vomiting, has been described by some French authors, notably PALLIARD, as occurring in about 50 per cent of cases of phthisis. FISHBERG is of opinion that the "emetic cough" is so characteristic of pulmonary tuberculosis that in the absence of whooping cough, chronic alcoholism, and cancer of the lung, it should be regarded as indicative of this disease. It usually comes on soon after the ingestion of food, but may sometimes be delayed for even an hour after the meal has been taken. After the ingestion of food the patient feels some irritation at the back of the throat, a paroxysm of cough follows, and this ends in vomiting. He is greatly relieved after the vomiting, and may even desire to eat again. This "emetic cough" often occurs in the early stages of phthisis when the gastric functions are unimpaired. It is met with also in the stage of excavation. When this type of cough persists in a patient, pulmonary tuberculosis should be suspected even in the absence of physical signs. KIDD says, "This occurrence (of vomiting) is partly to be explained by the mechanical compression of the stomach and abdominal viscera against the diaphragm; but vomiting so often follows slight fits of coughing that it seems necessary to assume the existence of a neurosis of the vagus in these cases". POWELL and HARTLEY define this "neurosis" as an "undue reflex irritability." In some patients the "gander cough" of aneurysm may be simulated. This may be due to pressure of enlarged bronchial or mediastinal glands, or traction of pleural adhesions on the recurrent laryngeal nerve.

In this connection mention may be made of the hysterical cough of phthisophobics. It is a "harsh, obtrusive cough, absolutely monotonous in its pitch and character, which goes on with a regular and wearisome iteration during the day, but ceases during sleep." (ORMEROD). It does not occur also when the patient is engaged in some occupation of absorbing interest. It is unaccompanied by expectoration, and examination of the chest reveals no signs.

EXPECTORATION.—There is not much expectoration in the early stage of phthisis. KURTHY says that in 49 per cent of cases of the first stage, 15 per cent of the second stage, and 12 per cent of the third stage, sputum is altogether absent. It is often difficult to obtain sufficient quantity even for

microscopic examination. Young children and neurotic women rarely bring up any sputum as most of it is swallowed. The sputum is salty to the taste and there is nothing characteristic about its naked-eye appearance.

FEVER.—This is one of the first symptoms of active phthisis. It does not run a characteristic course, and its polymorphism is noteworthy. The fever is due to the absorption of tubercular toxin, but is modified to a great extent by mixed infections. In the incipient stage, a sub-febrile temperature is characteristic; to detect this the temperature must be noted every second hour with an accurate thermometer. Opinions differ as to whether the temperature should be taken in the mouth or per rectum (or vagina in females). An elevation of temperature from 0.5° to 1.5° above normal in the afternoon is very suggestive of incipient phthisis. This evening rise is of very transient duration. A large proportion of patients in the incipient stage have a subnormal temperature in the early morning hours, some recording as low as 96°F . before getting out of bed. DAREMBERG suggests that the difference between the highest and the lowest temperature within the twenty-four hours must be considered in interpreting the fever in the early stage of phthisis. Thus, a patient with a temperature of 99.4°F . at 5 p.m. is only 1° above normal, but if the morning temperature is 96°F . his evening temperature is 3.4° above the morning temperature, and he should be considered febrile. If this picture persists for some time, it is to be presumed that we are dealing with a case of pulmonary tuberculosis. With the rise in temperature there is an accompanying acceleration in the pulse rate which is far out of proportion to the elevation in temperature. Further, the face becomes flushed and the eyes brighten with characteristic brilliancy, and the patient feels fatigued and disinclined to work. It is worthy of note that despite the symptoms the appetite is not impaired as is observed in fevers due to other causes.

It is suggested that the heat centre is very unstable in phthisis, and is easily disturbed by conditions which in a normal individual will have no effect on the temperature. Thus, a heavy meal, moderate exertion and emotional disturbances may raise the temperature from 1° to 3° or more. The provoked fever test, first described by DAREMBERG, is very useful for diagnostic purposes in suspected cases. For this test, the patient is made to walk a distance of two miles, noting the temperature before and after the exertion. A rise of 1° or more after such an exercise persisting for more than an hour is highly suggestive of pulmonary tuberculosis. A physiological rise in temperature occurs after exertion, but this sinks to the normal

after resting for half-an-hour. In women, fever is accentuated during the menstrual period. MACHT is of opinion that if a patient shows constantly recurring menstrual rises in temperature, tuberculosis should be thought of when pelvic diseases are excluded. Many authors, notably VANDERVELDE, SABOURIN and others, state that pre-menstrual fever indicates latent or active phthisis. The fever occurs a few days before the onset of menstruation and continues throughout the flow. This menstrual fever or hyperthermia is regarded by the authors cited above as a symptom of considerable diagnostic import, for the reason that it occurs with far greater frequency in tuberculous women than in healthy women. The absence of menstrual fever excludes active phthisis.

NIGHT SWEATS.—Profuse sweating at night is a characteristic symptom and is often met with quite early in the disease even when physical and radiological signs are lacking. But it is more common in advanced cases. Night sweats occur especially in the second part of the night, between 2 and 4 a.m. in typical cases. The patient wakes up drenched with perspiration. In milder forms, the sweating may be local—on the forehead, the neck, and the chest (rarely it is limited to the side of the lesion). Sweating appears to be easily provoked in phthisical subjects. Many authors say that not only consumptives but also those predisposed to it sweat easily, and often find themselves bathed in perspiration, as on walking, with mild exertion, grief, worry, etc. In a large proportion of patients, sweating in the arm-pits with a characteristic odour is quite common even when they do not sweat at night. The cause of night sweats is not definitely known. Some authors ascribe them to the tubercular toxin stimulating the sweat-centre, either directly or reflexly; others to the quick change of the tachycardia of the day to bradycardia at night. Another view is that the fall from the high temperature of the evening to a low temperature in the early hours of the morning favours sweating as a similar fall does in other febrile diseases, e.g., as the critical fall in temperature in pneumonia is accompanied by profuse sweating.

HAEMOPTYSIS.—It is well known that haemoptysis occurs as an initial symptom in a large majority of cases. It occurs also in 50 to 80 per cent of advanced cases. Haemoptysis occurring as the first symptom may be of two different types. In the *first* group, the patient feels perfectly well till the haemorrhage makes its appearance. This may occur at any time — when at work, during sleep, or when engaged in conversation or play. Careful

examination of the chest and roentgenography often fail to disclose any pulmonary involvement. The temperature remains normal, and the appetite good. The bleeding may continue for a few days. But the patient is apparently in perfect health. Many of this group turn out to be tuberculous in the long run, but some pass through life without showing the least suspicion of it. In the *second* group, the patient gives a history of cough, fever, loss of appetite, etc., for a few months before the occurrence of the hæmorrhage. When the hæmorrhage stops, other symptoms of phthisis manifest themselves. The hæmorrhage may be profuse, the patient bringing up blood in mouthfuls, or it may be slight, there being only streaks of blood in the sputum. It is interesting to note that it occurs at night, especially in the early hours of the morning. This initial hæmorrhage is presumably due either to superficial ulcerations or to active inflammatory congestion. Haemoptysis manifesting itself only as a streaking of the sputum with blood does not necessarily mean that the lesion is not serious, because it may be that all the extravasated blood is not brought up, but a portion remains in the lung to be more or less quickly absorbed. Mention may be made here of hysterical hæmoptysis occurring in women. In most of the cases, the blood comes from the gums or the throat. In their effort to excite sympathy these women may even produce bleeding by injury to the buccal mucus membrane. In these cases, in addition to the absence of signs in the lungs, positive hysterical stigmata may be found.

PAIN IN THE CHEST is an invariable symptom at some time or other during the course of the disease and is due to pleural involvement which is an inevitable event. All degrees of pain may occur, from a slight catch at the summit of inspiration to an excruciating pain almost continuous throughout the respiratory cycle; and it may be referred to any part of the chest or abdomen. The onset is usually sudden, and may or may not be accompanied by constitutional disturbances. It is a symptom of great importance as it indicates phthisis in the absence of other cause to account for it.

EMACIATION is a cardinal symptom of phthisis. It is one of the triad mentioned by RICHARD MORTON, the others being cough and fever. The wasting is often caused by toxæmia and by derangement of the gastrointestinal functions. In most cases of incipient phthisis, one may note symptoms of hyperthyroidism, which usually disappear as the disease progresses; and it is said that in the early stages the toxin stimulates thyroid function and causes hyperplasia of the gland, while in the later stages it

brings about sclerosis of the gland. The increased thyroid activity may to a certain extent account for the emaciation noted in the early stages. The wasting is not confined to adipose tissue only; the muscles also waste considerably, the first to waste being those of the thorax especially the pectorals, the intercostals, and the scapular muscles. The wasting is more marked on the affected side of the chest.

CARDIO-VASCULAR DISTURBANCES.—The most important functional disturbances of the cardio-vascular system in this disease are (1) palpitation, (2) tachycardia, and (3) hypotension. These are often present together, but at times we meet with only one to the exclusion of the others.

Palpitation is one of the earliest manifestations. It occurs especially in adolescents, slight or moderate exertion or emotional disturbance bringing about an attack. At times it is very pronounced, causing præcordial pain and vaso-motor disturbances such as pallor, flushing of the face, sweating, etc. The cause of this palpitation is not clear. It is variously ascribed to low arterial tension, sympathetic disturbances, compression of the vagus by enlarged bronchial glands, and toxæmia.

According to FISHBERG, over 90 per cent of cases have tachycardia in the incipient stage. As has already been mentioned, slight elevations of temperature are often accompanied by great acceleration of the pulse rate. Tachycardia is pronounced also in cases running a sub-febrile course, the rate being very unstable and highly variable. The rate may be normal, for instance, when the patient is resting, but the slightest exertion, say a fit of cough, a heavy meal, or changing from the reclining to the erect posture, may send it to 110 or 120. FAISANS says that he does not know any other disease in which the pulse is so very unstable. BOHLAND ascribes the tachycardia of phthisis to the small heart characteristic of the disease and to the increased metabolism.

The blood pressure is low in the great majority of cases. This is attributed to the toxic effect of the bacillus, as has been proved by experiments with injections of tuberculin which have been followed by decided fall in blood pressure. A low blood pressure is an almost constant characteristic of early stages, and, when occurring in an adult, without any assignable cause, tuberculosis must be suspected. FISHBERG lays considerable stress on the low blood pressure, and holds that cases with high, definitely elevated, or normal blood pressure will have a favourable prognosis, and

that an increase in blood pressure with treatment is a reliable indication of improvement in the condition of the patient. WALKER in a study of the blood pressure in cases of haemoptysis says that in phthisical patients, in addition to a low systolic pressure there is a markedly low diastolic pressure which is very significant of arterial hypotonus. This deviation from the normal systolic and diastolic pressure is on the whole more pronounced, according to WALKER, in cases of haemoptysis. Many who bleed profusely have a very low blood pressure. It is believed that adrenal dysfunction is partly responsible for the arterial hypotonus. Some see a correlation between the excessive function of the thyroid and the insufficiency of adrenals in the early stages.

GASTRO-INTESTINAL SYMPTOMS.—Anorexia is a constant symptom of phthisis. One of the characteristics of this anorexia is that unlike the appetite in other diseases it is independent of the fever. The appetite is often capricious, one day a certain kind of food being preferred while the next day it is despised. In many early cases, symptoms of vagotonia such as heart-burn, pain after meals, pyrosis, salivation, etc., are present. Aversion for fats of any kind is quite common. FENWICK noted this aversion in 64 per cent of the cases; many of whom developed this antipathy months and even years before the onset of pulmonary phthisis. VAILE reinvestigated this problem among 24 families consisting of 162 persons. He distinguished two groups, fat-eaters and fat-shy persons. Out of 101 fat-eaters, 96 were alive and well, 4 had phthisis and 1 case was doubtful. Of the 61 fat-shy persons 11 were alive and well; 48 had tuberculosis and 2 had doubtful tuberculosis. Many French authors are of opinion that anaemia causes sluggish secretion of the gastric juice with weakness of the gastric musculature, while the toxins produce hyperaesthesia of the gastric nerve endings of the vagus. Analysis of the gastric function and roentgen studies do not reveal any constant changes in the functional activity of the stomach in the early stages. The same is attested to by FENWICK by his physiological and pathological study of the stomach in relation to early phthisis.

DIAGNOSIS.—The chance of recovery is greatest when the disease is diagnosed and treated at its incipency. But this should not make one to put any case under treatment on mere suspicion. Such action may unnecessarily make the patient miserable and starve the family if he happen to be an earning member. A hasty diagnosis is as dangerous as neglect to recognise active and progressive disease. The diagnosis rests on a careful

consideration of the history, the physical condition, the laboratory findings, and the radiological appearances of the chest of the patient. The history should include the occupation of the patient, as persons engaged in such occupations as mining and pottery, waiters and hotel-servants, cigar-makers and tobacco-workers, and shoe-makers show a high mortality from tuberculosis. The previous medical history and the family history are equally important. Measles and whooping-cough in childhood, and pleurisy, influenza, pneumonia, and typhoid fever in adult life, are antecedents usually noted in patients with pulmonary tuberculosis. A family tendency to the disease is often noted.

EXAMINATION OF THE SPUTUM.—Wherever sputum is available this should be examined for tubercle bacilli and elastic tissue. The material for the examination should be carefully collected. The patient must be instructed that what is wanted is material coughed up from beneath the glottis and not that hawked up or saliva. One must bear in mind that there is really no active case of phthisis with persistently negative sputum. So the sputum must be examined repeatedly before it is pronounced tubercle free. When the sputum is scanty and the results negative recourse may be had to the concentration method or to animal inoculation. The concentration method is best done as follows: 10 to 20 c. c. of the sputum is mixed with an equal quantity of 50 per cent aqueous solution of antiformine. The mixture is boiled over a flame. Rapid liquefaction of the sputum is observed. To each 10 c. c. of the mixture 1.5 c. c. of 10 per cent alcoholic solution of chloroform is added, and it is then centrifuged for 10 to 15 minutes, after stirring well. The layer which forms on the surface of the chloroform contains the bacilli. This is pipetted off, fixed with egg albumen, and stained in the usual way.

When the bacilli are too few to detect by the microscopic method or by the concentration test, animal inoculation may be done. The guinea pig is the most susceptible animal and as such is often the victim employed. The material for inoculation must be free from secondary organisms. The sputum is incubated for half an hour with a 4 per cent solution of sodium hydroxide and centrifuged. The sediment is neutralised with 2 or 3 drops of normal hydrochloric acid. This procedure kills all the organisms except tubercle bacilli, the lipid coating of which serves as a protection. The material is injected subcutaneously into the fold of the inguinal region. The animal is killed after 4 to 6 weeks and a necropsy performed. If the sputum

is positive, there is necrosis at the site of inoculation, in the regional lymph-glands, spleen and liver. The material from them when stained show the tubercle bacilli.

THE PHYSICAL EXAMINATION of the patient means a through examination of the chest, paying due attention to *inspection*, *palpation*, *percussion* and *auscultation*, each of which furnishing a few points of its own which when put together with the symptoms described above may enable one to recognize the presence of the disease.

INSPECTION, which means the examination of the physical make up of the patient, is a very important procedure. To do it properly, it is very essential that the patient is naked to the waist in a room where there is enough light. He may be permitted to sit on a stool, assuming his natural posture, so that one may note any faulty position of the head, neck, chest, etc. Due attention must be paid to the condition of the skin, head, position and shape of the shoulders, the clavicles and the supra-and infra-clavicular fossæ, the ribs and the scapulæ, when at rest and during forced breathing. The aspect of the tuberculous patient with emaciated body, long flat chest, and pale face, with hectic flush of the cheeks, and dull, gloomy or haunted expression is quite characteristic. Stigmata that may be noted in the early stages on the forehead and upper part of the cheeks are *chloasma phthisicorum* and, in those who sweat profusely, *pityriasis versicolor*. Enlarged veins are often seen on the chest. Varicosities in the neighbourhood of the seventh cervical and the first thoracic vertebræ may be seen in 80 to 90 per cent of cases (LOMBARDI). Though there is no chest pathognomonic of phthisis, the flat chest, the paralytic chest, and the pterygoid or alar chest, are said to denote a phthisical habitus. The movements of the chest must be noted, the two sides being carefully compared. This is best done by standing behind the patient and looking over his head when examining the front of the chest. Particular attention must be paid to the ribs as they rise and descend during inspiration and expiration, minutely noting any deficient expansion of the chest in any particular area. Lagging of the chest-wall or deficient expansion of a particular area is a common occurrence in early phthisis.

PALPATION is employed to confirm inspection, and it often furnishes also additional information. Defective movement or lagging may be definitely detected by placing the hands on each side of the chest and noting the movement during inspiration and expiration. Defective move-

ment especially in the apical region of the chest is very common in the incipient stages. This is said to be due to the tonic contraction of the scaleni and sternocleido-mastoid muscle on the affected side which raise and fix the sternum and immobilise to a certain extent the first and second rib, and limit their movement. The muscles mentioned above are in a state of spasm with a certain amount of degeneration. This is best made out by the light touch palpation of PORTENDER; the tips of the fingers are passed over these muscles, when a distinct feel of increased resistance will be experienced over the areas where active lesion is present.

PERCUSSION is best done with the patient standing, his head held upright, the arms hanging to the side in a relaxed condition when examining the front of the chest, and crossed and folded on the shoulder when percussing the back. Light percussion with the finger is the percussion of choice. But heavy percussion is useful in detecting a deep seated lesion. Gentle percussion reveals small areas of dullness, more superficially placed, which cannot be made out if the percussion stroke is heavy. The usual way of percussing from the apex is objected to by some for the following reason. It is easier for the ear to pick up a higher note from a lower than *vice versa*, and since in all cases of phthisis the lesion commences at the apex, to start from there is to start from a pathological area, the note produced there prejudicing the ear in favour of the pathological note. Thus, the distinction from the normal note is liable to be missed. The percussion must be done methodically and symmetrically, the note obtained over symmetrical areas being carefully compared.

Kronig's isthmus must be marked out and noted whether normal or lessened. (In normal individuals the height of the apex is anteriorly about 2 to 3 cm. above the clavicle and posteriorly on a level with the first thoracic spine about 2 cm. outside the middle line of the body.) A shrinkage in this area is indicative of pulmonary tuberculosis. *Tidal* percussion must be done as a routine. This gives information as to the presence or absence of emphysema or pleural adhesions which are of great importance in the performance of therapeutic pneumothorax. It is done as follows: The lower margins of the lungs are first marked out by percussion when the patient breathes out normally and quietly. He is then asked to breathe deeply and the lower limits of the lungs are again noted. In a healthy person, a difference of 1½ inches to 2½ inches is noted. On the left side, when there is no expansion anteriorly at Traube's semilunar space, it is an indication of

pleural adhesion, whereas increase in the tympany of that space indicates retraction of the left lung not infrequent in phthisis. In the early stages, absence of dullness in any part of the thorax is not always an indication of the absence of infiltration. Small disseminated tubercles may alter the resonance altogether. The same happens if the lesion is deep-seated and covered by unaffected lung tissue. In these cases hyper-function of the surrounding lung tissue often leads to a tympanic note being elicited on percussion. Hence, tympany in one supra-spinous fossa accompanied by suspicious symptoms is to be thought of as indicating phthisis. This may be the sole indication of tubercular infiltration, especially of sub-clavicular infiltration, which is usually detected only by roentgenography. Percussion findings by themselves are often enough to determine the diagnosis if the general symptoms of early phthisis are present. But in the absence of these symptoms, percussion is not of much value.

AUSCULTATION.—Adventitious sounds seldom occur in the early stages of phthisis. Active phthisis does not begin as catarrh of the small bronchi, but as a broncho-pneumonic process involving one or more lobules. Inasmuch as adventitious sounds can only be heard when oedema or secretion interferes with entry and exit of air through the air vesicles and bronchioles, adventitious sounds are not to be expected. Slight alteration in breath sounds is what should be looked for. It is only when the caseous material softens and breaks through into a bronchial tube that rales will be heard. When rales are heard we may be sure we are dealing with a more or less advanced case. To make the maximum benefit of auscultation, the patient must be stripped to the waist and instructed to breathe through the nose regularly and somewhat deeper than usual. The single phase auscultation is advocated by many. By this, attention is paid to each phase separately, that is, first listening to the inspiratory murmur discarding the expiratory phase, then to the expiratory phase alone, after which attention is paid to the adventitious sounds. The following alterations in breath sounds occur in early active phthisis:—

1. Absence of breath sounds;
2. Feeble breath sounds;
3. Interrupted or cog-wheel breathing.
4. Prolonged expiration.

ABSENT OR FEEBLE BREATH SOUNDS is a common occurrence in early phthisis. To be of diagnostic significance this must be localised, fixed,

and persistent for some time, and uninfluenced by respiratory effort or cough. It is an indication of peribronchial infiltration compressing some bronchiole and causing atelectasis of the alveoli it supplies. In the absence of constitutional symptoms, absence or feebleness of breath sounds is indicative of healed lesion or thickened pleura. This is commonly met with over the upper lobe of the lung posteriorly near or above the spine of the scapula, the so-called "alarm zone" of CHAUVET. (This alarm zone is located posteriorly as follows: "From the space separating the spinous process of the seventh cervical from that of the first thoracic vertebra, a line is drawn as far as the tubercle of the trapezius on the spine of the scapula. From the middle of this line, taken as a center, a circle is described with a diameter equal to that of a silver dollar." FISHER). Anteriorly the same change in breath sounds may be noted immediately behind the inner third of the clavicle. In advanced cases, a plug of the caseating material, by obstructing a bronchus temporarily, may bring about a similar picture, but the plug gets detached when the patient is instructed to cough vigorously and on subsequent auscultation the breath sounds are clearly heard. *The cog-wheel type of breathing* is considered characteristic of early phthisis. Here, the inspiratory murmur is not smooth and continuous as in normal respiration, but is divided into several more or less distinct murmurs, and hence appears jerky. It is caused by the obstacles met by the air current entering the alveoli. This breathing is heard also over the chest of nervous patients and in those who have pain in the chest, as in acute pleurisy, or who shiver during the examination. In these cases, it is heard all over the chest, whereas in phthisis it is localised to a limited area of the upper lobe of the lung. The expiratory phase occupies about one-fifth the time of the inspiratory phase in normal vesicular breathing. But when it lasts as long as or longer than the inspiratory murmur, it is pathological. When a prolonged expiratory murmur is heard all over the chest, it is indicative of emphysema. But when localised at the apex, it is significant of phthisis. It is an indication of the pressure of the tubercular infiltration on the smaller bronchioles. It is often harsh and rough and gradually acquires a bronchial character. This phenomenon is heard later than the changes that occur in the inspiratory murmur. Before leaving auscultation, mention may be made of provoked rales. This occurs in about 75 per cent of cases in the early stages, according to BRAY. In these cases, no adventitious sounds are heard on ordinary or forced breathing, but vigorous cough brings about an explosion of rales. The mechanism of production of this is not clearly known. Suggestion is made that separation of the

collapsed alveolar walls and the smaller bronchioles in and around the diseased focus becoming patent by a fit of cough produces the adventitious sounds.

ROENTGENOLOGY and FLUOROSCOPY are very useful in the diagnosis of incipient cases in which infiltrations are located deep within the parenchyma and covered by unaffected lung tissue. No conscientious physician should pronounce a final diagnostic verdict in any case with equivocal physical findings without a roentgen examination. The following points are to be looked for when examining a chest under fluoroscopy.

1. The ribs and their shadows with their movements. Unilateral limitation of movement is suggestive of unilateral disease and phthisis is to be thought of. Normally, in young subjects, the costal cartilages are not visible. But in tuberculosis they are said to be calcified, and hence visible.

2. Trachea and its position must be studied.

3. Mediastinal organs must be noted and their position observed.

4. The diaphragm and its movements must be noted minutely. Defective movement is said to occur in many cases of phthisis in the incipient stages. Various explanations have been given for this phenomenon. Some attribute it to the diminished power of retraction of the lung, others blame the implication of the terminal branches of the vagus or of the phrenic nerve in apical pleural thickening. Next, the costo-phrenic sinuses must be examined on either side and compared. The lower angle of the sinus should be long and sharp, and diminution of it indicates a pathological condition of the pleura or lung or both.

5. The pulmonary field, especially the area above and immediately below the clavicle, should receive special attention. The translucency of the region on either side must be noted and compared. The cough phenomenon of KREUZFUCHS must be noted. The apices brighten up in normal individuals during cough, even when they are quite dark before; but in disease the affected apex continues to be dark even after coughing.

A CASE OF DIABETES MELLITUS TREATED BY DIETARY REGULATION *

THE USE OF HIGH CARBOHYDRATE DIET IN THE TREATMENT OF DIABETES MELLITUS

K. C. PAUL, M. D.

*Honorary Physician, Diabetic Clinic (Out-Patients),
General Hospital, Madras.*

P. C. S..... Indian Christian, male, aged 46 years, came under observation for weakness of 8 months' duration on 7-5-1933. His urine had been examined in Sept. 1932 and sugar found therein. Since Nov. 1932 he has been becoming progressively weaker and losing weight. He had neither polyuria nor thirst at any time. There is an antecedent history of alcoholic indulgence and of carbohydrate excess; but no history of venereal disease. There is no history of hereditary diabetes.

On examination, weight 110 lbs., and height 5 ft. 4½ in. No abnormal signs were detected in the circulatory, respiratory, and nervous systems. Slight pyorrhoea alveolaris present; one lower incisor tooth shaky. Liver and spleen not enlarged. Blood pressure in sitting posture: Systolic, 115 mm. of Hg; Diastolic, 65 mm. of Hg. Urine contained 2.5 per cent. sugar, no albumin, and no ketones.

Dextrose tolerance test was done (at the Biochemical Laboratory of the Madras Medical College) on 22-5-1933. The following is the report of the Biochemist;

Blood sugar before glucose (fasting)	0.125 per cent.
" 30 min. after 50 gm. glucose	0.165 per cent.
" 60 min. "	0.224 per cent.
" 90 min. "	0.252 per cent.
" 120 min. "	0.234 per cent.

* This report was presented before a Clinical Meeting of the South Indian Branch of the British Medical Association held in Dec. 1934.

That patient was prescribed a diet containing approximately 143 grammes of Carbohydrate, 48 grammes of Protein, and 83 grammes of Fats, and yielding about 1530 calories of energy (See Diet sheet appended below).

He was advised to take also the *Mistura Ferri et Strychninae* of the General Hospital Pharmacopoeia, one ounce thrice daily, after food; and he was sent to the Dental Department where his pyorrhoea alveolaris was treated.

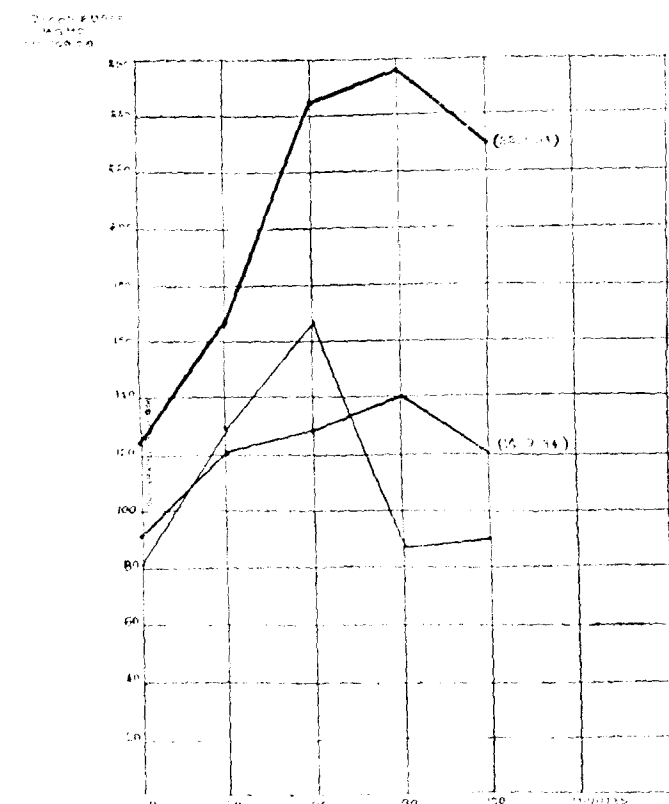
He was under continuous observation at the Diabetic Clinic of the General Hospital since the stabilization of the diet on 25-5-33. Except on one occasion when he had a severe cold there was no return of sugar in the urine which had disappeared within a week of his being placed on this diet. He has adhered to the diet as carefully as he could, observing a fast one day each fortnight. His general health was good till July 1934, when had an attack of dysentery. His weight on 12-7-34 was 106 lbs., 4 lbs. less than when he first came under observation.

The *dextrose tolerance test* was repeated on 14-9-1934. The report of the Biochemist is as follows:—

Blood sugar before glucose (fasting)	0.09 per cent.
" 30 min. after 50 gm. glucose	0.12 per cent.
" 60 min. "	0.125 per cent.
" 90 min. "	0.14 per cent.
" 120 min. "	0.12 per cent.

This shows a marked improvement in tolerance to dextrose since the original test was done on 22-5-1933. (See chart).

This case illustrates the remarkably good results that could be obtained in diabetes mellitus with dietary regulation. A very important point to note is the high carbohydrate content of the diet. In the United States of America and in Great Britain high carbohydrate diets are in use, but are of comparatively recent introduction; and, further, such diets are used in combination with Insulin. I have been making use of high carbohydrate, low fat, diets in the treatment of most of my cases of diabetes mellitus since 1929. The results I have obtained with such diets are highly satisfactory. In a certain proportion of cases the employment of INSULIN for varying periods has been necessary, but in the majority dietary regulation by itself kept the disease under control.



Blood sugar curves after 50 gm. of glucose before and after treatment compared with normal curve.

DIET PRESCRIPTION FOR P. C. S. MALE. 46 YEARS.

BREAKFAST

Oatmeal	$\frac{1}{2}$ oz.	made into porridge (and taken with milk 5 oz.)
Eggs	2	half-boiled
Tea or Coffee	one cupful	with milk 2 oz.
Milk	7 oz.	5 oz. with porridge
		2 oz. with tea or coffee

C. 20 P. 20 F. 19

LUNCH

Rice	$1\frac{1}{2}$ oz.	well cooked
Ghee	$\frac{1}{2}$ oz.	with rice
Mutton or Beef	$1\frac{1}{2}$ oz.	prepared as desired
or		
Fish	$2\frac{1}{2}$ oz.	prepared as desired
Vegetables		

Brinjal, 6 oz.
Cabbage, 6 oz.
French Beans, 6 oz.
Snake Gourd, 6 oz.
Tomatoes, 6 oz.
Bendakkai, 4 oz.
Pavakkai, 4 oz.
Greens (keerai), 8 oz.
Banana stem, 8 oz.

any three for the meal
prepared as desired

smaller quantities than
allowed only were used.

Onions	2 oz.	to be used as desired,
Curds	5 oz.	to be used as desired,
		C. 64 P. 21 F. 30

TEA

Tea or Coffee	one cupful	with milk 2 oz.
Milk	2 oz.	with tea or coffee
		C. 3 P. 2 F. 2

DINNER

Rice	1½ oz.	well cooked	
Ghee	½ oz.	with rice	
Vegetables	any three	for the meal	; smaller quantities than allowed only were used.
		prepared as desired	
Onions	2 oz.	to be used as desired	
Rasam	q. s.	prepared without dhal	
		C. 56 P. 5 F. 17	
Fat allowed for cooking	½ oz.		F. 15
		Total C. 143 P. 48 F. 83	
		Calories = 1530	

; the amount of carbohydrate taken daily is probably 10 grammes less than that stated.

A CASE OF HAEMATURIA *

J. A. S. MASILAMANI, M. B. B. S.,

Honorary Assistant Physician, General Hospital, Madras.

S., aged 43 years, Hindu, male, admitted on 20-2-'35 for passing blood in the urine.

Previous illness: Patient passed blood in the urine on 27-10-1932. The urine cleared in a week. Two years later (on 28-12-'34) he had another attack of haematuria: the urine cleared after 10 days.

History of present illness: At 1 p. m. on 19-2-'35 patient found difficulty in passing urine; on straining he passed a blood clot and this was followed by blood stained urine. He passed blood in the urine since then. No pain or burning sensation during micturition.

Condition on admission: A well-nourished man, not anaemic. Respiratory and circulatory systems normal. *Spleen*, palpable 3 fingers' breadth below the costal margin, hard. *Liver*, not palpable. Blood pressure 130/90 mm. Hg.

* From the wards of Dr. T. Satakopan, General Hospital, Madras.

INVESTIGATIONS:

Blood: leucopenia; no parasite.

Night Blood: First two nights no microfilariae; 3rd night microfilariae found.

Urine. 20-2-35: Acid, no albumen, no sugar, deposit contains phosphates and red blood cells.

21-2-35: Three glass test: First and second glass, clear; 3rd glass contained blood and blood clots. But when this test was done on subsequent days all three glasses contained urine intimately mixed with blood.

The patient was transferred to the surgical wards for further investigation.

23-2-35.—*Cystoscopy* revealed delay in excretion of indigo-carmin by the left kidney as also the presence of a big blood clot near the neck of the bladder.

2-3-35. *Retrograde pyelogram* showed an enlarged and irregular shadow of the left kidney.

7-3-35. *Nephrectomy of the left kidney under general anaesthesia.* The kidney had a large malignant growth, involving practically the whole of the left kidney.

Pathologist's report: Adeno-carcinoma of the kidney.

COMMENT:

The presence of microfilariae in the blood seems to be just a coincidence, though it might have led one to explain the haematuria as having been due to filarial infection.

A CASE OF HAEMOGLOBINURIA *

T. K. SUNDARAM, M. B. B. S.,

Honorary Assistant Physician, General Hospital, Madras.

R. — Hindu, male, aged 21 years, was brought to the out-patients department of the General Hospital for snake bite at 8 p. m. on 8-2-1935. He was given anti-venine 40 c.c. immediately and sent to the medical wards.

* From the wards of Dr. T. Satakopan, General Hospital, Madras.

A snake (?viper) bit the patient in the left second toe at about 8 p. m. on 8-2-'35. He developed severe pain at the site of the wound which was running up to the groin, and also severe pain in the lumbar region and in the stomach. Next morning he passed blood-stained urine. His general condition was good. Examination of urine showed no red blood corpuscles but haemin crystals; no casts. *Urine showed the same haemoglobin percentage as the blood.* He was given haemoplastin, 4 c.c., and Atropine, 1/100 gr., and put on liquid diet (milk and barley water). On 10-2-'35 the pain in the right lumbar region was severe and he continued to pass blood-stained urine. Haemoplastin, 2 c.c., and Calcium Chloride, 6 gr., were given at 6 p. m. At 10 p. m. he had Omnopon, 1/4 gr., and Atropine, 1/100 gr. He slept well and had less pain next morning.

He continued to improve, the pain decreasing and the urine getting lighter in colour.

On the morning of 12-2-'35 he passed a large quantity of blood-stained urine, and appeared to be anaemic. The haemoglobin percentage in the blood fell to 38. The haemoglobin percentage in the urine was the same as in blood. Blood transfusion was thought of and grouping effected. But he rallied and transfusion was not done. He had a relapse on 15-2-'35 with severe pain in the right lumbar region, necessitating the administration of Omnopon, 1/4 gr. and Atropine, 1/100 gr. (10-30 a. m.)

Cystoscopy was arranged for the next day and was done by Dr. Mangesh Rao.

The report was that the bladder wall was very pale, right ureteral opening reddish, and on passing the catheter blood began to flow mixed with urine. Left ureter was normal.

On centrifuging the first catheter specimen red blood cells were separated. It was due to trauma by the catheter. Later specimens showed no red cells but contained haemoglobin. After his return to the ward he stopped passing blood-stained urine, and gradually improved. He was discharged from the hospital on 20-2-'35, fully recovered, with instructions to report himself to Dr. Mangesh Rao at the end of two months, or earlier, if he passed blood stained urine.

After two months the patient reported himself. Cystoscopy, retrograde pyelography, and analysis of urine revealed no abnormality.

Comment: It is interesting to note that in this case the haemoglobin content of the urine and that of the blood were the same.

GLEANINGS FROM MEDICAL LITERATURE

1

THE HEART AND ATHLETICS

WILLIAM G. LEAMAN

International Clinics, Forty-fourth Series, Vol. III, Sept., 1934, p. 1.

James Hope, in 1839, expressed the opinion that boat racing in Oxford and Cambridge undergraduates caused rupture and inflammation of the valves of the heart resulting in incurable organic disease, and that similar changes occurred in those engaged in violent gymnastics such as college athletes, and in mountain climbers. In 1789 Clifford Allbutt claimed that long-continued exertion caused right heart failure and produced wear and tear in the aortic area. Adami in 1911 stated that he believed the nodose arteritis seen in elderly subjects with thickening of the valve leaflets to be the result of mechanical strain. Thus came the belief that athletic training leads to physiological hypertrophy of the heart, and that this when prolonged leads to dilatation and not infrequently to valvular insufficiency. In recent times, with Mackenzie and Lewis as leaders, a new cardiology has sprung up in which valve lesions and murmurs are relegated to the background and the heart muscle has assumed major place. And it is in terms of the heart muscle the effect of violent exercise should be considered. At the end of a hard race an athlete presents the following clinical picture: he is gasping for air; his expression is pale and pinched, and the pulse is rapid and weak; he perspires freely, and if the exhaustion is severe we see him lying on a side. Is this the picture of heart strain? If rupture of a few strands of muscle can cause soreness and stiffness at the site of injury, what will be the result if the same injury occurred in the musculature of the heart? Nature has provided enough safety valves to protect such a vital organ as the heart by providing such mechanisms as cramp of the skeletal muscles and cerebral anaemia before this organ is injured. Rupture of a healthy heart rarely occurs and when it does occur it is in hearts previously weakened by disease.

The sudden death of an athlete at the finishing line does not necessarily mean that the heart is the organ that has given way. It may occur from an over-looked persistent thymus or by the mechanism of vagal inhibition. If the day is warm and the race closely contested the possibility of heat stroke or exhaustion must be kept in mind. The psychic strain is certainly tremendous in much advertised stars before and during a hard race that the nervous system and not the cardio-vascular system may give way.

Acute cardiac dilatation is the diagnosis commonly assigned to symptoms observed at the end of the race and this has enjoyed wide popularity mainly because accurate methods were not used in the diagnosis. Mere percussion is not reliable and is misleading in the heavy chest wall of an athlete. As a matter of fact, the roentgen ray, as he falls exhausted over the finishing line, throws a shadow actually smaller than normal. The heart returns to the normal size in the course of the day. The same has been observed in experimental animals after exhaustion. The heart is limited in its power to dilate, especially if the process is acute, by the tough fibrous pericardium, and this has been in seen animals under the fluoroscope by clamping the aorta for a moment.

Lewis has come to the conclusion that the burden imposed by physiological acts on the normal heart, however heavy they may be, never injures the heart, never produces dilatation, and never exhausts the heart reserve. The heart of a normal athlete is an organ with a reserve far in excess of the needs of the system it supplies, and cannot be strained as other lower bodily mechanisms. The blood-sugar level of the runners forced to drop out of the Marathon race is below normal, and on many occasions it has been found to approach the level at which unconsciousness occurs. The condition of the athlete at the conclusion of the race can therefore be attributed to this hypoglycaemic reaction.

Gordon concludes from a study of Marathon runners that years of training and competition do not cause cardiac enlargement. Pancoast has come to the same opinion from the examination of the chest of many athletes; among these was one of the world's greatest runners who showed no cardiac enlargement in spite of the fact that one lung was almost obliterated by pleural adhesion and thickening. The examination of the trans-continental foot runner who ran 3434 miles in 84 consecutive days showed heart diameters within normal limits.

Enlargement of the heart occurs only in those athletes who have had previous rheumatic infection or valvular lesion. The diseased heart must be carefully and completely studied. It not only requires exercise, but grading of exercise. One must not be condemned because one has an apical murmur. The student thus condemned loses much that college life offers: companionship of fellow athletes, sportsmanship that competition develops, and the beneficial effects of sports in building up the body. Properly regulated exercise increases the pumping action of the heart, assists the lymph flow, and develops a higher resistance to bacterial infection.

V. G.

2 THE CLINICAL SIGNIFICANCE OF PNEUMO-PERITONEUM

L. J. FRIEDMAN

Radiology, XIII, 1935, p. 290

The presence of gas in the abdominal cavity can be demonstrated fluoroscopically and radiographically, this being its important feature clinically. Radiographically the presence of a gas intra-abdominally is recognised by a dark semi-lunar shadow in the subphrenic space. It is believed that as little as 50 c. c. may be visualized on an X-ray film.

Pneumo-peritoneum may occur spontaneously, or it may be induced for diagnostic purposes. It is also employed as a therapeutic measure in tuberculous peritonitis.

Spontaneous pneumo-peritoneum is produced when rupture of a hollow viscus occurs. Lesions predisposing to this accident are: gastric or duodenal ulcer, duodenal ulcer complicating typhoid fever, rupture of urinary bladder, and perforating abdominal wounds. The roentgen-ray demonstration of pneumo-peritoneum in a perforated ulcer is considered to be of even more value than the search for diminished liver dullness. In rupture of the urinary bladder, the introduction of air through the urethra results in its accumulation in the subphrenic spaces.

Induced pneumo-peritoneum: Occasionally air is introduced into the peritoneal cavity during an attempted pneumothorax. For diagnostic purposes it is usually injected trans-abdominally. In the female the abdominal cavity may also be filled with air by trans-uterine insufflation.

tion. Induced pneumo-peritoneum for diagnostic purposes is a comparatively innocuous procedure, and the indications for its performance are as follows:

1. To differentiate basal intrathoracic pathology from subphrenic disease. A subphrenic abscess will prevent the accumulation of air in the subdiaphragmatic space.
2. To study the liver outline. A liver abscess, if superficial and "pointing", will be clearly visualised, especially if the surface of the liver is adherent to the parietal peritoneum; this is best seen in films taken in the lateral decubitus and supine positions.
3. To determine the relation of a mass in the left upper quadrant to the spleen.
4. To differentiate eventration from herniation or absence of a leaf of the diaphragm.
5. To demonstrate and study the relative position of a retro-peritoneal neoplasm to normal structures.
6. To study the uterus and adnexa for semi-pedunculated subserous tumours, ovarian neoplasms, or cysts. If a film of the pelvis is taken in a modified Sim's position and loops of intestine are retained, the presence of adhesions can be presumed.

Technique of pneumo-peritoneum: The patient is prepared by an aperient the night before, a cleaning enema within the hour preceding the examination, emptying the bladder, and an injection of morphia and atropine 15 minutes before the examination. The gases employed for the procedure are carbon dioxide, oxygen, and pure air.

Trans-uterine insufflation may be accomplished provided one or both tubes are patent, and in married women only. For diagnostic purposes, about 700 c.c. to 1,000 c.c. may be introduced or until the liver dullness is obliterated.

In the trans-abdominal route, and with surgical asepsis, the lumbar puncture needle with the stylet *in situ* is inserted slowly but persistently at a point $1\frac{1}{2}$ inches to the left and below the level of the umbilicus until the peritoneum is perforated, when the needle is connected to a Potain's aspirator. About 1,000 c.c. of air is slowly injected.

Radiograms are then taken in the antero-posterior, right and left lateral decubitus, right and left lateral supine, and sitting postures. For the study of the pelvic viscera, particularly in the female, the pelvis is elevated about 28 degrees and exposures made in the antero-posterior and postero-anterior positions. Pneumo-peritoneum and intra-uterine instillation of iodized oil, when used conjointly, will yield more diagnostic information in some cases than either procedure alone.

K. R. C. H.

3 IRRADIATION IN THE TREATMENT OF FIBROMYOMA OF THE UTERUS

G. E. PFAHLER AND J. H. VASTINE

American Journal of Roentgenology, 1934, XXXI, 51.

As indications for irradiation of fibromyomata of the uterus, the authors recognize:

1. All cases in women beyond the menopause in which the tumour reaches no further than midway between the symphysis and umbilicus, is not undergoing degeneration, and is not causing intolerable pressure symptoms.

2. All cases where operation is contraindicated by severe systemic disease.
3. Large fibroids in which anaemia prevents immediate surgery.
4. Refusal of operation by the patient.

Contraindications are:

1. Malignancy of the uterus or adnexa.
2. Tumours larger than midway between the symphysis and umbilicus, unless there are definite contraindications to surgical treatment.
3. Pedunculated or submucous tumours.
4. Tumours producing pressure symptoms.
5. Fibromata which have undergone cystic degeneration or are gangrenous.

In younger patients desirous of subsequent pregnancies, myomectomy is to be preferred, but if this is refused, irradiation can be employed without causing sterility.

The advantages of roentgen therapy over radium are, briefly, its greater availability, the more homogenous effects produced, the minimal interference with the patient's occupation, the elimination of nervous shock and of objections to intra-uterine applications, and finally the absence of any caustic action upon the endometrium. The technique advised by the authors calls for 200 kv., 4 ma., 0.5 mm. copper filter, at a distance of 50 cm. Smaller tumours are treated through three portals, the larger ones requiring more. Great care is exercised to avoid cross-firing of the skin to the extent where fat necrosis is produced. To avoid radiation sickness, the treatment is administered serially through each field until the total amount has been given.

Radium is to be preferred when a curettage is performed to rule out malignancy, since its application is immediate and eliminates a step in the procedure. Application of intra-uterine radium allows the making of a biopsy with an early estimation of the pathology to be treated. One application is usually sufficient. Furthermore, radium successfully combats associated endocervicitis and produces a fibrosis which eliminates subsequent danger of haemorrhage. It must not be used, however, when subsequent pregnancy is desired. Radium is applied by the authors in a special applicator reaching the entire length of the canal and containing three 50 mg. capsules of radium screened by 1 to 2 mm. of platinum and 0.5 mm. of aluminium or hard rubber. It is inserted into the uterine canal and left in place for 24 or 48 hours, according to the existing pathology.

While each method undoubtedly has definite indications and advantages, both should be used when the tumour is large or when malignancy is suspected.

As compared to irradiation, surgery has the advantage of complete and immediate removal, it makes available tissue for microscopic examination and insures the removal of fibroids undergoing malignant degeneration, and of such complicating lesions as ovarian tumours and adnexal disease. On the other hand, the immediate mortality must be considered, economic loss to the patient is greater, and certain constitutional diseases prevent the use of a major procedure. Irradiation produces little or no shock and a minimum of operative inconvenience. The immediate mortality following X-ray therapy is nil, and that after radium treatment is only 0.1 per cent. Relief is obtained in a high percentage of cases receiving radiotherapy; treatment may be instituted earlier, due to the lack of apprehension by the patient, and hospitalization is

minimized. On the contrary, this type of treatment is less effectual in those tumours which have undergone degeneration. While chronic inflammation is usually favourably affected by irradiation, this does not always hold true for acute conditions. Finally, malignancy cannot always be ruled out.

Of the 297 cases in the authors' series, 152 were treated by X-rays alone, 13 by radium alone, and 88 by the combined methods; 44 cases were referred for surgery. Among the 253 patients treated by irradiation, gratifying results were obtained in 88.2 per cent; 7.1 per cent were subsequently operated upon for persistent symptoms, and 4.7 per cent ultimately died of genital malignancy. In a group of 162 selected cases, the tumour decreased on the average to 50 per cent of its original size in 3 months, to 30 per cent in 6 months, and the majority were not palpable at the end of a year. While opinions differ, the authors found that sexual desire was altered little, if at all, by irradiation, even after castration.

K. R. C. H.

4

THYROTOXIC HYPERTENSION

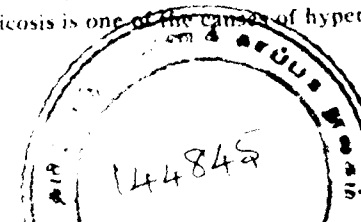
JOHN PARKINSON AND CLIFFORD HOYLE

Lancet, October 27, 1934.

The following conclusions have been arrived at from a careful analysis of 100 cases:—

- (1) The term thyrotoxic hypertension is applicable to a group of patients with hypertension in whom there are ruling features of thyrotoxicosis, especially tachycardia with a chronic goitre, which has often been overlooked.
- (2) These patients are usually women between the ages of 45 and 65 years; they are thin, excitable, and easily tired. The tachycardia is 90–110; the systolic blood pressure is between 170–240 mm. Hg., often with a low diastolic figure (high pulse pressure). Paroxysms of auricular fibrillation may be followed by permanent fibrillation. The dual influence of goitre and hypertension appears in the radiocardiogram.
- (3) Enlargement of the thyroid gland may be minimal, even doubtful; occasionally it is substernal. Masked hyperthyroidism has already been related to myocardial disease; it is now seen to figure in relation to hypertension. In any patient with hypertension showing tachycardia, and still more if there is auricular fibrillation with or without cardiac failure, the thyroid gland should be examined most critically and supporting evidence of thyrotoxicosis should be sought for.
- (4) Thyrotoxic hypertension calls for special consideration in treatment. Thyroid extract is contraindicated. If iodine or iodide is used for hypertension, its possible effect on an abnormal thyroid will be taken into account. Subtotal thyroidectomy will often relieve symptoms, and prevent or dispel auricular fibrillation which so often determines a premature heart failure in hypertension.
- (5) The frequency of the combination should revive the suspicion that chronic thyrotoxicosis is one of the causes of hypertension (a thyrogenic hypertension).

K. L. N. R.



5 TROPICAL SPRUE AND ITS MODERN TREATMENT

N. HAMILTON FAIRLEY

The British Medical Journal, Dec. 29, 1934, p. 1192

Tropical sprue in its typical form is characterised by apyrexial morning diarrhoea with pale, gaseous, bulky, fatty stools, sore tongue, buccal aphthae, intestinal flatulence, megalocytic anaemia, marked wasting, and profound asthenia associated with a low blood pressure. The abdomen is distended, and its thin parietal wall but scantily covers the coils of gas-distended bowel beneath. Definite skin pigmentation, cramps, tetany, and oedema may be superadded. The syndrome itself is explicable in terms of a dysfunction of the gastro-intestinal tract, characterised by defective gastric secretion and malabsorption of fat, glucose, and calcium—and probably the pernicious anaemia factor—in the small bowel. The absence of a demonstrable parasitic agent such as a virus, bacterium, or fungus, the apyrexial course of the illness, and the essentially non-inflammatory nature of the tissue changes are against an infective origin. Sprue generally affects adult Europeans or those of mixed European stock after some years of residence in an endemic area. Peculiar features are its rarity in Africa and its occasional onset in tropical patients after many years' residence in Europe. A reasonable view is that sprue arises as a functional breakdown in the gastro-intestine, any factor or factors depressing its secretory or absorptive function predisposing to it. It is known, for example, that certain tropical infections as malaria and dysentery may depress gastric secretion, while residence in a humid climate involves increased distribution of blood to the skin at the expense of the splanchnic vessels—a state of affairs which, if unduly prolonged, likely to depress alimentary function. Again, a diet rich in fat and carbohydrate and poor in protein, which is the main source of the extrinsic factor, is the one known to precipitate relapses in sprue, and is probably the most potent single factor in the initiation of the disease in the first instance.

Laboratory findings in well-established cases generally show an excess of inadequately split fat, the total fat constituting 25 to 70 per cent of the dried faeces, a glucose-tolerance curve with a delayed or low maximal rise rarely exceeding 40 mg. per 100 c. c., a decreased serum calcium associated with a normal serum phosphorus, a blood cholesterol below 100 mg. per 100 c. c. and a decreased or absent secretion of HCl as revealed by the fractional test meal curve. Acid secretion follows histamine injection in approximately 70 per cent of sprue cases; a finding which helps to differentiate it from true Addisonian anaemia. Haematological investigation generally reveals a megalocytic anaemia of moderate or severe degree, which in advanced cases may be indistinguishable from Addisonian anaemia, the Price-Jones curves in the two diseases being also similar.

Treatment.—The patient with sprue must be put to bed on an appropriate diet for a period of five to eight weeks, and must receive liver extract, per os, in adequate doses if anaemia is present. On admission the patient should be given Oleum ricini (2 drachms). When the diarrhoea is severe, Pulv. bataviae co ($\frac{1}{2}$ to 1 drachms t. d. s.) is useful. Several different diets have been advocated empirically, including the fruit diet of van der Burg, the milk diet of Manson, and the red meat diet of Cautlies. On the basis of the biochemical findings, Fairley (1930) successfully employed a series of five graded high protein, low fat, and low carbohydrate diets, with an energy value varying from 700 to 3000 calories and possessing a protein : fat : carbohydrate ratio of 1.0 : 0.3 : 1.3 instead of the usual 1.0 : 1.0 : 4.0. The source of protein is bare red meat. More recently a defatted high protein milk powder (sprulac) has been introduced by the writer. Almost invariably the anaemia is megalocytic and often hyperchromic in type, and provided the

diarrhoea be controlled by suitable dietary as outlined above, the administration of commercial liver extract in adequate dosage is followed, as in pernicious anaemia by a maximum reticulocytosis inversely proportional to the red cell count and by rapid blood regeneration. As blood regeneration proceeds, the rate of red cell production generally exceeds the percentage increase of haemoglobin, so that by the time normal counts are reached the colour index approximates to 0.9. There is a simultaneous decrease in the average diameter of the corpuscles, anisocytosis gradually disappears and Price-Jones' curve returns to its normal position and symmetry. Acid hydrochlor. dil. B. P. ($\frac{1}{2}$ to 1 drachm) may be given thrice daily after meals, where acid secretion has been found defective. Marmite is occasionally effective, and in my experience, neither it nor ventriculin is as satisfactory as liver extract in sprue. Provided the patient is on a diet low in fat the complication of tetany only calls for the administration of calcium lactate (40 grains) thrice daily.

K. L. N. R.

6 THE PLACE OF BIOPSY IN BONE SARCOMA

JAMES EWING

American Journal of Surgery, January, 1935, p. 26.

Biopsy should be the last step in the diagnosis of bone sarcoma because:

- (1) The clinical history and radiological findings yield in the great majority of cases a practically certain diagnosis. Where these data fail to give reasonable assurance, the case remains obscure in spite of a biopsy.
- (2) The clinical and radiological picture of a case of bone sarcoma usually furnishes a better conception of the diagnostic and therapeutic problem than can be obtained from a biopsy.
- (3) The histological diagnosis of bone tumours and the conditions simulating or accompanying them has many limitations: e.g.—
 - (a) In the walls of many benign cystic tumours there is a zone of reactive tissue closely resembling osteogenetic sarcoma.
 - (b) The central portions of many giant-cell tumours resemble medullary spindle myxo-sarcoma.
 - (c) The outer portions of some slowly-growing ossifying sarcomas resemble the normal bone of myositis ossificans.
 - (d) The tissue in the central portions of some periosteal fibrosarcomas may be atrophic and suggest a benign fibroma, the periphery being active and malignant.
 - (e) Many bone-sarcomata are associated with chronic suppurative and non-suppurative osteomyelitis, and it is often a puzzle to decide whether the surrounding cellular tissue encountered is degenerating tumour or regenerating inflammatory tissue.
 - (f) Osteomyelitis which often precedes or accompanies many endotheliomata of bone may cause errors in diagnosis.
 - (g) Chronic granulomatous processes in bone due to Hodgkin's diseases, syphilis, or tubercle are often extremely difficult to distinguish from sarcoma.
- (4) While uncontrollable haemorrhage necessitating even amputation may result and sepsis may be introduced, the facts that bone sarcoma responds with marked increase in malignancy to surgical trauma, that the integrity of the capsule is an effective barrier to growth, that tumour cell emboli break into the blood vessels more readily, would seem to render biopsy a dangerous procedure; further, biopsy interferes with proper radiation treatment.
- (5) Every case of persistent and unexplained pain in a bone, worse at night, should mean a suspicion of bone sarcoma, to be treated by radiation, and biopsy should be limited to the operating table before an expected amputation.
- (6) An aspiration biopsy by an 18-bore needle would appear to be the only remaining useful field for the old surgical biopsy.

M. K.

REVIEW

SETH G. S. MEDICAL COLLEGE MAGAZINE, BOMBAY

We are glad to welcome another college Magazine. The Seth G. S. Medical College deserves praise for having started a magazine within ten years of its inception, a unique record indeed. The first number is well got up and contains a number of useful contributions from the staff and some very interesting short sketches from the students and junior members of the staff. We should like to mention the passing thought whether it is advisable to include in a college magazine serious articles on the science and practice of the various departments of medicine. These are much better in hospital reports or other Medical Journals. We consider that the proper function of college magazines is to chronicle the activities of the students of the college, the minimum space being devoted to clinical and other scientific activities of the college and hospitals. On the other hand, what generally obtains in this country is that college magazines are utilized chiefly as vehicles for the thoughts of the staff. We have noticed that in some colleges, the management of the magazine is almost wholly under the control of the staff, the student editor being a very subordinate agent. This is rather pernicious. It puts a fairly thick damper on the initiative and enthusiasm of the students. It is possible that when a magazine is run entirely by the students, some trifles may find a place in it. But, then, we do not expect the wisdom of the ages in the energy and enthusiasm of the young. It is not desirable.

S.

JOURNAL OF SOUTH INDIAN MEDICINE

JULY, 1935

PUBLICITY

The nobility of the medical profession is an ancient theme. The public, *pace* the wags, generally accede this claim; and medical men are all proud to believe that their Profession is easily the noblest of all professions. Among other things one of the arguments commonly used in support of this claim is the fact that medical men are prohibited by tradition from advertising. Advertising has evidently been common in the olden days and it should have produced very unpleasant consequences. Otherwise, there would not have been such definite injunctions against it. Advertisement is not indigenous to this land. But, as a result of the increasing economic unity of the world, this modern handmaid of trade and commerce is very much about here. The learned professions being by law and tradition prevented from this means of increasing their work, some members try to get behind the rules by various means. Advertising in Madras has taken various shapes and forms. There are people who are content with putting up long and deep sign boards with names printed in enormous sized letters. Others take advantage of the latest advances in electric illumination. There are some with more refined tastes who give fanciful, and almost romantic, names to their offices. We have travelled a long way from the days when some medical men thought that they had done their very best in advertisement when they had put up boards in front of their offices with the legend "consultation free, medicines only charged for." More subtle ways are developing. It is believed that some people almost make it a fine art. We need not stop to illustrate these ways. But we must mention a few of the refinements. The modern variant of "opening pharmacies" is the "opening of nursing homes and clinics." The public, both medical and lay, are invited for the function. Some credulous and well-meaning person in a position of authority or affluence is made to preside on the occasion. The merits of the medical man, and the boon he is conferring on an expectant public are sufficiently emphasized. Very often, care is taken that the proceedings find a place in the next day's newspapers with the inevitable photograph, however smudged it might be.

Such actions might or might not come under the disciplinary notice of the Local Medical Council. But since many of these performances have gone unnoticed by the Council, it looks as if medical men are getting bolder. The Dailies do not miss occasions when a favourite "god" is called in to see a patient. There are correspondents to record with due flourishes something that a medical man might do here or there. When some important official gets through an illness, sufficient praise is bestowed on the particular doctor in attendance; when one of them unfortunately dies, an explanation is issued to the papers as to how the attending surgeon is not to blame.

It is generally assumed by those in authority and even by a section of the public, that such lapses are only committed by practitioners in the rural areas, or by humble men who practise in the back streets of cities and towns. Unfortunately it is not so. Well paid men in high offices are not free from this defect.

The state of affairs requires to be remedied. But the remedy is not easy. People might ask if the Medical Council could not interfere to set things right. It might to a certain extent. But there are so many rules to satisfy, and so many exceptions to take note of, that the Council would often feel helpless to interfere usefully. The remedy lies in the hands of the profession. If the profession is better organised, it could compel the practitioners to keep to the right path. Even more than the organized profession the individual's own sense of honour should be able to keep him from doing wrong. One is reminded of a saying of William James. "We are not able to quote him exactly. But the list of what he says is thus. *The native sense of the man tells him what is right. But since to follow that is difficult or unprofitable, he begins to argue about, and finally ends by believing that what is right is not true but what is profitable is right.* If medical men would think of this aspect of life occasionally, a good deal of the unseemly scramble for self-advertisement would certainly lessen.

MEDICAL PERIODICALS

THE INDIAN MEDICAL GAZETTE

VOL. LXX, NO. 5, MAY, 1935

Treatment of Psoriasis, D. Panja and P. A. Maplestone, p. 241.

"(1) Our investigations have led us to believe that the toxin theory and the theories of bacterial or fungus infection as the cause of psoriasis are not correct. (2) A new method of making filtrates of material from the lesions of psoriasis for treatment of the disease is described. (3) This has been found less painful than the formalized or alcoholic filtrates recommended by other workers. (4) A record of treatment of 28 cases by this method is given. (5) The results are so favourable that the theory of a filtrable virus being the cause of psoriasis appears to be well founded."

The method described of making filtrates is as follows: "An acute or a subacute early patch is selected and dabbed with rectified spirit. Then a small piece of the diseased skin to the depth of the corium is snipped off with a pair of sterile curved scissors. The piece is weighed and mixed with pumice-stone dust and crushed in a sterile mortar until an uniform paste is produced. A few drops of normal saline may be necessary to make a good paste. The paste is then mixed with a measured quantity of sterile normal saline to make up the suspension to the strength of 10 m. gm. in 1 c. cm. It is then filtered through a Keiselghur filter and the filtrate thus obtained is filtered again through sterilized Pasteur-Chamberland L 3 candles, and 0.05 per cent phenol is added to the final filtrate."

Dosage: The initial dose was 0.1 c. cm. and it was injected intradermally. The injections were repeated every third or fourth day, increasing the dose each time by 0.1 or 0.2 c. cm. up to 1 c. cm. When the dose reaches 0.5 c. cm., subcutaneous injection is better as by this means the pain of intradermal infiltration is avoided. A course of ten to twelve injections was given as a rule and if necessary this was repeated after a fortnight; but only in a very few cases was a second course necessary.

Splenectomy for Tropical Splenomegely, A. N. Palit, p. 243.

Epidemic Measles in Assam, D. Manson, p. 248.

"Measles in the tropics follows closely the type of the disease in temperate climates with a greater seasonal distribution in the hot weather months. The use of cod-liver oil in treatment and of convalescent serum in prophylaxis is strongly advised."

A Note on an Epidemic of Cerebrospinal Fever in a Closed Community, R. B. Lal and M. Jacob, p. 252.

Clinical Observations on Cerebrospinal Meningitis in Indore, J. R. R. Tyrrell and Hari Shankar Kapur, p. 257.

Nephrosis: Its Nature and Incidence in Indians, S. P. Gupta, p. 259.

Clinical Evidence of Rheumatic Fever in the Punjab, Khushwant Lal Wig, p. 260.

"1. Thirty cases of rheumatic infection have been studied. 2. The disease exists in all its forms, i. e., articular, cardiac and chorea. 3. The articular form of the disease is mostly subacute in nature."

The Transmission of Kala-azar in India, L. Everard Napier, p. 269, (Special Article.)

The author gives a summary discussion of the principal reasons for holding the sand-fly the insect vector in the transmission of Indian kala-azar.

The Surgery of the Ruptured Spleen, P. Banerjee, p. 273, (Special Article.)

VOL. LXX, NO. 6, JUNE, 1935.

Some Biochemical Observations on Asthma, Dharmendra and L. Everard Napier, p. 301.

"(1) Results of the biochemical investigation in 40 cases of asthma are reported. (2) Pande's adrenalin test for sympatheticotonia gave no useful information. The reaction was normal in all the cases. (3) The blood sugar and the systolic blood pressure was generally low and this seems to be due to hypo-adrenia. (4) The ether reaction for proteoses was done in 40 cases with positive results in 36. Dermal tests with auto-proteoses and with proteoses separated from other patients were tried in 9 cases with negative results. (5) Indican was present in the urine of 37 of the 40 cases and enterococci in abundance were present in cultures from the stool in 20 cases. These findings point to the presence of intestinal stasis. The important part which intestinal stasis plays in bringing about the symptoms has been discussed. (6) Fractional gastric analysis was done in 30 cases. Hypoacidity was present in only one case, there was normal acidity in 15 cases and hyper-acidity in 14 cases. (7) Liver function tests were done in 38 cases. The tests included van den Bergh test, determination of icterus index, the laevulose tolerance test to see the absorptive power of the liver for carbohydrates, the adrenalin test for glycogenolytic function, and the examination of the urine for urobilin. The van den Bergh test and the icterus index give no useful information in the types of cases investigated. In 34 cases defective liver function was detected by the laevulose test or the adrenalin test or by both. Urobilin in urine was present in 19 cases. (8) The Laevulose test was expected to show liver dysfunction in a larger number of cases than in the other cases with *E. histolytica* and hook-worm infection. This result was not obtained. It has been pointed out that this might be due to the younger age amongst these particular cases. There is some evidence to the effect that the laevulose test gives evidence of hepatic dysfunction in a large number of cases

when above 30 years of age than below it. (9) The bronchial cases, i. e., cases secondary to some disease or infection of the respiratory tract, show hepatic dysfunction in common with the other cases. (10) It is suggested that in treating cases of asthma due consideration should be paid amongst other things to the hypo-adrenia, the intestinal stasis and the liver dysfunction which are generally present."

Chemotherapeutic Studies on Plasmodium Infection in Monkeys, No. V. Action of Tebetren, R. N. Chopra and S. K. Ganguli, p. 313.

"The drug (tebetren), it seems, combines the virtues of atebirin and quinine and gives promise of being a useful remedy in the cure of malarial infection."

The Passage of Hookworms After Treatment, P. A. Maplestone and A. K. Mukerji, p. 320.

"It is contented that after an efficient anthelmintic treatment the examination of the first stool only, after treatment, gives no indication of the number of worms harboured by the patient, nor of how many cases can be regarded as cured."

Congenital Hydronephrosis Due to an Abnormal Attachment of the Renal Fascia (of Gerota), V. Mahadevan and T. Bhaskara Menon, p. 321.

"A case of hydronephrosis is described due to an abnormally low attachment of the renal fascia to the ureter. This had resulted in constriction and kinking of ureter with a complete 'block'. The kidney showed a hydronephrotic type of atrophy. Histological studies showed that the direct and primary effect of this pelvic distension on the kidney was a dilatation of the collecting tubules and ducts of Bellini, while the renal atrophy was more related to the vascular distribution."

Amibiarsen in the Treatment of Chronic Intestinal Amoebiasis, R. N. Chopra, B. Sen and G. Sen, p. 324.

Constants of Mustard Oil, B. R. Brahmachari, p. 329.

The Immunological Problems of the Typhus Fever Group, H. Stott, p. 335, (Special article).

THE CALCUTTA MEDICAL JOURNAL

VOL. XXIV, NO. 11, MAY, 1935

Hæmatological Studies in Indian Women, Jyoti Dhar, p. 539.

"1. The normal leucocyte value in eighty-six healthy, young Indian (Bengali) women, between the ages of sixteen and thirty-five years, is presented to furnish accurate data for the calculation of normal base line of the blood picture in them. The primary data of this investigation of the normal hæmatology in Indian women, which is the first of its kind in this country, is included in the body of the paper. The more recent and important literature on the subject has been very briefly

reviewed. 2. The possible influence of various factors, viz. age, marital state, and parity has been incidentally investigated and discussed. The possible bearing of the low average count on the mechanism of defense against diseased processes require further investigation and will be discussed in a later paper. 3. The average white blood cell count in the present series was 5,610 per c. mm. of blood; the range being 3,125 (lowest) to 12,813 (highest) per c. mm. of blood. 4. The white blood cell partition in Indian women shows a tendency towards an average lower figure."

A Preliminary Report on the Bacteriology of Kerato Conjunctivitis with Adenitis seen in Calcutta, Saradindu Sanyali, p. 621.

Family in its Relation to Child-Welfare, K. C. Chaudhuri, p. 623.

INDIAN JOURNAL OF VENEREAL DISEASES

VOL. I, NO. 2, JUNE, 1935

The Stovarsol or Spirocid Treatment of Syphilis, M. Oppenheim, p. 89.

Stovarsol or Spirocid is acetylated oxy-amino-phenyl-arsenic acid. It is far too toxic for parenteral use, but is effective when given by mouth. The indications for its use in syphilis are: (a) *As a prophylactic agent* (1) in all cases where there has been contact with syphilitic partners or with persons suspected to have such infection; (2) in physicians, nurses, and mid-wives, who have injuries of fingers, when attending on syphilitics, and (3) wet nurses who nurse congenital syphilitics. (b) Congenital syphilis, specially in the new-born and infants; (The dose of the drug should preferably be small and it should be continued over a long time.) (c) Gummatous ulceration of the larynx and pharynx; (d) Syphilitic mesaortitis; (e) Where salvarsan has proved ineffective.

Cutaneous Test of Syphilis and Its Significance For Diagnosis and Treatment, R. O. Stein, p. 96.

Syphilitic Affections of the Eye, T. C. Basu Choudhary, p. 101.

Bismuth Therapy in the Treatment of Syphilis, Rajendra Kumar Sen, p. 111.

Indications for Malaria Therapy, Wilhelm Kerl, p. 121.

Gonorrhœal Joints, S. N. Malhotra, p. 130.

Pathological Process of the Fossa Navicularis, Noah E. Aronstam, p. 134.

Gonorrhœa in Children, Nisa Nath Ghosh, p. 136.

Some Factors to be considered in the Campaign against Syphilis in South India, D. V. S. Reddy, p. 139.

Medical Examination before Marriage, H. Gougerot, p. 149.

Syphilitic Gumma of the Skull, B. G. Vad, p. 156.

JOURNAL OF THE INDIAN MEDICAL ASSOCIATION

VOL. IV, NO. 10, JUNE, 1935

A Plea For the Larger use of Pneumo-Peritoneum as a substitute for Phrenic Evulsion, K. S. Ray and N. Sen, p. 421.

"The advantages of inducing Pneumo-Peritoneum are:

- (a) The elevation of the diaphragm is constant and often more marked than that produced by phrenic evulsion. (b) The collapse is not permanent and can be discontinued in absence of satisfactory response. (c) It exerts beneficial effects in intestinal disorders which so often complicate pulmonary tuberculosis. (d) It does not require the skill of an expert surgeon. Anybody well acquainted with the technique of A. P. can do it. (e) It can be maintained by periodic refills till the desired effects are obtained and then discontinued."

The method of inducing pneumo-peritoneum is: "A point is selected in the 10th or 11th interspace in the mid-axillary line (below the limits of pleural reflection). This is anaesthetised by novocaine (2 per cent) and the needle is pushed inwards, always injecting a few drops before the needle is pushed, till it is felt to pierce the diaphragm. A few drops of novocaine (2 per cent) are then injected into the peritoneum and the needle withdrawn. The puncture can be done by a blunt Sagman's needle attached to an A. P. apparatus but the first two inflations should preferably be done by small trocar and canula to avoid injury to the liver. As soon as the point of the canula or the needle reaches the peritoneal cavity, the manometer registers a negative pressure which oscillates with the movements of respiration. In any case these manometric fluctuations, which cannot be obtained in any other part of the abdomen and which alone are sure signs of the needle entering the peritoneal cavity, do not always become apparent till 100-200 c. c. of gas have been introduced. With a little practice, we can always feel when we pierce the diaphragm and there is not much risk in introducing 100-200 c. c. before manometric response is obtained. If inflation is done into the right space, the liver dullness is gradually replaced by a tympany and the patient often complains of a pain in the liver region and pain in the shoulder due to separation of the diaphragm from the liver and pressure on the diaphragm. Shifting tympany can be obtained in most cases after the operation by changing the position of the patient.

As for the gas, oxygen is used in intestinal cases but where steady pressure on the diaphragm is desired, filtered air is more suitable. It is better to start with 300-400 c. c. and gradually work up to 1000-1200 c. c."

Diagnosis and Treatment of Gall-Stones, K. R. Chaudhri, p. 424.

Glutathione Content of Tissues and Muscular Activity, S. M. Banerji and D. N. Mullick, p. 432.

"(1) A method is given for determination of Glutathione in blood and tissues, which is simple and reliable. (2) Glutathione content (resting values) of the following tissues

were determined: (a) sheep's blood; (b) frog's liver; (c) frog's muscle. (3) It is demonstrated that during recovery period of a muscle after activity, there is an appreciable rise in its Glutathione content proportional to the period of activity, and that *pari passu* liver Glutathione is also increased. (4) A suggestion is put forward that Glutathione is manufactured in the liver and sent to the muscles (and other tissues) when there is oxidation of metabolites there, indicating that Glutathione is in some way connected with tissue oxidation."

Aetiology, Prevention and Treatment of Puerperal Sepsis, Jean Thompson, *p.* 438.

Cholera Kidney—A Histological Study, Dharendra Nath Banerjee, and Sunil Krishna Datta, *p.* 441.

"From a histological study of 26 specimens of cholera kidney including 5 cases who died of cholera uræmia with total anuria for several days the conclusions are as follows:-
1. By ordinary histological examinations very little changes of the glomerulus are detected, in fact, many of the specimens under study have been reported as normal on routine examination. 2. By using special histological methods a gross damage to the glomerulus and tubule is detected. 3. The glomerular changes are mainly those of thickening of the glomerular basement membrane with proliferation of both the epithelial and endothelial cells of the tuft. Hyaline changes of focal necrosis are conspicuous. Thickening of the capsular basement membrane with sclerotic glomerular atrophy is fairly common, while that is invariably present in all cases who died of uræmia. 4. Tubular changes are mainly those of albuminous hyaline droplet degeneration of the epithelium of the convoluted tubule. Various forms of casts are found to be present in the lumen of the tubules. 5. Interlobular vessels show thickening of the wall in all cases dead of uræmia."

CALCIUM THERAPY

Alembic Alcalzium Tablets (The Calcium Food) provides, in palatable form, a Scientific combination for use in all conditions requiring intensive Calcium Therapy.

Calcium Sodium Lactate has been chosen because:
1. It is highly assimilable and palatable. 2. It does not tend to increase the acidosis so commonly associated with conditions needing *Calcium Therapy*.

No *Calcium Salt*, however, is adequately assimilated except in conjunction with a sufficient supply of *Vitamin D*.

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ASSOCIATION NOTES

THE TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION, (Registered.)

A monthly meeting of the above association was held at 5 p. m. on Saturday, the 22nd June 1935 at the E. R. High School, Teppakulam, when about 35 members were present. Dr. L. R. Fernandez, was 'At Home' to the members and Dr. M. Balammal, M. B. B. S., presided.

A large tumour removed from the abdominal wall of an young woman aged about 23 by Capt. Sangham Lal, I. M. S., District Medical Officer, that morning in the Government Hd. Qrs. Hospital, Trichy, was demonstrated. The point of interest in the case was the rapid growth of the tumour (5 months) and the difficulty to locate its origin, whether intra- or extra-peritoneal, before the operation.

Dr. R. Sambasivam, M. B. B. S., demonstrated a clear case of pre-systolic-murmur and explained that many other conditions of the heart were labelled per-systolic murmur, and hence this demonstration of a clear case of pre-systolic murmur.

Dr. N. C. Subramanyam, B. A., M. B. B. S., read an interesting paper on 'Haemorrhage during pregnancy' and explained the various conditions when bleeding could occur, and the necessary treatment to be adopted for each condition. This was followed by discussion lead by Dr. Mrs. M. Monsingh in which many members took part.

In her concluding remarks Dr. M. Balammal gave her views on the various points discussed. She also read case notes of a case of concealed intra-uterine-menstruation (Haemato-metra) due to obliteration of the so on account of previous ulceration and the treatment adopted by her.

With a vote of thanks proposed by the Secretary to the Chair, the Host, the Lecturer and the Manager of the premises the meeting terminated.

THE EAST GODAVARI DISTRICT MEDICAL ASSOCIATION, COCANADA.

Minutes of the monthly meeting held at Pithapuram on 22nd June 1935.

The monthly meeting of the Association took place this time at Pithapuram. A large number of doctors from all over the District attended.

The Pithapuram group of members were at home to the Association. After Tea, the members were taken round the wards of the Mission Hospitals in batches by Dr. Allyn and Dr. Eaton, and interesting cases shown. Noteworthy of mention is a silver pessary improvised by Dr. Allyn, of great value in cases of Antiflexion of the Uterus.

The proceedings commenced at 6 p. m. with Captain J. S. McMillan, I. M. S., in the chair. Some interesting cases from Pithapuram were exhibited by Dr. Eaton. One was a case of typical Pseudo-hypertrophic muscular paralysis and two cases of skin grafting where gauze soaked in melted bees wax was used in the place of gutta percha tissue as a dressing and one case of a fibroma of the lobe of the ear wherein a silver wire was inserted under the skin to keep up the contour of the ear. Dr. Eaton expressed that in his experience the method of their removal with a blunt guillotine without preliminary dissection is very good. Dr. Murty of the Headquarters Hospital, Cocanada, gave a discourse on "Pre- and Post- Operative treatment in Surgery".

A resolution was passed congratulating Dr. Allyn on the award of the Silver Jubilee Medal to her which she richly deserved.

After an enjoyable dinner on the lovely terrace of the Mission Hospital, the guests dispersed.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION. PALAMCOTTAH.

The Tinnevelly District Medical Association held its monthly meeting on 30-6-35 at Papanasam (Ananda Vilas) one of the most sacred places of the District, noted also for virgin sceneries. Members numbering 48 including some lady doctors gathered from all parts of the District. Some of the local officials and non-officials were also present. B. E. Hussey Esq., I. C. S., Sub-collector, Sermadevi, was also present. All the members had an early bath in the river and had light refreshments.

The meeting began at 10 A. M. under the Presidentship of Lieut. Col. T. S. Shastri, I. M. S. The first item was a sincere and unanimous expression of deep sympathy with those stricken in the recent Quetta Earthquake havoc. Advantage was also taken of the occasion to collect liberally for the Viceroy's Earthquake Relief Fund from all assembled. In the night a special benefit Talkie of Nallathangal was arranged for at Ambasamudram at Kunhappa's Talkies.

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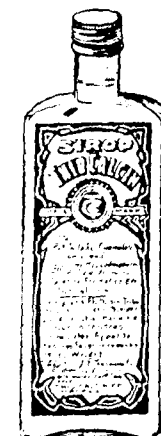
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The danger of tuberculous milk to young children cannot be overstated, and this high percentage of infection amongst cattle in India definitely places milk beyond the pale of safety.

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The meeting proper was very highly impressive and instructive. Case notes of Nephrectomy for Tuberculosis, of a case of habitual abortion treated with corpus Luteum, a case of Epithelioma Rectum, Benign tertian Malaria with an obstinate temperature in a pregnant lady and a case of Tuberculosis of the lung successfully treated with solganal-B oleosum, were read, discussed and various aspects of individual observer's view point and experience given. The major cases of Laparotomy mentioned above were operated on at the Head Qrs. Hospital, Palamcottah, by Lieut Col. T. S. Shastri, I. M. S., the District Medical Officer, and his observations on them were very instructive and interesting.

Then a discussion on Dyspepsia in all types was started by Dr. A. L. Anathanarayana Iyer, M. B. B. S., of the Tinnevely Town Municipal Hospital. After a discussion the president summed up the salient and important features in the correct and proper diagnosis of Dyspepsia, reviewing the most successful methods adopted in treatment.

After lunch, all assembled were treated to a fine entertainment of music (with professional accompaniment) by Mr. V. Venkateswara Iyer, B. A. B. L., a promising young member of the Bar at Ambasamudram and certain others.

At 5 p. m. the party reached Ambasamudram where a Health Exhibition was arranged at the Thirthapathy High School, Ambasamudram. After tea, the health exhibition was opened by B. E. Hussey, Esq., I. C. S., Sub Collector, Sermadevi, at 6 p. m. He expressed in a short speech that such exhibitions are very useful and beneficial to the masses. The exhibition was thrown open to the public till late in the evening. The exhibits consisted of posters relating to Cholera, Tuberculosis, Malaria, Smallpox etc., and a lecture on Tuberculosis by Dr. N. Lakshmanan, was delivered. This was very much appreciated by the public.

Lieut. Col. T. S. Shastri, I. M. S., offered cordial thanks to Dr. P. Janardhana Rao, I. M. & S., and his co-workers for their kind and generous hospitality and for organising the meeting in such a grand scale.

At night, Talkie on Nallathangal, a benefit performance in aid of the Quetta Relief, was given and many attended.

THE MEDICAL PRACTITIONERS' ASSOCIATION, NUZVID

An ordinary meeting of the above Association took place at Kanumole on Sunday the 30th June 1935, at 3 p.m. with Dr. S. S. Rama Rau in the chair.

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1. The patient was a female aged about 25 suffering from pain in the right kidney region. She complained of burning sensation during micturition. The complaint was of one week's duration. The urine was cloudy and albumen and numerous pus cells were present in it. Staphylococci and B. coli were detected in the specimen. Diagnosing this as Pyelitis due to B. Coli she was started on B. Coli Phage therapy, one ampoule in the morning and one in the evening. A subcutaneous injection of 2. c. c. was given at the beginning and Soda Bicarb in drachm doses was prescribed. Light diet, mainly vegetable, was advised. A week of this regime cleared her urine. The albumin disappeared and there were few leucocytes. All the symptoms of pain, burning etc. were no longer present. The leucocytes became less and less until no staphylococci or B. coli were found. The lady completely got rid of her complaint in a fortnight's time with this phage medication.

2. This patient, a girl of about 22, complained of severe discomfort in the lower portion of the abdomen and in the loins, and frequent micturition. The quantity of urine voided each time was not large but micturition was accompanied by a certain degree of tenesmus. There was headache, chilly sensations, anorexia and general malaise. The severe discomfort after two days gave place to dull pain in the supra-pubic region. The temperature was at this time 101°. The quantity of urine voided during 24 hours was nearly normal. The specific gravity was 1024 and on standing the urine left a heavy precipitate. On microscopic examination many leucocytes were seen, a few red blood cells were present and a great number of small and large epithelial cells.

Frequent micturition, pain in the supra-pubic region and tenesmus all these were fairly characteristic of acute cystitis and the probable organisms responsible for this were B. Coli and Staphylococci.

At the start an injection of B. Coli Phage (2 c. c.) was given subcutaneously and the patient was asked to swallow one ampoule of the same Phage (2 c. c.) in a glass of Vichy water on an empty stomach, both in the morning and evening. She was asked to take complete rest in bed and was advised bland liquid diet. Hot fomentations over the bladder and the loins were recommended. By the end of the third day of this treatment the patient suffered little or no inconvenience. Fever disappeared, pain and tenesmus were relieved and frequency of micturition no longer annoyed her. Although she was practically free from the complaint after four days she was asked to remain in bed until the seventh day, from which time onward the convalescence was quite uninterrupted.

From the Diary of a Medical Practitioner.

ADVT.

The Local Rural Medical Practitioners were at home to the members. The meeting commenced with prayer and the minutes of the previous meeting was read by the Secretary, Mr. N. Rama Rau, and duly adopted. Dr. S. Hanumantha Rau demonstrated a case of Syphilitic osteitis of the tibial bone and also read his clinical notes, upon a case of inflamed tongue with syphilitic glossitis and impending oedema of the glottis and severe and grave suffocation. This serious condition, he said, was luckily warded off by an injection of intravenous Calcium chloride. Then Dr. S. S. Rama Rau narrated how a patient newly married, developed hyperpyrexia with symptoms of cerebro-spinal meningitis consequent upon sexual excess and how the disease proved fatal in spite of his treatment. Dr. N. Rama Rau then said that he has been adopting a new technique of treating primary syphilitic sore where, after giving the Neosalvarsan (dissolved in 10 c. c. of Aq. Dist.), he retains about $\frac{1}{2}$ to 1 c. c. of solution and redilutes it with another 9 or 10 c. c. of pure aqua and utilises this solution for washing the ulcer. By this procedure, he said, he observed that lesser number of injections were required for a complete cure than otherwise. Then he narrated the preparation and the uses of Morrison's paste in several sloughing and chronic unhealthy ulcers and also in boils and abscesses, and even in carbuncles. He further read his notes upon a case of severe anemia of pregnancy complicated by hyperemesis gravidarum and finally found out that Ankylostomiasis was at the root of the malady.

Finally, he introduced to the members the new drug of Unickaloabo for the treatment of Tuberculosis both surgical and medical and the members had a lively discussion about the claims of several Foreign doctors that advocated its use for that disease.

The meeting came to a close by 6 p.m. with the usual vote of thanks.

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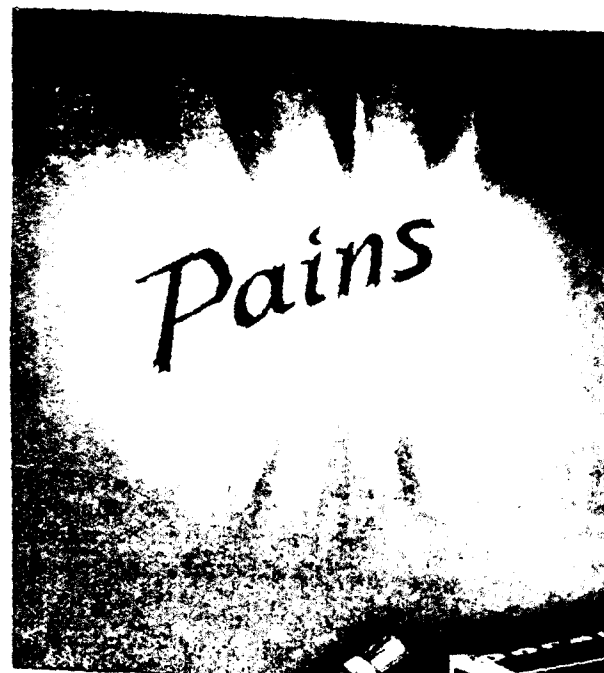
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CONTRIBUTIONS of medical interest—original articles, case notes, clinical memoranda—are invited. They should be addressed to the EDITOR, JOURNAL OF SOUTH INDIAN MEDICINE, EGMORE, MADRAS, and should be accompanied by a stamped addressed envelope if their return is desired in case of non-publication.

Articles are accepted for publication on condition that they are contributed solely to this journal.

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MANUSCRIPTS must be written clearly or preferably type-written, with double spacing, on one side of the paper only.

Books and pamphlets for review should be sent to the Editor, who will be pleased to give also reprints of which abstracts will be of interest to the profession. Journals for exchange or review also should be addressed to the Editor.

ASSOCIATION NOTES AND NOTICES

V

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- 3 The thesis should be submitted, typed on one side only, in foolscap size paper with double spacing and margin on the left, and should not exceed fifty such pages. The manuscript should reach the Editor, 'Indian Journal of Venereal Diseases' 94, 97, Girgaum Road, Bombay 4, by registered post by the 30th December 1935.
- 4 There is no territorial bar for competitors.
- 5 Thesis submitted will be judged by a small Board of Examiners.
- 6 The winning thesis will become the property of the Indian Journal of Venereal Diseases, and published in one of the issues. The Journal will have its copyright.
- 7 No reason will be given for refusal or rejection of any or all the theses submitted. The decision of the Editor shall be final on all matters.
- 8 An authoritative, literary and scholarly article will be appreciated.

* Dr Franklin H. Church in his letter to us (published on pp. 177-178) mildly rebukes his colleagues for their seeming indifference towards the important subject of medical antiquities. In order to arouse real interest in such subjects, we are offering this prize with a firm belief that the competitors will probe into the mysteries of yore and bring out a classical monograph on the subject.

The names of the judges will be published later.

It is also intended to make this "Prize Scheme" a special feature of this Journal and subjects and prizes will be announced in our future issues.

(Editor, Ind. Jour. Ven. Dis.)

NOTICE

THE OBSTETRIC AND GYNAECOLOGICAL SOCIETY
OF SOUTHERN INDIA

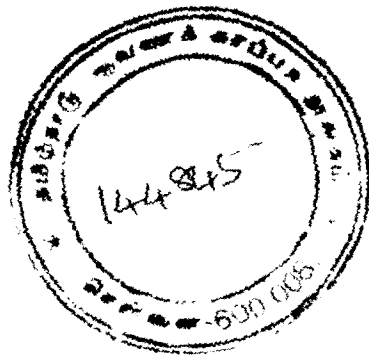
Under the joint auspices of the Bombay Obstetric and Gynaecological Society and the Obstetric and Gynaecological Society of Southern India, the first All-India Obstetric and Gynaecological Congress will be held at Madras on the 2nd, 3rd and 4th January, 1936. The sessions will be devoted to the consideration of subjects under the following three sections:

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2. Gynaecological section and
3. Maternity and Child welfare section.

There will be organised in this connection a Scientific Exhibition, which will include exhibition of scientific appliances, foodstuffs, drugs and scientific books.

Members of the medical profession are invited to attend the Congress.

Particulars with regard to the programme will be published later. Those who intend to contribute papers to any of the sections are requested to kindly communicate with the President of the Obstetric and Gynaecological Society of S. India, Govt. Hospital for Women and Children, Egmore, Madras.



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