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THE MISCELLANY

Managing Editor: Dr. P. A. S. RAGHAVAN

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Announcement

Under the auspices of the Hind Kusht Nivaran Sangh (Indian Leprosy Association) a leprosy training course will be held at the School of Tropical Medicine, Calcutta for a month from 16th September to 15th October 1950.

SYLLABUS

Lectures :

A course of 20 lectures covering the etiology, clinical manifestation, classification, diagnosis, differential diagnosis, course, pathology, bacteriology, epidemiology, treatment and control of leprosy.

Demonstrations :

The demonstrations will cover the following subjects: Clinical Examination, case charting, bacteriological examination diagnosis, differential diagnosis and method of treatment.

Histopathology, the lepromin test used in the treatment.

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At the end of the course a practical and theoretical examination will be held, and certificates will be given to the successful candidates.

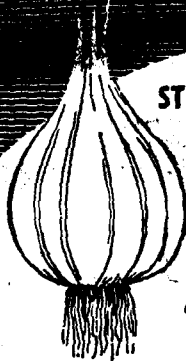
Members of the profession desirous of taking the course are requested to send an application giving the following details to Sri T. N. Jegadesan, Hony. Secretary, Hind Kusht Nivaran Sangh, 53, Edward Elliot Road, Mylapore, Madras-4.

1. Name, Age, qualifications.
2. Name of Medical College or School from which qualified.
3. Date of qualifying.
4. Past posts held by applicant.
5. Present post held by applicant.
6. Past experience in leprosy work.
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[No. 12

HYPERTENSION

BY

DR. K. I. VYDILINGAM, M.D. *Vellore.*

The study of arterial hypertension dates back to 1827 when Bright who was the first to observe that profound involvement of cardiovascular system is associated with renal disease. Riva Rocci in 1896 demonstrated the clinical measurement of B.P. by using the pneumatic cuff. It is only within the past 30 years that the measurement of B.P. has become an integral part of clinical examination.

which are consistently more than 150 m.m. of Hg. systolic or 90 m.m. diastolic are usually interpreted as pathologic hypertension regardless of the age of the patient.

The Occurrence of Hypertension.

It is to be borne in mind that hypertension is no more than a symptom and occurs in the following conditions:

- I. Those in which the hypertension obviously results from disease of the kidneys or renal blood vessels:
 1. Diffuse glomerulo-nephritis in all its stages.
 2. In some instances of urinary obstruction due to prostatic enlargement and urolithiasis.
 3. In congenital polycystic kidneys.
 4. In some cases of mercurial necrosis of kidneys.
 5. In some patients with pyelonephritis.
 6. In periarteritis nodosa.
 7. Arteriosclerotic narrowing of the main renal artery or its first branches.
 8. In young children with mixed tumours of the kidney.
 9. Goldblatts experimental animals developed hypertension when the renal blood flow was impeded by clamps on one or both the renal arteries.

Definition.

Blood Pressure may be defined as the lateral pressure exerted on the walls of the vessels by the contained blood. Under ordinary circumstances the maintenance of blood pressure depends upon the adjustment of the cardiac output and the peripheral vascular bed, which are variable, to the volume of the circulating blood which is constant. This is accomplished by 3 chief mechanisms.

1. The influences which the aortic and carotid sinus nerves exert on the cardiac and vasomotor centres.
2. The secretion of Adrenalin.
3. The intrinsic tone of the peripheral arterioles.

Normal blood pressures are difficult to define since they vary somewhat with age, sex, exercise, emotion and like. However, in health these variations occur only within narrow limits, and clinically, blood pressures

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II. Those in which the renal factor has not been unequivocally demonstrated:

1. Essential hypertension. This is the most common disease characterised by high blood pressure.
2. The toxemia of pregnancy.
3. In chromaffin tumours.
4. In Cushing syndrome.
5. In certain other endocrine disturbances, notably ovarian hypofunction and disease of the thyroid gland.
6. In certain diseases of the brain stem.
7. Rarely in lead poisoning.
8. In the so called Gaisboeck type of polycythemia.
9. In some forms of increased intracranial tension especially when of acute development as in fractures of the skull.
10. In some instances of depressive psychosis.
11. In coarctation of aorta.
12. In aortic regurgitation.
13. Hypertension has been produced experimentally by section of carotid sinus nerves as well as by decreasing blood flow through medulla.

I. Group: Renal Hypertension.

In very many patients with arterial hypertension there is clinical evidence that the kidneys are diseased. There are many clinicians and pathologists of wide experience who claim never to have seen an instance of protracted hypertension in which P.M. examination did not show diseased kidneys. It is therefore not surprising that from the earliest studies of cardiac hypertrophy and arterial hypertension the kidneys have been incriminated as the cause of high B.P. Until the emergence of the concept of essential hypertension. The opinion was very widespread that hypertension is invariably due to renal disease; but with the generalisation of the frequency of the clinical picture known

as essential hypertension the pendulum swung the other way and some investigators claimed that renal disease in itself never causes hypertension. In the past few years, however, the experiments of Goldblatt have proved beyond doubt the existence of renal hypertension, and now there are again many who believe that the common forms of hypertension, not only the nephritic but also the so called essential, are due to a renal mechanism. So it looks as though the advance has followed a closed orbit leading back to where Bright started.

That disease of the kidney or intrarenal blood vessels may lead to hypertension is demonstrated in a number of clinical conditions as has been already mentioned, Polycystic disease, etc.

A number of observers have found that the experimental production of urinary obstruction by ligation of the ureters is followed by hypertension and cardiac hypertrophy. Harrison and his pupils have shown that the mechanism involved in the production of hypertension is that unilateral ureteral ligation diminishes blood flow through the kidney and that hypertension is not prevented by previous denervation of the kidney and that the kidney generally contains more pressor substance than its unobstructed mate. These findings indicate that hypertension due to urinary obstruction is produced through a humoral mechanism similar to that initiated by constriction of the renal artery.

It has also been found that extensive destruction of renal parenchyma with replacement fibrosis and vascular sclerosis by application of high voltage Roentgen rays to the kidney has been followed by high blood pressure, hypertrophy of the left ventricle.

Present conception of the pathogenesis of Renal Hypertension.

This is based on Goldblatt's mental work on animals.

Goldblatt's findings.

The results obtained are of fundamental importance for the study of the pathogenesis of human hypertension:—

1. The elevation of B.P. is due to decrease in blood flow through the kidneys. This decrease in blood flow might act either through diminution in volume of blood passing through the kidney per minute or through decrease in pressure in the renal artery distal to the constriction.
2. Hypertension is a specific effect of cutting down blood flow through the kidneys and does not result from ischemia of other organs.
3. Hypertension is not mediated through decrease in excretory accomplishment of the kidneys.
4. Hypertension is not produced through a nervous mechanism.
5. Hypertension is not due to increase in circulating blood volume.
6. There is no definite evidence to prove that adrenal, thyroid or pituitary hormones are concerned in the pathogenesis of hypertension of renal ischemia.
7. There is a strong, in fact practically conclusive, evidence that constriction of renal artery produces hypertension through a chemical (humoral) mechanism, that is, when blood supply to the kidneys is interfered with there will be released from the cortex a substance (Renin) of an enzymatic nature which by its action on one of the normal globulins of the blood forms a substance (angiotonin) which causes an increase of B.P. through a universal contraction of the arterioles. This vaso-constricting substance is formed normally by the cells of the renal tubules and the formation of which is accelerated by ischemia of the renal cortex.

II. Those in which the renal factor has not been demonstrated as in other cases of Essential Hypertension.

Despite countless investigation and the considerable number of facts these have revealed, the riddle of the causation of Essential Hypertension remains unsolved. Nevertheless, some progress has been made.

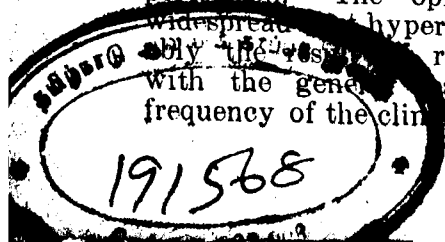
1. **Heredity.** One fundamental fact that seems to have been definitely established is that in at least the majority of cases essential hypertension arises on the basis of an inherited constitutional predisposition. It has been suggested that hypertension is transmitted as a Mendelian characteristic. One illustration:—A yman analysed the B.P.s. of 1524 members of 277 families.

2. **Age.** No one who has studied hypertension can avoid being impressed by the factor of the age in its development. Approximately 90% of cases occur after 40 and from this age on there is a steady increase in the incidence. Essential Hypertension is decidedly uncommon under thirty. At this age glomerulo-nephritis is a far more common cause of high blood pressure.

3. **Sex.** Hypertension occurs more frequently in females than in males. Just why this is so is not evident, but perhaps the more frequent occurrence of pyelo-nephritis and the toxæmias of pregnancy may be responsible. Whatever the etiology of the toxæmias of pregnancy may be, they occur with greater frequency among those predisposed to hypertension, and in a relatively high proportion of the cases the hypertension initiated or aggravated by the pregnancy persists permanently.

Race. White race and the Jews are more subject to hypertension than are coloured race and the gentiles.

Environment. There is strong evidence that the way of life in some



manner favours the development of hypertension. In proportion as the stress and strain of living increases, so does the incidence of high blood pressure.

Although these factors are of great importance in the occurrence of Essential Hypertension, they throw no light upon its origin or mechanism of its production. Recent studies, however, have begun to unravel this mystery.

Numerous experiments have been done by Goldblatt, Glenn, Harrison, Page, Lewis and many others, such as:

1. Reducing blood flow.
2. Denervation.
3. Transplanting ischaemic kidney.
4. P.M. arteriosclerotic changes.

Their observations may be summarised as follows:—

In essential hypertension, there is an alteration in the renal hemodynamics, consisting of decreased blood flow and increased glomerular pressure. Presumably these changes are due to arteriolar sclerosis. Although functional studies emphasise the importance of constriction of the efferent arterioles, the earliest structural changes that have been demonstrated consist of hyalinisation and sclerosis of the efferent vessels. As a result of these changes the pulse volume in the renal parenchyma is reduced. This conversion of a pulsatile to a continuous blood flow leads to damage to the renal cells, chiefly the tubular apparatus and the release of renin into the blood. Renin is an enzyme which interacts with a pseudoglobulin called Preangiotonin, which is probably produced in the liver in the presence of an adequate amount of functioning adrenal cortical tissue. As a result, a final effective vasoconstrictor and pressor substance, angiotonin, is produced. Angiotonin then circulates in the blood causing arteriolar constriction which is sufficient to raise peripheral resist-

ance but insufficient to reduce blood flow because of simultaneous cardiac augmentation.

The reaction of the vascular tree to this pressor substance depends in a large measure on the inherent reactivity of the vessels themselves and to the influence of the nervous and endocrine system. In the kidneys the constriction of the arterioles may lead to a vicious cycle of further altered haemodynamics and more renin formation.

One may regard hypertension as a disturbance of the endocrine function of kidney in which the normal balance between renin formation and secretion into the blood and destruction of the effector substance angiotonin is disturbed.

Bell and his coworkers state that typical clinical hypertension may develop in the absence of renal arteriosclerosis. It appears therefore that renal arteriosclerosis and hypertension may originate independantly but when the vascular lesion becomes severe: it usually causes hypertension. Cox and Dock as a result of perfusion experiments concluded that most kidneys from patients with hypertension without uraemia have vascular beds in the normal range.

These observations are not in keeping with the concept that renal ischaemia is the cause of essential hypertension in man. We are therefore lead to the conclusion that a state of hypertension not infrequently exists in which evidence of renal vascular disease is either absent or insufficient to explain the elevated B.P. The implication is that in many cases some other functional factor or factors exist which are primarily responsible for the hypertensive state and that this state precedes the appearance of renal vascular disease. In short disturbed function precedes disturbed anatomy.

Vascular disease once established aggravates the already present hyper-

tension, which in turn accelerates the arteriosclerosis thus producing a vicious cycle.

A consideration of all these facts indicates that hypertension is a deep seated, constitutional disorder woven into the very structure and personality of the individual and that it probably represents a composite of multiple factors.

The classification of Hypertension

1. Essential

Benign
Malignant

2. Nephritic

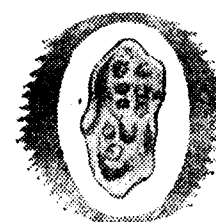
Parenchymal
Vascular
Perinephritic
Ureteral

3. Symptomatic

Physiological
Pain, exertion, emotion
Cerebral
Increased intracranial pressure
Diencephalic stimulation
Lesions in the brain stem
Cardio vascular
Aortic regurgitation
Heart failure
Heart block with slow rates
Arteriosclerosis
Coarctation of the aorta -
Arteriovenous fistula,
Polycythemia
Carotid sinus depression
Endocrine
Pituitary
Basophilic adenoma
Adrenal,
Hyperplasia
Pleochromastoma
Cortical tumours

Amoebiasis

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THE SCOPE OF GENERAL PRACTITIONERS IN THE CONTROL OF TUBERCULOSIS IN INDIA

BY

DR. M. G. NAIR

To trace our age-long relationship with the tubercle bacillus and stressing the magnitude of the tuberculosis problem in India will be harping upon an old tune. Suffice it to know that this disease has been in our country since a very long time and it has been the cause of thousands of deaths and destruction and annihilation of innumerable families. Those at the helm of affairs have been crying aloud about the seriousness of the problem and many among them feel that the problem can be solved only by the general practitioners. I too agree with those who realize the seriousness of the problem as I have also seen and heard of thousands of deaths from tuberculosis. I do not believe the figures given by some persons at the helm of affairs, as a lakh of people dying of tuberculosis every year in India and 5 lakhs suffering from the same disease is correct as we have no machinery to diagnose cases either before or after death. We do not do post mortem on every dead body and all people are not being treated by the same class of medical men. Anyway the disease tuberculosis is a terrible killer and it takes away a good number of young men and women in their early youth. We know all that. The question is what can be done and to what extent the general practitioner can help. If there is any weapon which can be of the greatest use in our fight against tuberculosis, it is the educational campaign, which ought to be started and worked by the state.

An open case of tuberculosis may discharge in one day millions of bacilli. Direct infection through inhalation of bacilli in droplets of sputum and nasopharyngeal secretion are the commonest

method of spread of pulmonary tuberculosis, and as long as we are unable to isolate those open cases in sanatoria and hospitals we are sure to find open cases going about. It is the duty of general practitioners to teach those with whom they come in contact, about the nature of the disease, its mode of spread, and what all they should do or should not do to prevent the disease spreading to others. There ends the medical practitioners' part in the campaign.

The open case should be the focus of our attention for its own sake as well as for the sake of the community. So let the open cases go to the specialists. Tuberculosis being an infectious disease, it is imperative first to provide tuberculous patients with ready access to the most essential treatment partly for curative purposes and partly for isolation, so as to eliminate the source of infection from the homes and train the patient to observe the necessary precautions when they return to their homes. So, there must be provision for financial support from the State thereby enabling all patients without exception to have facilities for treatment. The State has to contribute to the erection of the various institutions for treatment of the tuberculous, as hospitals, Sanatoria and convalescent homes for the care of consumptives, seaside hospitals and sanatoria for patients suffering from tuberculosis of the bones, and tuberculosis of the glands. As long as the breadwinner, man or wife is being treated in an institution, and if the family is unable to subsist by its own means, the state should supply the family with means sufficient for its subsistence. The state of affairs narrated above do not exist in our country.

At one of the tuberculosis Conferences held in Delhi, one of the speakers said, "It is a matter of regret that though the private practitioner is the most important person in the campaign against tuberculosis, his cooperation is absent. The chief reason why the private practitioner does not refer the cases to tuberculosis specialist is that he is afraid of losing his client. There should be no conflict between the two." Having been a general practitioner for a number of years, I can understand the fear. Only nationalization is going to eliminate the fear and as in fighting any disease, stringent legislative measures are necessary, more so in tuberculosis, and only the state can solve the problem completely. The duty of finding and isolating the open cases or detecting the contact with early signs, so that it may be prevented from becoming an open case, rests with the general practitioner.

The general practitioner can advise the public about the dangers of infection and detect the disease before symptoms appear so that by a combination of bed rest, and extra nourishment, its growth, can be checked, thereby preventing infliction of additional suffering on humanity. Now the question is how to detect early tuberculosis? To answer the question, I have to go in some detail. The tubercle bacillus is ubiquitous, and hence most people get infected at some time in their lives. If the infection happens to be in early childhood, i.e. before the child attains the age of 3 years, then it has to pass through 2 essentially different periods of danger. The first period begins when the primary infection manifests itself and lasts about 3 months. Infants and small children especially are threatened by generalized form of tuberculosis during this period. Infection at this period which usually takes place at home can be prevented and must be prevented by detecting and isolating the open cases, in these cases, the parents or the servants at

home. Early diagnosis can be achieved by tuberculin testing. It is a specific test to find out the sensitiveness of the body caused by previous tuberculous infection. The reactions are measured according to the extent of both induration and erythema of the patch on the skin. It may be generally stated that with positive reaction, the younger the subject, the stronger the chance of disease in the subject. The primary infection which takes place, is seldom recognized. So far as the general practitioner is concerned, its occurrence is usually more a matter of scientific than of practical importance, since nearly everybody undergoes this infection. However, in a small proportion of the population, this disease shows further stage and this is usually in adolescence or early adult life, and mostly under conditions of bad hygiene or gross infection. The primary infection focus in the lung occurs as a localized caseous pneumonia in the middle or lower lobes. This area varies from the size of a quarter of an anna coin to that of a half anna coin and may be hidden behind the heart shadow and invisible on plain X-ray film. The pneumonic process caseates and heals either by resolution or calcification. The focus is called Ghon's focus. When the lesion is fresh, it is seen in X-ray as a round sharply defined area of opacity. The opacity is not great and is further decreased by a zone of compensatory emphysema in its vicinity. After about 10 weeks, the opacity appears smaller and sharper and is less dense in the centre than the periphery. At this time, tracheo-bronchial glands are swollen. If it heals by resolution, it becomes smaller and less dense and eventually vanishes without leaving any radiological evidence of its existence. This combination of a pulmonary focus with secondary glandular involvement is known as primary complex. I have described the X-ray picture because it is useful to know it in diagnosing the case, in case the primary focus does

not resolve, but progresses. A child with convulsions or with symptoms of nervous irritability should if it is reared in tuberculous environment, be tuberculin tested and its chest X-rayed to eliminate tuberculous aetiology.

When the infected child has safely passed this first danger period, it enters into a rather harmless one which lasts until the beginning of puberty. Then begins the second danger period, which lasts 2-3 decades, and during this period, those who are infected may become prey to pulmonary tuberculosis of the adult type. How to prevent that? The resistance of the individual to his tuberculous infection will depend on certain nonspecific conditions like housing, habits, nutrition and intercurrent diseases. Bad housing conditions, unhygienic habits of people, spitting inside rooms, eating and drinking from common vessels, sleeping together in the same room etc., are all conducive to the increase of infection and suffering. The small number of beds in sanatoria in India and the absence of all arrangements for isolation of tuberculosis cases in their homes, provide the ideal condition for mass dose infection in the homes and outside. Defective nutrition is another aspect. Here again, the remedy is mainly with the public health authorities and the State.

What can be done by the general practitioner with the knowledge that reactivation of old lesions is possible under the above mentioned environments? The once infected person, when exposed to massive dose of tubercle bacilli, that person is liable to get the adult type of Pulmonary Tuberculosis. The question of prevention is again not entirely with the general practitioner. One need not of course wait for a transformation of the present social and economic conditions; but an endeavour should be made through improved public health measures based on popular instructions and education especially so in regard to nutrition to make the best use of the available resources.

When the lesion is fairly advanced, the nature of the ailment is so clear that anybody even of the laity, may make a diagnosis. The general practitioner should be able to detect the disease at its earliest stage, when there is a cure and when there is no danger of infection to others.

The most reliable diagnostic evidence of active tuberculosis is provided by the demonstration of tubercle bacilli in the sputum. Persons with established pulmonary tuberculosis in active state, commonly discharge tubercle bacilli in such numbers that they are easily demonstrated by the microscope in a direct film made from the sputum selected at random. But patients in early stages of disease and suspicion based on indefinite illhealth, history of contact or on X-ray abnormalities, tubercle bacilli are not usually discovered. It is estimated that there must be at least 10,000 bacilli in 1 cc. of sputum to give a positive result by direct microscopical test. It is only when the lesions open into a bronchus, that the patient gets infected sputum. So, if there is, the finding of tubercle bacilli, of course, settles the diagnosis, but generally it settles also that the case is no longer an early one. Even if it is persistently negative, we have no right to say that tuberculosis is not present. Pulmonary tuberculosis is both an acute and a chronic disease. The progressive phases of invasion of fresh tissue and cavitation are acute processes taking place in the course of a few days and the processes of healing are very very slow. Some of the most rapid progressions are being interpreted as nonspecific pneumonic lesions or atelectasis, because the acute phases of tuberculosis are not taught properly. The patient with an acute Pneumonic tuberculous spread feels subjectively much better than the patient with a nontuberculous pneumonia of equal extent, he is much less likely to have pleural pain and profound toxæmia. The early diagnosis is difficult as pthisis is protean in its mani-

festation. Physical signs may be absent until the condition is well advanced. There may be no symptom except a little fever which requires careful trained observation to detect and perhaps a little cough, possibly some chest pain if the lesion is superficial. The patients' symptoms may be unreliable. There may be nothing more than a lassitude or gastro-intestinal disturbance or a little cough. Careful questioning of the patient about his family history, his previous illness, the commencement and the progression of the symptoms of his present illness will help greatly in estimating the probabilities before any other examination is undertaken. A history of pleurisy even some years earlier or blood spitting should be taken as a presumption that the subject is tuberculous. A cough lasting for more than a few weeks without other explanations, chronic bronchitis in a young man or woman, a history of influenza especially if repeated, at times when there is no epidemic of influenza or history of contact with cases of influenza, are all very suggestive of pulmonary tuberculosis. On the X-ray film, the commonest minimal shadow is a small soft appearance about 2 cms. across in one of the subclavicular regions. It often has an area of translucency suggesting commencing cavitation in the centre. The minimal lesion, infiltration or cavity may occur anywhere in the lungs. So, if the general practitioner should be able to detect the disease at its earliest stage, when there is a cure, and when there is no danger

of infection to others, X-ray examination should form an essential part in the correct diagnosis of early pulmonary tuberculosis. I may add here, that it is essential not only in the case of pulmonary tuberculosis, but also in tuberculosis of the intestines, bones or joints. In those cases, if we wait for the classical symptoms to appear, to diagnose the condition, then we will be sorry to find that the diseases have well advanced. As X-ray examination is done as a matter of routine in cases of fracture of bone, it must be done in cases of suspected tuberculosis. While radiology is not by any means infallible, in the early diagnosis of tuberculosis, it affords such vast help that where there is any reasonable doubt it ought to be called in. Along with it, should go careful probing into the history and of course, bacteriological examination of the secretions and a long way behind comes the physical examination of the chest. Wholesale eradication of the infected cattle solved the problem of bovine infection in some of the western countries. Human beings cannot be exterminated in this fashion for obvious reasons. The tuberculosis problem is the gigantic problem. The major part is with the State and what can be done by the general practitioner is little and apart from helping the masses to live healthy lives, early detection is within the scope of the general practitioner and hence I have taken much of your valuable time in stressing the importance of early diagnosis.

ASSOCIATION NOTES

COIMBATORE BRANCH

President: Major N. Krishnaswamy
 Vice President: Dr. N. R. Narayanaswami Naidu
 Hony. Secretary: „ A. G. Leelakrishnan
 Associate Secretary: „ S. V. Subramaniam
 Hony. Treasurer: „ T. V. Sivanandam

A meeting of the Coimbatore District Medical Association was held at Valparai in the Anamalais on Sunday the 23rd April, 1950 in connection with the inauguration of the Anamalais Medical Association as branch of the Coimbatore Dt. Medical Association.

A party of over 30 members—both resident and non-resident—left Coimbatore by bus and cars at 7.30 A.M. on the morning of Sunday the 23rd April 1950 and reached Valparai at about 11 A.M. All the doctors from the Anamalais numbering 16 were present. The party on arrival were received by the Anamalais doctors and was treated to sumptuous refreshments at the Panchayat Board School. Then the members adjourned to the Panchayat Board Hall for the Clinical meeting.

The President of the Association, Major N. Krishnaswami took the chair. The Secretary Dr. A. G. Leelakrishnan, presented the minutes of the Silver Jubilee Session of the Association and of the Committee meeting held on 13th April, 1950 and they were unanimously approved.

Then Dr. S. Dorairaj of Hardypet in requesting the president, Major N. Krishnaswami to formally inaugurate the Anamalais Medical Association mentioned that all the medical officers in the area have joined the association. Major N. Krishnaswami expressed his pleasure in inaugurating the 1st branch of the Coimbatore Dt. Medical Association at Valparai and hoped that other places where there

are groups of medical men may form branches of the District Medical Association which will be of mutual advantage to both the branch and the parent body. He praised the efforts of Drs. Dorairaj and Jayachandran in the formation of this new Association.

Dr. S. Dorairaj then announced that at a preliminary meeting of the doctors of Anamalais held on 15th April, 1950, the following office bearers for the local Association were elected.

President: Dr. S. Dorairaj B.A., L.M.S. Hardypet.

Jt. Secretaries:

1. Dr. M. K. R. Jayachandran, M.B.B.S., Valparai.
2. Dr. V. Krishnamurthy M.B.B.S., Sholayur.

It was also decided then that social and or clinical or professional meetings of the local association shall be held on the second Sunday after noon of each month in a central place or in the estate of the Doctor who will be the host for the meeting.

Dr. A. G. Leelakrishnan the Secretary of the District Medical Association then announced that for the sake of convenience, the local association may collect a subscription of Rupees Twelve a year from the members from the Anamalais, out of which amount, Rs. 10 per member per year to be remitted to the Dt. Medical Association. Thus the local association will have Rs. 2 per member per year for its expenses.

June, 1950]

ASSOCIATION NOTES

11

The president, Major N. Krishnaswamy then requested Dr. S. Dorairaj, president of the Anamalais Medical Association to address the members on the first of his promised series of lectures on 'Plantation Nutrition—Phrynoderma — Is it a vitamin B Complex deficiency or a Vitamin A Deficiency?' Dr. Dorairaj at the outset mentioned about the original work done by him on this question on labourers in a group of tea plantations for over a period of 14 consecutive years. He mentioned about the beneficial effects of food rationing on this condition and gave reasons for his conclusion that this condition—Phrynoderma is due to the absence of a factor associated with Vitamin B complex.

A lengthy discussion followed in which Drs. R. Sundararaman, D. Sundareswaran, V. Kalyanasundaram, P. K. Kalyanaraman and others took part.

Then the president requested Dr. M. P. Pai to address the members on 'Acute Abdomen.' Dr. Pai dealt briefly with acute abdominal emergencies,—both inflammatory and obstructive types. On the diagnosis of the inflammatory and obstructive types of appendicitis and of acute duodenal ulcers. In the discussion that followed the following members among others took part; Drs. C. R. Thiruvengadam, P. A. Narayanan, P. K. Kalyanaraman, A. G. Leelakrishnan and S. Dorairaj.

Dr. M. K. R. Jayachandran then presented reports of a few of his interesting cases.

Then Dr. A. G. Leelakrishnan the Hony. Secretary, proposed a vote of thanks to the President and members of the Anamalais Medical Association for their hospitality and for the excellent arrangements they had made for their reception and wished the local association an unfettered career of useful service. He also thanked Dr. S. Dorairaj and Dr. M. P. Pai, for their interesting clinical contributions and to the other members who res-

ponded to the invitation in sizeable strength in spite of personal inconveniences and professional engagements.

The members were then treated to a sumptuous lunch at Panchayat Board School which was very much appreciated by everybody especially after a lengthy clinical meeting of over three hours' duration.

The guests were then taken round to the Stanmore Group Hospital. Dr. M. K. R. Jayachandran, the Medical officer of the Hospital took the visitors round the wards. As Sunday was a holiday, the visits to the Ropeway and to the factories could not be arranged.

After tea the guests returned back.

The monthly clinical meeting of the association was held at 6 P.M. on Saturday the 27th May in the Association premises. 80 members were present. Major N. Krishnaswami, the president presided.

After tea and reading of the minutes of the meeting held at Valparai on the 23rd April 1950 and of the managing committee meeting held on 24th May 1950, which were approved after a slight amendment, the president requested Dr. M. G. Nair, T.D.D. (Wales) to address the members on "Pleurisy." The lecturer dealt briefly with the different types of Pleurisy and their pathology, their diagnosis and treatment. A short discussion followed in which a few member took part.

Then after a vote of thanks to the lecturer and to the host Dr. P. R. Subbian, M.B.B.S., the function terminated at 8 P.M.

A joint meeting of the Nilgris and the Coimbatore District Medical Associations was held at the Tajmahal Hotel, Otacamund at 2 P.M. on Saturday, the 10th June 1950. 20 members from Coimbatore attended the meeting.

After lunch, the meeting commenced. Col. D'Souza, President of the Nilgris District Medical Association who presided welcomed the members from Coimbatore. Dr. L. Munusamy, M.B.B.S., Honorary Venereologist, Head-quarters Hospital, Coimbatore addressed the joint meeting on "Granuloma Venerum." Dr. N. F. Lilauwalla, F.R.C.P., Professor of Medicine, G. R. Medical College,

Gwalior, addressed on "Chronic Non-tuberculous Pulmonary Conditions."

The clinical programme was followed by tea. The Secretary of the Coimbatore District Medical Association then thanked the members of the Nilgris District Medical Association for their hospitality and invited them for a joint meeting at Coimbatore in the near future.

MADURA BRANCH

President: Dr. P. Vadamalayan
Vice-President: Dr. T. S. Renga Iyengar
Secretary: Dr. K. G. Ramabhadran
Treasurer: Dr. A. S. Annamalai

The monthly meeting of the Association was held at 5 p.m. on Tuesday the 27th June 1950 in the open space in front of the Nurses' quarters in the Erskine Hospital. About 90 members were present. Dr. J. C. David, M.B.B.S., Ph.D., Surgeon General with the Government of Madras, was the chief guest of the evening. The matron, sisters and nurses of the Erskine Hospital also participated in the function.

The President, Dr. P. Vadamalayan, was 'At Home' to the members of the Association. The meeting commenced at 5-45 p.m. after tea.

The following condolence resolution was moved from the chair and passed all standing:

"This meeting of the Madura Medical Association places on record its deep sense of sorrow at the sudden and untimely demise of Dr. S. Gopalan of Chinnalapatti, an active member of the Association."

The President, in a short speech, welcomed the Surgeon General. The minutes of the meeting held on 20-6-50 at Kodai-kanal were read and adopted. The Secretary of the Student Nurses Association then read a brief report of the Association and welcomed the Surgeon General.

The Surgeon General then distributed the prizes to the pupil nurses who had obtained maximum marks in their examinations.

Dr. David then addressed the gathering. He said that the Madura Medical College scheme was a top priority with the Government but the present finances of the Government did not allow the construction of the requisite buildings during this year. The Surgeon General, however assured them that he would strive his very best to see that the college was brought into existence in July 1951. He thanked the members of the Association and Nurses of the Erskine Hospital for the reception accorded to him.

Dr. P. Vadamalayan proposed and Dr. S. Kanthimathinathan seconded that Lt. Col. T. S. Sastry, I.M.S., (Retd.) be nominated by this Branch for the presidentship of the Indian Medical Association for the ensuing year. Adopted unanimously.

The names of Dr. P. A. S. Raghavan of Trichy and Dr. K. Chintan Nambiar of Madras were duly proposed for nomination for vice-presidentship of the I. M. A. for coming year by Dr. P. N. Ramasubramanian and Dr. A. Narayana Menon respectively and seconded by Dr. T. S. Renga Iyengar. Adopted unanimously.

The letter of the Dt. Medical Officer, communicating the Surgeon General's circular requesting the opinion of the branch regarding the Bill before the Central Parliament prohibiting the manufacture and import of hydrogenated vegetable oils was read by the Hony. Secretary. Two resolutions were brought before the meeting,

one for the bill and the other against. At the suggestion of Dr. P. N. Ramasubramanian and the President the discussion on the subject was postponed to a later meeting. The President then requested Dr. T. V. Venkatesan to deliver his lecture.

Dr. Venkatesan at the outset enumerated the three common causes of Cardiac Pain (i.e.) Angina Pectoris, Coronary Thrombosis and Cardiac neurosis or Neuro circulatory asthenia called Dacostas' syndrome.

He explained in detail the symptomatology the various theories in the aetiology, the pathology and the differential diagnosis of both angina pectoris and coronary thrombosis and discussed their treatment. He also mentioned the value of Dicaumarol in the treatment of coronary thrombosis. He said that psycho-therapy would prove of great value in cardiac Neurosis. Dr. K. S. Krishnan pointed out the stress and

strain of modern life was a provoking factor in attacks of Angina Pectoris. The President in his concluding remarks stressed the need of investigating thoroughly all cases of cardiac pain, keeping in mind coronary thrombosis as an important aetiological factor.

The Hony. Secretary then proposed a vote of thanks to the Surgeon General, the nursing staff of the Erskine Hospital and to the President and members present.

The gathering then witnessed the following films kindly lent by the British Council, Madras. The films were very much appreciated.

1. Endo Tracheal Anaesthesia.
2. Cardiac Arrest.
3. Operative Shock.

The meeting ended at 8-15 p.m.

TANJORE BRANCH

President: Dr. Md. Ismail
Vice-President: Dr. T. M. Pillai
Secretary & Treasurer: Dr. N. R. Subramanyam

The 14th Annual Conference of the Association was held at 10 A.M. on Saturday the 15th April 1950 in the Medical School Buildings, R. M. Hospital, Tanjore. About 150 doctors from our district and from our neighbouring districts attended the meeting. The meeting commenced with a prayer. After prayer, Dr. Mohamed Ismail, President, of the Association, welcomed the Surgeon-General and requested him to preside over the day's proceedings.

The Secretary of the Association read the annual report and the messages received.

Dr. J. C. David, M.B., Ph.D., Surgeon-General with the Government of Madras, then delivered his presidential address. He remarked that at a time when every commodity was rationed there was no rationing of speeches. He wished that there was less speech and more deed. He appealed to the doctors to realise the changed conditions of the country and do their best for improvement of medical aid to the people. It was not possible to expect help from the Government always, said the

Surgeon-General and added like the missionaries in the West, workers should be enlisted to carry out medical relief and research work.

After his presidential address he declared open the annual conference. The minutes of the last meeting and the annual report were adopted.

Lt. Col. V. R. Thayamanaswami of the General Hospital, Madras, was asked to address the Conference on "Fractures about the shoulder joint."

A detailed lecture followed by X-ray demonstration and clinical photographs of various types of fractures treated was given. A small discussion followed for which the lecturer gave a suitable reply.

The members then adjourned for lunch given by Ganapathy & Co., Madras, agents Unichem Laboratories.

At 2 P.M. the business meeting commenced, with Dr. Mohamed Ismail in the chair. Certain changes in the draft bye-laws of the Association in view of its present nature and working conditions

were brought before the general body for consideration and was accepted.

1. The Association shall be called the Tanjore District Medical Association (Branch of the Indian Medical Association.)

2. The rate of subscription shall be Rs. 14/- per annum and shall be strictly payable in advance.

3. The representatives to Indian Medical Association and collaborator of the journal of the Indian Medical Association, shall be elected at the annual general body meeting held at the beginning of the year.

The following office-bearers were elected unanimously for the current year:—

President:

Dr. Mohamed Ismail, M.B.B.S., DTM.

Vice-President:

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Hony. Secretary & Treasurer:

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Tanjore.

3. „ A. R. L. Swami, L.M.P., Gandarvakottai (Tanjore Dt.)

4. „ S. Subbulakshmi, M.B.B.S., DGO., R.M. Hospital, Tanjore.

5. „ S. Visvanathan, L.M.P., Koradacheri.

6. „ R. Narasimhachari, M.B.B.S., Kumbakonam.

Dr. P. A. K. Nair and Dr. N. R. Subramaniam were elected to represent the Tanjore Branch on the Indian Medical Association's Central Council.

Representatives to the Provincial

Council, I.M.A.

1. Dr. R. Narasimhachari, M.B.B.S., Kumbakonam.

2. „ M. V. Thyagarajan, M.B.B.S., „

3. „ N. Ramanathan, M.B.B.S., Tanjore.

Collaborator of the journal of the IMA.

Capt. G. S. K. Iyer, Tiruvadamardur.

The afternoon session commenced at 2-30 P.M. with Dr. Mohamed Ismail in the chair, in the unavailable absence of Dr.

J. C. David, who with much regret was forced to go to Trichy as a result of certain other engagement.

Dr. A. Srinivasan, M.R.C.P. Hony. Physician, General Hospital, Madras, then gave a very interesting and exhaustive lecture on a common complaint "Typhoid fever" handled by all Practitioners. The value of Diazo reaction and indicin in urine in the detection of cases in places where Laboratory diagnosis is not within easy reach, was stressed.

The value and the use of Chloromycetin and aureomycin in the treatment of typhoid was given to the audience. Since the subject was considered in full detail there was practically no discussion after the end of the lecture.

The members then adjourned for tea at 4 P.M. supplied by the courtesy of South Indian Manufacturing Co., Madurai.

After tea, there was an interesting lecture with lantern slide demonstration on Indications for Pulmonary Resection by Dr. Reeve, H. Betts, M.D., Department of Thoracic Surgery, Christian Medical College, Vellore. The various indications for Pulmonary resection, the conditions before and after treatment, were explained to the audience along with demonstrations of slides. The possibility and cure of various conditions of the Lung hitherto thought incurable were found to be successfully tackled by adequate thoracic surgery. A patient, a young boy operated and doing well after operation for Lung abscess was shown to the audience.

A vote of thanks was proposed by the Secretary to the Surgeon-General, lecturers of the day, guests from the neighbouring districts and to manufacturing firm for the Lunch and tea given.

After a chat for sometime the members reassembled to attend a film show-Coramine, Nupercain Technique by courtesy of Ciba Pharma Ltd., which was much appreciated by the audience. On behalf of the Association a vote of thanks was proposed to the Ciba Pharma Ltd., for the film shown.

After singing of the National Anthem the day's proceedings came to a close.

June, 1950]

ABSTRACTS FROM THE CURRENT MEDICAL LITERATURE

EARLY DIAGNOSIS OF CARCINOMA OF THE UTERUS—Gladys H. Dodds, M.D., F.R.C.S., F.R.C.O.G.—*The Practitioner*—December 1949.

The incidence of Carcinoma of the uterus is considerable: 4,372 women in England and Wales died from this disease in 1945. Cancer may arise in the body of the uterus, in the cervical canal, or in the squamous epithelium on the vaginal surface of the cervix. The type of carcinoma depends upon the epithelium from which it is derived: adenocarcinoma in the body and cervical canal and squamous carcinoma of the vaginal portion of the cervix. Cancer of the cervix is eight to ten times more common than cancer of the body of the uterus. The order of frequency is: (1) squamous epithelioma of the cervix; (2) adenocarcinoma of the body of the uterus; and (3) adenocarcinoma of the cervix. The order of malignancy is: (1) adenocarcinoma of the cervix; (2) squamous epithelioma of the cervix; and (3) adenocarcinoma of the body of the uterus.

The cure rate of carcinoma of the cervix in an early state (stage I) is 70 per cent. while the cure rate of all operable cases of carcinoma of the body is between 65 to 90 per cent. When first seen, only 11 per cent. of the cases of carcinoma of the cervix are in state I, whilst nearly 90 per cent. of the cases of carcinoma of the body are operable. Early diagnosis offers the greatest hope of cure, and will continue to do so in spite of future improvements in therapeutic methods. The clinical history and findings are entirely different in carcinoma of the body and carcinoma of the cervix.

Carcinoma of the body of the Uterus

—*Age incidence.* Carcinoma of the body of the uterus is a disease of later age-groups. The majority of cases occur between the age of fifty and fifty-nine years. The relative frequency of its occurrence as compared with carcinoma of the cervix increases as age advances, and at the age of seventy to seventy-five years carcinoma of the body is as common as carcinoma of the cervix.

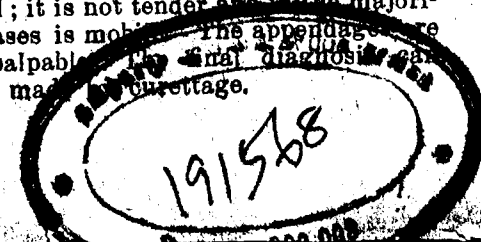
Relation of menstrual life.—The disease is predominantly one of the post-menopausal period. In only two out of 147 cases recorded by Donald and Fletcher Shaw was the disease pre-menopausal.

Relation to child-bearing.—In this same series of cases 52 per cent. were nulliparous, a relatively high incidence when it is taken into account that most post-menopausal women are parous. The remaining 48 per cent. had had one or two children many years before the onset of the disease.

Predisposing factors.—The woman who has irregular or profuse bleeding at the menopause is three-and-a-half times more likely to develop cancer of the body of the uterus than the woman who has neither irregular nor profuse bleeding. According to some authorities the occurrence of fibroids increases the likelihood of cancer of the body.

Symptoms. Vaginal bleeding is the cardinal symptom. The patient may complain of blending or of a blood-stained discharge. Rarely the patient complains of a foul-smelling discharge with no bleeding. The important point to note about the bleeding is its tendency to be or become, persistent. The bleeding with few exceptions is post-menopausal. Statistics show that four out of ten patients who complain of vaginal bleeding one year or more after the menopause have a cancer of the uterus, and it is therefore wise to consider every case of post-menopausal bleeding as malignant until the possibility of its being so has been eliminated. Pain occurs in a small percentage of cases but it is not an outstanding feature in the early stage.

Local physical signs.—These may be few: the cervix is healthy, a polypus may protrude at the os. but this does not eliminate the possibility of cancer of the body of the uterus; the uterus is regular in outline and in some cases it may be slightly enlarged; it is not tender and the majority of cases is mobile. The appendages are rarely palpable. The final diagnosis can only be made by curettage.



Carcinoma of the cervix.—Age incidence

This is a disease of middle life. In a series of 1200 cases analysed by Maliphant, 34 per cent. were in the decade forty-five to fifty-five, 30 per cent. were under forty-five, whilst 36 per cent. were over fifty-five. The risk of the disease increased enormously in the age-group thirty to thirty-four as compared with age-group twenty-five to twenty-nine, and at the ages thirty-five to thirty-nine it is more than twice as high as at the ages thirty to thirty-four.

Relation to menstrual life.—The disease occurs in two-thirds of cases during menstrual life.

Relation to child-bearing.—In Maliphant's series 5 per cent. of the patients were nulliparous and 95 per cent. parous. Maliphant believes "that woman with many children suffer from cervical cancer more frequently than do woman with few children or only one child and that the relative risk increases slightly with each confinement, so that the woman who has six or more children is exposed to a risk twice as great as the woman who has had only one child."

Predisposing factors.—Married life and child-bearing are the predisposing factors, with the exception that this disease is rare in Jewish women.

Symptoms.—The sign which brings the patient for diagnosis is vaginal bleeding in one form or another; usually bleeding on coitus. Rarely (14 per cent.) the first symptom is pain in the back, groins or lower abdomen. Pain usually means either extension or secondary infection and has a bad prognostic significance. By the time the patient has bleeding and pain the disease is in an advanced stage in 90 per cent. of the cases. It is important to remember that there are no early symptoms.

Local physical signs.—If the patient has vaginal bleeding, a small, nodular, granular area may be found at the external os, but more often vaginal examination reveals either a friable, ulcerating, cauliflower-like growth coming from one lip of the cervix, or an ulcerating mass partially or wholly replacing the cervix. If the tumour is an endocervical carcinoma there may be a friable mass at the external os and enlargement of the cervix. The cervix will probably

be immobile and there may be thickening of the fornices. The uterus may be normal in size or enlarged. Bleeding will occur following examination.

Diagnosis.—The friability, bleeding and position of the tumour leave little doubt as to the diagnosis. Additional aids to diagnosis in doubtful cases are (a) the use of a colposcope to view the cervix, this gives ten times the normal magnification, and (b) the application of lugol's iodine to the cervix. Cancerous and pre-cancerous tissue remains relatively unstained by iodine whilst normal cervical and vaginal epithelium, which contains glycogen, takes on a mahogany colour. These tests are of slight value. The best diagnostic procedure in doubtful cases is biopsy.

Vaginal smear technique in diagnosis.

For some years smears of vaginal secretion have been used to diagnose the activity of the sex hormones. Papanicolaou in the course of his investigation discovered that cancer cells could be recognised, and further, that the presence of these cancer cells was a reliable means of diagnosis, not only in well-established but also in early stages of the disease.

In a series of between 7000 and 10,000 vaginal smears prepared from 3014 adult women, most of whom were in the cancer bearing age of life, 179 were found to have cancer of the uterus. There were 127 cases of carcinoma of the cervix and, what is very important, 7 of these were early intradermal lesions of the squamous epithelium and nearly all of these 7 were invisible on close inspection of the cervix. There were 4 negative smears in the 127 cases carcinoma.

The advantages of this method is that several hundred women can be examined periodically with little discomfort. In America this method is employed at "cancer finding" clinics. At Boston City Hospital all departments referred women over thirty-five years of age for "screening." This screening consisted of a full history, pelvic examination, speculum examination and examination of a smear taken from the posterior fornix.

In 639 cases, in which 934 smears were examined, 54 cases of carcinoma of the uterus were found. Vaginal smears were positive in 51 of the 54 cases, carcinoma

was clinically obvious in 42 and suspected and confirmed by biopsy in 6; in the other 6 it was unsuspected clinically but was diagnosed primarily by examination of smears and confirmed by biopsy. There were 12 false positive smears in 585 patients found not to have cancer.

The exact place of vaginal smear technique, whether that of Papanicolaou or of the phase-contrast microscope in diagnosis is still indefinite. It has not yet replaced the biopsy but it has in many instances pointed to the need for a biopsy and thus is a distinct advance in the field of diagnosis. The average woman wants to know if she has a cancer or if she is likely to develop it. The first question can be answered by taking a careful clinical history, making a vaginal examination, a speculum examination of the cervix and, where facilities are available, by examining a vaginal smear. These examinations should be repeated at six or twelve-monthly intervals during the cancer-bearing age. The procedure is advocated to ensure early diagnosis in view of the fact that symptoms in the early stages are absent in 90 per cent. of the cases. The second question, "is she likely to develop cancer," is not so easily answered. The predisposing factor to carcinoma of the body is low fertility, and the carcinoma of the cervix, multiparity, factors which cannot be altered. There is some evidence to suggest that treatment of cervicitis and cervical lacerations which commonly follow child-bearing, might decrease the incidence of carcinoma of the cervix. Smith, Smithwick and Rogers state that of 550 cases of cancer of the cervix, none gave a history of cauterization, and that of 1,150 in whom cauterization had been carried out from January 1914 to January 1927, not one was known to have developed cancer. Further, there is a time lag of between ten and thirty years between the birth of the child and the appearance of carcinoma. It would appear desirable during this time to "screen" the patient at regular intervals.

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THE USE AND ABUSE OF PENICILLIN IN RESPIRATORY INFECTION—
Thomas Anderson, M. D., F. R. C. P.,
F.R.F.P.S.—*The Practitioner*—Dec. 1949.

So much has now been written on the place of penicillin the therapy of the dif-

ferent acute infections that it might seem almost unnecessary to add yet another article. None the less, to take stock of one's experience from time to time is always of value, for it may thereby be possible to cast aside that which is based on theory rather than on practice. At the beginning of another winter season, when there will be the usual increased prevalence of respiratory infections, a survey of the ways in which penicillin may usefully be employed in their management is thus worth while.

Upper respiratory tract infections—

Acute tonsillitis or *tonsillo-pharyngitis* is by far the most common infection of the respiratory tract. In over one-half of the cases the responsible pathogen is *Streptococcus*: the remainder have a somewhat diverse etiology, although it is likely that a virus or group of viruses is responsible for the greater proportion. If tonsillitis is the most common infection it is also as a rule the mildest, and consequently the use of penicillin whether locally or systemically, for the routine treatment of the ordinary, non-exudative and uncomplicated infection is quite unjustified. The majority of cases make a rapid and straightforward recovery without unnecessary interference. The presence of a confluent exudate with considerable oedema of the fauces and soft palate is usual in the severe streptococcal infection, and in such cases further invasion to neighbouring structures must be anticipated. Cervical adenitis, reddening of the ear drum, or development of pain over the paranasal air cells will each suggest an extension of infection and the need for immediate institution of penicillin therapy. In other words, the decision to use penicillin in such cases is based upon the clinical observations that the infecting pathogen is beating the defences of the host. Such an outcome is usually noted early in the infection and it is therefore important to include ears and sinuses in the initial examination.

For such cases it might seem that the need for a high local concentration of the antibiotic was best met by local treatment for example, by lozenges or tablets to be sucked. This view, however, fails to take account of the fact that in this type of case it is not the surfaces of the tonsils which require to be sterilized but the

multiple foci in the depths of the tonsils and the line of extension from these to the neighbouring tissues. Systemic penicillin is thus essential, and to ensure that the material penetrates rapidly the preliminary dosage should be large. The initial injection should be of the order of 200,000 to 500,000 units (dependent upon age), and this dose may be repeated six to eight hours later. Subsequently therapy may be based upon the efficiency of the original dosage; should this have been clinically very apparent, a daily dosage of 500,000 units, in two or three injections, will suffice; in the more severe cases, in which perhaps invasion of the middle ear or of the nasal sinuses has occurred, a high dosage is desirable for two to three days. Penicillin therapy should be continued for at least five, and preferable for seven days. For such a severe case to have occurred suggests either an enhanced invasiveness of the infecting organism or an impoverished resistance on the part of the host, and these indicate a need for continuing treatment. For similar reasons penicillin in oil should not be used for the early, more urgent stage of treatment when the need is to supply the maximum effect rapidly. Such forms of penicillin may have a place in the continuing stage once the acute symptoms have been brought under control.

Many other less common forms of sore throat benefit from the use of penicillin. The diagnosis of *Vincent's infection* may be suspected because of its less acute onset and appearance. Here infection is not confined to the tonsils, and the greyish membrane which forms the floor of the shallow ulcers will often be found in small linear patches on the posterior pharyngeal wall. Further, although not constant, an accompanying gingivitis is common since the condition usually affects the whole oral cavity. In such cases penicillin must be used with caution. It seems likely that one of the factors which encourages a *Vincent's infection* is an imbalance of the healthy distribution of the normal mouth flora. The administration of penicillin may further upset the balance by killing off the gram-positive organisms and thereby encouraging a predominantly gram-negative flora. For this reason the milder cases should be treated by means of a local paint, such as neocarsphenamine (2.1/2 per

cent.) in glycerin, and the condition be observed for twenty-four hours. Careful attention to oral hygiene, frequent mouth washes, especially after food, and the application of the paint to the gums and small ulcers will often induce rapid healing, without recourse to penicillin. For the severe case with extensive ulceration, however, penicillin will be essential. Topical application is here quite justified, for the infection is essentially localized to the mouth. When treatment is started one or two large intramuscular injections may be given, but thereafter lozenges prove adequate for almost all cases. The patient should be seen each day and penicillin stopped when a beneficial local effect is noted. Prolonged treatment is undesirable for it may itself induce stomatitis, of which the patient may find the raw, sore tongue as troublesome as the original infection. During treatment the administration of a vitamin B compound may lessen the risk of glossitis.

Agranulocytic angina is another rather uncommon throat infection for which systemic penicillin proves effective. The appearance of the throat in such cases bespeaks the lack of resistance of the host, for there is an absence of those signs of acute inflammation which such an extensive ulceration would lead one to expect. The patient is usually an adult, and in most cases there is a long history of the taking of some form of analgesic tablet. The value of penicillin here lies in its freedom from toxicity, and adequate amounts should be given systemically. Apart from the administration of penicillin, all other forms of drug therapy should be omitted. As a rule, the rise in the white cell count is a reflection of the controlling of the infection and in my own experience has borne little relationship to the administration of the penicillin. In severe cases blood transfusion should be considered.

Diphtheria, although quite clearly a respiratory infection, has diminished in importance in recent years, partly as a result of the extensive practice of active immunization of children and partly from a decreased prevalence of the infection. Nevertheless, one form—laryngeal diphtheria—is so often associated with spells of intense cold weather that it should be

emphasized as a "winter risk." Diphtheria antitoxin is of course a prime necessity. But particularly in this laryngeal form, penicillin has a valuable place in therapy, and there is every reason to believe that its use, in high dosage, will lessen the need for tracheotomy. In tonsillar infections the administration of penicillin during the first week hastens the disappearance of organisms. Diphtheria bacilli are relatively resisting to penicillin and to some extent sheltered from its action, so that high dosage is essential.

Pneumonia—Pneumonia is by far the most important of the respiratory tract infections, and in the great majority of cases has a pneumococcal basis. One of the fundamental questions with which the physician is faced is what therapeutic substance to use in the management of a case. Many considerations may have to be taken into account, but when a straightforward comparison is made of patients treated with sulphadiazine or sulphathiazole with those given penicillin it is abundantly clear that there is little difference between them. The results shown in table 1 have been obtained in the same hospital during the last few years. Both in the routine cases and in the more severe cases with bacteraemia the results obtained with the two substances are essentially similar. This is important in the management of cases in general practice, for

whereas sulphonamide can be administered with comparative ease, the giving of penicillin may be somewhat difficult. Accordingly, the results shown in table 1 give good grounds for advising that in the straightforward case sulphonamide will prove adequate. Having made this statement, however, attention may be directed to four main groups of cases for which penicillin is preferable

(1) Although the pneumococcus is by far the most common pathogen, the possibility of other organisms must be kept in mind. During recent years the staphylococcus has become more important as a cause of pneumonia, particularly when it occurs as a complication of influenza. As a rule the onset is less sudden, the consolidation less well-defined and diffuse, and the sputum is usually frankly purulent. Arising after a day or two of influenzal symptoms the condition of the patient may become profoundly changed almost in a matter of hours. The general signs of toxæmia are usually well marked. For such cases penicillin, which should be given in massive dosage, may well prove life-saving. One of the features of staphylococcal pneumonia is the frequency with which empyema occurs. The possibility of such a complication must be remembered, for it will require not only systemic but also intrapleural penicillin.

TABLE I

Comparison of results obtained with Sulphathiazole and/or Sulphadiazine and Penicillin by any route in Pneumococcal Pneumonia.

	Sulphonamide	Penicillin
Total cases	290	210
Total deaths	21 (7.2 per cent.)	17 (8.1 per cent.)
Cases with bacteraemia	51 (17.6 per cent.)	44 (21 per cent.)
Deaths in bacteraemic cases	11 (21.5 per cent.)	12 (27.5 per cent.)

The important of staphylococcal pneumonia in infants is worth particular mention for at least in hospital practice, it has become much more frequent in the last few years. At this age-period the

pneumonia usually seems very extensive and it is often lobar in distribution. Here too, empyema is a frequent early complication and, since it probably arises as a result of the rupture of a subpleural in-

faret, penicillin should be given with abandon and by both intra-muscular and intrapleural routes.

(2) The two factors of greatest significance in prognosis are age and the presence of bacteraemia. The diagnosis of pneumonia in a patient over the age of forty years should always be regarded as an emergency demanding intensive therapy. In older persons, too, the past history may reveal the presence of some chronic cardiac or renal disease, the presence of which tends to deter the clinician from using the sulphonamides in adequate dosage. The lack of toxicity of penicillin is a great advantage in these circumstances and, during the first twenty-four to thirty-six hours, a total dose of 1.0 to 1.5 mega units may clear the infection without danger to the patient. Treatment thereafter may be continued with either sulphonamide or penicillin.

At least in hospital practice, a blood culture should always be made before treatment is begun. The presence of organisms in this initial culture indicates a severe infection, and when the result is known at the end of twenty-four hours, adequate penicillin therapy should at once be instituted.

(3) Although leucocytosis is usual in pneumonia, leucopenia or granulocytopenia occurs infrequently, indicating an intense infection with a poor host response. Agranulocytosis may also be encountered as a rare complication of sulphonamide therapy, much more frequently, however, previous administration of these substances has sensitized the patient so that a single dose produces a severe reaction. Although such cases are uncommon it is important to recognize them and to institute treatment with penicillin.

(4) Finally, the formation of pus in the pleural cavity during the acute stage of the illness (syn-pneumonic empyema) is a dangerous complication which may actually arise in the course of sulphonamide treatment. When the suspicion arises that pus may be present, aspiration must be carried out. If pus is obtained, a reasonable quantity (100 to 150 ml.) should be removed, and penicillin (0.5 to 1.0 mega units in 10 to 20 ml. of distilled water) slowly injected. With an ill patient no

attempt should be made to empty the cavity at this first aspiration, and precautions should be taken to prevent the entrance of air to the cavity by using a two-way tap. On the following day the procedure should be repeated, but this time an attempt should be made to take away as much a pus as possible, again instilling 500,000 units of penicillin as the last procedure. Such measures will take the patient over the most serious stage of the illness and will permit a more planned approach to operative interference. Needless to say the pus must be subjected to a careful bacteriological examination to determine the type of organism and its sensitivity to penicillin. When empyema develops in a patient who is receiving penicillin, it is important to start such treatment at once in order to bombard the collection of pus from both sides,

Although the general principles of the use of penicillin in such cases may be thus simply stated, it would be a pity if the impression was given that the whole management of the patient with an empyema can be so lightly dismissed. In the first place, it must be emphasized that no two cases are exactly alike, so that to prescribe a "routine" is dangerous. These patients will require skilled management, and it is desirable that the thoracic surgeon should be consulted at an early stage. Frequent X-ray examination will be necessary to observe the progress of the cavity, and lipiodol interpleurally may be useful in this respect. My own experience has been that for small, well-localized empyemas, penicillin therapy followed by the introduction of an intercostal drain usually proves adequate. With large effusions such a method may fail and early rib-resection then becomes essential. The point to be stressed is that in the early dangerous stage penicillin instillation may be life-saving by diminishing the toxic absorption. The patient may thus be tided over until an operation can be undertaken with safety.

Mode of administration in pneumonia.—When the decision has been taken to use penicillin it may be argued that the immediate need, in such an ill patient, is to secure as rapidly as possible a high concentration of the antibiotic, both systemically and locally. For this purpose

the use of a large dose of the aqueous solution seems best. The "depot" effect of penicillin-in-oil seems less important, although it is no doubt adequate for the straightforward case. It has yet to be shown that the steady achievement of a certain amount of penicillin in the blood stream is actually essential, especially in such infections as pneumonia, when there is no doubt that man's basic resistance to the common invading pathogen is good. It seems possible that there may be some advantage in the waxing and waning of the blood level of penicillin which occurs after the injection of aqueous solutions by allowing the growing out of new generations of organisms to be smitten by the next peak concentration. Orally administered, penicillin is also effective in the routine management of pneumonia; but in the light of the previous reasoning, once the decision has been taken to use penicillin for patients in the above categories, it is desirable that the initial treatment should be by intramuscular injection. Finally, although its administration by inhalation may secure adequate blood level, in general use this method is cumbersome, is disliked by the patients, and may increase the risk of sensitization.

The administration of penicillin to patients with chronic pulmonary infections is often considered. Here it is of the greatest importance to make a planned approach to treatment by securing a complete bacteriological examination of a carefully taken specimen of sputum. Looked at in the possible light, penicillin is but a placebo in the majority of such cases. It may secure a rapid clearing of the penicillin-sensitive organisms, but the underlying chronic mucosal changes favour the occurrence of further reinfection as soon as the administration of penicillin is stopped. Permanent improvement is thus not usual. It may however, be of great benefit during the acute exacerbations due to super-infection, which are such a frequent event in such cases. Penicillin has also a limited place in the preoperative preparation of cases for lobectomy or thoracoplasty. For the patient with chronic pulmonary infection, inhalation of an atomized solution is the best method of administration.

Conclusion.—To have a clear mental picture of "how the wheels go round"

may not be essential, but it is certainly an important part of the proper management of a machine. In the use of drugs too, the physician often likes to have some image in mind which, without oversimplifying the problem, helps him to understand their mode of action. As a generalization it is perhaps true to say that many of us imagine chemotherapy very much as a test-tube experiment the addition of so much chemical to so many micro-organisms with their resulting subjection. When this analogy is applied to the use of the substance in man, however, it leaves out of account all of the variables that are a part of human infection. The host's previous experience of different bacteria and his capacity to defend himself against them; the variation from organism to organism in its ability to invade the tissues of the host; the varying susceptibility and the accessibility of the pathogens to the substance administered: factors such as these make the application of the chemical to disease in man demand an understanding not so much of its precise mode of action as of the nature and course of the infection of the respiratory tract little emphasis has been placed on a knowledge of the sensitiveness of different bacteria, or of the concentration desirable for their control. Such information, whilst important, takes almost second place to a clear understanding of the nature of the "host-parasite" complex which forms the basis of any acute infection. The therapeutic efficiency of penicillin is so great in those infections which were previously fatal that we are sometimes inclined to forget that in many other infections it acts as an adjuvant to man's own capacity to recover. There is little doubt that the most serious abuse of this potent substance is the tendency to use it more because of the reading on the thermometer than on an appreciation of what we expect it to do. The dosage, the route of administration and the duration of treatment will depend to a large extent upon a knowledge of the mode of attack of the organism.

The extent to which a proper bacteriological diagnosis is essential can be not over-emphasized. It would no doubt be a policy of perfection to make an adequate bacteriology examination in all cases, but such

advice is scarcely practical. There are many clinical diagnoses of respiratory infection which incriminate a particular pathogen with some degree of certainty. In such cases the clinician will be fully justified in beginning treatment without further delay. Nevertheless, it must be remembered that the susceptible acute infection shows a rapid response to penicillin therapy, usually indeed within twenty-four to forty-eight hours. This will serve as a valuable indication of the efficacy of treatment and a good reason for its continuation. Perhaps of more importance is the failure to observe improvement in such cases. No time must be lost in making a careful appraisal of the situation. The necessary specimens should be submitted to ascertain if the cause is unusual; the original diagnosis should be reviewed; and the method of administration and the amount of penicillin administered should be reconsidered.

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THE EVILS OF SMOKING—James A. Walton—*Health*—May 1950—Ross L. Holman said in the *Christian Herald*: "During the past twelve months the American people have smoked one billion cigarettes a day. This is a daily average of about seven and one half cigarettes for every man, woman, and child. Since each cigarette contains about two per cent nicotine by weight, it means that more than a million and a half pounds of one of the deadliest poisons in the world are used up in the cigarettes consumed by these sixty million smokers each year. When reduced to its lowest terms the amount of nicotine in the number of cigarettes the average smoker consumes every twenty-four hours would mean instant death if administered as a single dose."

Then why don't the American people who consume such a quantity of this lethal poison die like flies?

This is what scientists of the Medical College of Virginia, U. S. A., have been trying to find out for the past ten years. Well, they are learning things, and it isn't all good news for smokers.

There is one conclusion on which practically all researchers agree, not a single one of them can put his finger on any

particular advantage derived from the indulgence.

Doctors H. B. Haag, Paul S. Larson and others of the Virginia Medical College found, of the twenty-two per cent of nicotine taken into the mouth, the inhaler absorbs practically all of it into the blood stream. It merely means that a little poison isn't quite as damaging as a lot of poison.

They escape instant death because by repeatedly exposing themselves to sub-lethal amounts, such as are absorbed from each cigarette, they develop a sort of tolerance for it.

Here are some of the things that the Mayo Clinic found out.

At this famous institution Drs. Grace B. Roth, John B. Mc. Donald and Charles Sheard ran a series of tests on four men and two women, all of whom were habitual smokers and inhalers. They ranged in age from twenty-two to forty-one.

One of the most important effects of nicotine on these human guinea pigs was its action on the heart. Among the subjects tested the average heart rate before smoking was sixtynine beats a minute. When smoking it jumped to 105.

In this connection it is interesting to note that Mayo physicians have found that disease of the arteries is six times as prevalent among smokers as in non-smokers.

One alarming fact about smoking is that it almost trebled within the past sixteen years. In 1930 the number of cigarettes manufactured in the U. S. A. was 123 billion. Today it stands at around 360 billion. Dr. W. H. Dobson of the University of California said, "In 1930 deaths from cancer were 3,843. In 1942 when it (Cigarette consumption) reached 257 billion the number of lung cancer deaths had reached to 10,987. This ailment comes on as age advances. It is more highly fatal from forty to sixty years of age."

Another disagreeable ailment caused by smoking is Berger's disease. This is characterized by an aggravation of leg pains or a horrible blocking and tightening of the blood vessels in the legs.

And there is one kind of heart disease that, according to Dr. Samuel Sethbert of New York, is caused by smoking and by nothing but smoking. Dr. Sethbert reported examining 1,400 cases with this ailment and said that every one of them was a smoker.

One cause of the tremendous increase in smoking of the past several years is the growing prevalence of the habit among women. One estimate is that three out of every four males plus two out of every five females above the age of sixteen use tobacco.

Probably the most widely publicized figures gathered on longevity of those who do and do not smoke are those of Dr. Raymond Pearl of Johns Hopkins University. His figures embracing a cross-section of heavy, moderate, and non-smokers, showed that between the ages of thirty and forty-five twice as many heavy smokers per 1,000 population died from all causes than non-smokers.

There is no disease on earth as widespread as the tobacco habit if we are allowed to call it a disease. Consider for a moment the tremendous amount of money that is spent on research and experiment in cancer, tuberculosis, infantile paralysis and other less prevalent diseases. A large publicly or privately financed research on tobacco by impartial investigators should make the facts of smoking so convincing that it would be foolish to deny them.

Tobacco indulgence brings on many different kinds of cancer. Dr. A. H. Roffo of Argentina has caused cancer in some experimental animals by repeatedly exposing them to tobacco tar. But, whatever the cause, tobacco smokers had just as well resign themselves to the increased risk of having a cancer pop out on the tongue, throat, lips, or lungs.

The tobacco cigarette and other degenerate children of the poppy and marihuana will seize bright-eyed, happy boys and girls from some of the best homes in our land and reduce them to wrecks of humanity.

Would that there could be burned into the hearts of every man and woman the truth that the cigarette traffic is the inve-

terate, persistent enemy of child life, and that this is the raw material with which the traffic must work.

* * * * *

THE URGE TO PURGE—*The Practitioner*—May 1950.

Although, as was emphasized in Mr. Kinsella's outspoken article, the urge to purge dies hard, it is comforting to be reminded that in this respect at least, we have made some progress during the last hundred years or so. Whilst the writings of the physicians of a century ago are full of shrewd clinical observations, much of their therapeutic wisdom has rightly been cast into the limbo of the archaic. It may well have been a heroic age, but even making every allowance for their ignorance of physiology and pharmacology, it is difficult to understand how such able men, as many of these old physicians undoubtedly were, could possibly recommend the excessive purgation to which they submitted their unfortunate patients. Even Royalty did not escape, and the following extract from one of the famous Creevey letters, describing the treatment to which Queen Caroline was submitted in her final illness in 1821, makes one realize that there were disadvantages in living in those "good old days":

"As to his Royal Mistress, his account was most curious. On Friday last she lost sixty-four ounces of blood; took first of all 15 grains of calomel, which they think she threw up again in whole or in part; and then she took 40 grains more of calomel which she kept entirely in her stomach; add to this a quantity of castor oil that would have turned the stomach of a horse. Nevertheless, on Friday night the inflammation had subsided, though not the obstruction of her liver."

* * * * *

TRAVEL SICKNESS—H. E. Holling, M.B., M.Sc., M.R.C.P.,—*The Practitioner* March 1950.

By travel sickness is meant the symptoms of headache nausea and vomiting which are caused in susceptible persons by the motion of travelling by sea, air, train or automobile. Travel sickness is due to subjection of the body to acceleration in

various directions; movement of the body at a steady velocity does not cause travel sickness. For therapeutic purposes it is convenient to consider the sickness caused by sea, air or car travel as identical; but a person may be more susceptible to one form of motion than another, and a remedy successful against one form of motion may be less useful when used against another.

Causal Factors. In the past, travel sickness has been thought to originate from various viscera, but it is now generally agreed that it results from disturbances set up in the internal ear. This view receives support from the fact that bilateral labyrinthectomy abolished motion sickness in dogs which had been previously susceptible (Morton, et al., 1947). A similar interesting observation was made by a clergyman in the middle of the last century. He was bringing a party of eight congenital deaf mutes over the Atlantic in rough weather and noticed that none of them suffered from seasickness. In them labyrinthine activity was presumably absent. Nystagmus is a characteristic feature of the stimulation of the semicircular canals and this sign is never seen in travel sickness. This organ of the internal ear is not therefore thought to be the one responsible for originating the train of symptoms of travel sickness. Modern views implicate the utricular maculae and their attached otoliths.

Prophylaxis. It is seldom that anything can be done to reduce the motions which cause travel sickness. Nevertheless, the sufferer should endeavour to obtain a front seat in an aeroplane or motor car, and a cabin amidships in a steamer. These are the positions in which the motion of the vehicle is least felt. On board ship the patient should be encouraged to accustom himself to the ship's motion by walking on deck, or to lie on his back. One of the worst positions to adopt is a crouched position over a book. Tyler (1946) found that men ordered to stand in a landing craft were much less likely to suffer sickness than those ordered to crouch in the same craft. Sight, sounds and smells which are liable to cause nausea or vomiting should be avoided. A frequent contributory cause to travel sickness is the alcoholic farewell party of the night before.

The sickness which may arise in very susceptible people at merely the sight, sound and smell of a means of transport must be entirely psychogenic; it is therefore doubtful if it will respond to the same measures as true travel sickness.

The importance of psychological factors in true travel sickness is often either over- or under-estimated. It is general naval experience that the overt manifestations of seasickness are less if the sufferer's mind can be diverted. On the other hand, it is my personal experience that seasickness can occur even though one's thoughts are entirely concerned with other matters. Diversion of attention does certainly make the suffering less, and efforts should be made to distract the patient's preoccupation by some light mental or physical activity. It is as unwise to fuss over a susceptible person as to disregard the physical nature of his complaint and to dismiss the subject as "entirely a matter of nerves and will power."

Drugs Therapy. The treatment of travel sickness by drugs is entirely empirical. Judgment of the efficacy of remedies for travel sickness is difficult. At the time of testing there are always at least three variables: (1) the susceptibility of the subjects; (2) the severity of the conditions; (3) the efficacy of the drug. Therefore, for a reliable judgment on any remedy, it is necessary to expose a large number of subjects to the same conditions and to arrange that equal numbers are treated with a placebo or drug of known efficacy as well as the drug under test. It is further desirable that the subjects should be under discipline. Satisfactory conditions may be obtained in a troopship; they are less likely to be obtained in a passenger vessel. The small numbers of subjects that can be carried in aeroplanes or automobiles makes these vehicles unsuitable for the testing-out of remedies.

Controlled trials of anti-seasickness remedies were carried out during the last war (Holling, et al. (1944). Ships and men were made specially available for the purpose by military authorities. Of the many remedies reputed to be of value in the treatment of seasickness, only those containing atropine or hyoscine were found to have any detectable beneficial effect.

Hyoscine was superior to atropine. Subsequent observations showed that hyoscine is also useful in the prevention of airsickness (Lilienthal, 1945), and the experience of many is that hyoscine is also effective in preventing car-sickness in children. The effective dose of hyoscine, either by mouth or rectally, is 0.6 mg. for an adult. For children between the ages of five and twelve this dose should be halved. The remedy should be taken about half an hour before the causative motion is expected. After the initial dose of 0.6 mg. a dose of 0.3 mg. may be repeated at intervals of six hours for as long as required. In this dosage hyoscine will protect about 60 per cent. of susceptible persons from seasickness. It is somewhat less effective in air and car-sickness. The drug is more effective if the dose is doubled, but this dosage is likely to cause unpleasant dryness of the mouth.

A further advance in the prevention and treatment of travel sickness occurred when the independent observations of Gay and Carliner (1949) and McEvedy (1949) showed that antihistamine drugs could prevent seasickness. Gay and Carliner were testing the drug "dramamine" (B-diaminoethyl benzohydryl ether 8-chlorotheophyllinate) as a remedy for urticaria and hay fever. They happened to have a patient who was so susceptible to motion sickness that travelling to hospital by trolley car always caused her to vomit. She was given dramamine and found its effect remarkable in curing her car-sickness. Following this lead, well-controlled trials of the drug were carried out on a troopship by Gay and Carliner. Quite independently McEvedy found that the soldiers on board a troopship under treatment with the antihistamine preparation "anthisan" (pyranisamine maleate) were free from seasickness. His subsequent observations showed that this remedy was "at least as acceptable" as hyoscine. The results of Gay and Carliner show that dramamine is superior to hyoscine as an anti-seasickness remedy, preventing sickness in over 90 per cent. of susceptible persons, and proving very effective in curing the condition. It has been found rather less effective in airsickness, (Strickland and Hahn, 1949). Individual reports attest its value in car-sickness. The dosage recommended is 100

mg. by mouth every five hours; if not retained by mouth it may be given by suppository. "Neoantergan" has also been recommended as valuable in the treatment of travel sickness. The dose is 150 mg. to start with, and the drug is repeated in 100 mg. doses at intervals of eight hours. Children are given a 50 mg. suppository, and thereafter 25 mg. three times a day for as long as necessary. In these doses the drugs should give no unpleasant side-reactions.

Although the prevention of travel sickness is now very effective, it is necessary to consider the established case of the condition. The patient should lie down, and theoretically he will obtain most relief if he lies on his back with his eyes open. Until the remedy has been given time to act it is better to give nothing by mouth. In cases in which the remedy cannot be retained when given by mouth it should be given rectally. When the patient is very dehydrated it may be necessary to administer saline per rectum, but recourse to intravenous saline should hardly ever be necessary. Once fluids by mouth can be tolerated, they should be given freely. Water, ginger ale, fruit drinks and champagne are suitable. After the first twelve hours a light diet may be started and gradually increased.

"Dramamine" is an American preparation and is not available in this country. The same drug is sold in Canada as "gravol" and a Swedish firm is also reported to be producing it. There is no reason to suppose that other antihistamine drugs may not be as, if not more, effective than dramamine. Of the antihistamine preparations available in this country anthisan and neoantergan are known to have some effect. It should be worth while testing the effect of a combination of hyoscine and an antihistamine drug, although in general the prescription of a combination of drugs in travel sickness is not recommended. It is to be hoped that the fighting Services, to whom the subject is important, are investigating the relative value of antihistamine and other drugs as preventatives of seasickness, for they alone have adequate facilities.

* * * * *

JAUNDICE IN THE NEW-BORN BABY—Mary J. Wilmers, M.D., M.R.C.P. The Practitioner—June 1949.

Jaundice is such a common symptom in the new-born infant that it only arouses suspicion when there are unusual concomitants. It has been said that "the symptom icterus is not as frequent in any other period of life as in the first week and—a matter of particular importance—hardly ever as harmless"; this statement is true because all forms of jaundice except "physiological" jaundice of the new born are rare, but they have a grave prognosis.

Physiological Jaundice of the Newborn—This shows itself between the second and fifth days, commonly fades in a week, but may last for four weeks. It occurs in about 50 per cent. of infants, and the smaller the baby the more likely it is to become jaundiced. There are two factors in the production of physiological jaundice—blood destruction and immaturity of the liver. At birth the infant is polycythaemic; when pulmonary respiration is established the excess red cells are unnecessary and are destroyed; this occurs in all newborn infants. The variable factor is the adequacy of the infant's liver in excreting excess blood pigment; hence the degree of jaundice may, in a sense, be taken as a measure of the immaturity of the liver.

Physiological jaundice causes no symptoms beyond slight lethargy and reluctance over feeds when marked; the stools are normal in colour, the urine rather dark from excess urobilin. There are no complications and no treatment is required.

Pathological Jaundice—Pathological jaundice may be classified into:—

1. Haemolytic jaundice.
 - (a) Icterus gravis neonatorum.
 - (b) Acholuric jaundice.
2. Obstructive jaundice.
 - Congenital obliteration of the bile ducts.
3. Toxi-infective jaundice.
 - (a) Syphilis.
 - (b) Sepsis.

Haemolytic jaundice—Excessive blood destruction is the basis of this type of

jaundice; it follows that anaemia is always present and evidence of active red blood cell regeneration. The spleen and liver are always enlarged, the stools are normal in colour and the urine is dark, due to excess urobilin excretion, but does not contain bile salts or pigment.

Icterus gravis neonatorum.—This, the most common haemolytic anaemia of the new-born, is due to Rhesus incompatibility between mother and foetus. These babies are Rhesus positive, their mothers Rhesus negative. During pregnancy the foetus becomes sensitized to the Rhesus factor and produces an antibody which agglutinates and destroys Rhesus-positive red blood corpuscles. Red cell destruction occurs already during the later months of pregnancy so that the cord blood taken at the moment of birth shows anaemia. The first baby escapes the disease, but subsequent Rhesus positive foetuses are all affected. Fortunately only a small proportion of Rhesus-negative mothers have this faculty of forming antibody during pregnancy, so that the disease is less common than might be expected.

The affected baby, then, will not be a first baby; there may be a history of stillbirths or babies with anaemia, jaundice or both. The diagnosis is suspected when jaundice is present at birth or appears within forty-eight hours, and there is an associated anaemia with a palpable spleen. At first the baby is not ill, but soon becomes lethargic and sucks poorly, whilst in severe cases there may be purpuric haemorrhages and death from anaemia. Cerebral signs, such as a shrill cry, restlessness, head retraction, twitchings and convulsions may develop and indicate Kernicterus, the most serious complication, in which the basal nuclei are destroyed. Kernicterus is often fatal in the acute stage. The survivors are apastic, mentally defective, or have choreo-athetosis.

Confirmation of the diagnosis is by serological tests and finding antibody in the mother's blood; in many cases the diagnosis is made in the antenatal clinic by routine Rh-grouping of mothers at their first attendance and examination of serum for antibody late in pregnancy; when this is found it is wise to arrange for delivery in hospital.

Treatment consists in blood transfusion with Rh-negative blood; this may have to be repeated several times in the neonatal period. Replacement transfusion, in which the baby's blood is replaced with Rh-negative blood, is being done in certain centres; the umbilical vein is used for the transfusion, which must be done within eighteen hours of birth. Whether this latest method of treatment prevents Kernicterus is not yet known; simple transfusion does not.

Acholuric jaundice—This occurs rarely in the neonatal period. It has the usual features of a haemolytic jaundice. Other babies in the family are not affected. The diagnosis is made by excluding icterus gravis and by finding increased red cell fragility in the baby itself or in the parents or siblings in whom the disease, which is usually familial, may be latent. Blood transfusions may be required for anaemia. Splenectomy affects a complete cure but should be delayed until the end of the first year. Kernicterus does not occur.

Obstructive Jaundice—**Congenital obliteration of the bile ducts**—Characteristic features are progressive jaundice, clay coloured stools, and very dark urine containing bile salts and pigments. There is no anaemia. The pathology is often obscure; there may be a development abnormality or a prenatal obliterative cholangitis; there is always secondary cirrhosis of the liver.

The onset of jaundice occurs during the second or third week with few symptoms except failure to thrive. The liver becomes enlarged and hard, the spleen enlarges

secondarily. Only rarely is the obstruction amenable to surgery; when it is not, the disease is always fatal.

Toxi-Infective Jaundice—In this group the liver is primarily at fault; it is enlarged and may be tender. The stools are normal in colour; the urine contains bile.

Syphilis.—The baby may be jaundiced at birth; more often the onset is in the second or third week. Other signs of syphilis are always present. The diagnosis is confirmed by finding a positive Wassermann reaction in the mother's blood. Neonatal syphilitic jaundice is evidence of a severe infection and the prognosis is poor even with antisypilitic treatment. Fortunately, since the routine use of Wassermann reactions antenatally and treatment of syphilitic mother during pregnancy, syphilitic jaundice is rare.

Sepsis.—Jaundice may occur as a complication of any severe sepsis in the neonatal period, but commonly in umbilical sepsis, septicaemia or pyaemia, and gastro-enteritis. Usually the clinical picture is dominated by the signs and symptoms of infection, jaundice being but an incident which, however, carries a grave prognosis. The treatment is that of the causal infection: penicillin and sulphonamides should both be given in full doses with supportive measures, such as intravenous saline. Blood transfusions are often required. In severe infections with pyogenic organisms, notably streptococci and *B. Coli.*, there is often a haemolytic process at work, so that the jaundice may be due in part to liver damage and in part to excessive blood destruction.



GOVERNMENT OF MADRAS

PUBLIC WORKS (INFORMATION AND PUBLICITY) DEPARTMENT

PRESS NOTE NO. 111

Dated Fort St. George, the 15th June 1950

It has been brought to the notice of the Government that ever since the introduction of total Prohibition, there has been a phenomenal increase in the sale of cocaine in this State due to illicit consumption. An investigation disclosed that large quantities of cocaine hydrochloride are being purchased through prescriptions issued by and in the names of doctors, real and bogus, and that many doctors do not maintain proper accounts as required in the Madras Manufactured Drugs Rules, 1932, as subsequently amended. The Government desire to draw the attention of all medical practitioners to these rules which regulate the import, export, transport, possession and sale of manufactured drugs other than prepared opium. Under the rules only an approved practitioner can possess, and that too in limited quantities, manufactured drugs other than prepared opium for use in his practice, but not for sale. For possession of larger quantities, special authorization from the Collector should be obtained.

2. Every approved practitioner is required, under the rules, to maintain an account in Form No. M. 5 appended thereto in respect of the drugs possessed by him and such accounts should be open to inspection by departmental officers. The officers empowered in this behalf are any officer of the Police department not below the rank of an Inspector and any officer of the Prohibition department not below the rank of an Assistant Prohibition Officer in Prohibition districts and, elsewhere, any officer of the Excise department not below the rank of an Assistant Inspector. Any one who contravenes either the licence conditions or the rules will be liable for prosecution and punishment in accordance with the provisions in the Dangerous Drugs Act (Central Act II) of 1930.

3. For the general well-being of the large masses of people the Government have embarked on a policy of total Prohibition. The Government urge upon all approved medical practitioners to co-operate with them in combating the illicit sale and consumption of the drugs. Failure on the part of doctors to maintain correct and proper accounts and to abide by the conditions of licences will be seriously viewed and the Government will not hesitate to take drastic action against defaulters. The Government, however, hope that occasions for such action will be rare and that with the willing co-operation of the medical profession the illicit sale and consumption of these dangerous drugs will be completely eradicated in the shortest time possible.

[Issued by the Director of Information and Publicity.]

June, 1950]

ANDHRA MEDICAL COLLEGE

The list of successful candidates arranged in the order of merit as determined by the total number of marks obtained by them at the March-April 1950 Final M. B. B. S. Degree Examination of the Andra University is furnished hereunder;

- | | |
|---------------------------|-----------------------|
| 1. Chakrapani Rao, A. | 5. Jagadiswar Rao, A. |
| 2. Surrender Kumar Bhalla | 6. Kuladip Singh |
| 3. Subbarao, K. | 7. Jagjit Singh |
| 4. Satyavedam, N. (W) | 8. Bhakth Vijayam C. |

Candidates who completed the Examination at the second or a subsequent appearance.

- | | |
|-------------------------|-----------------------------|
| 1. Narasimharao, A. V. | 8. Subbarao, V. D. V. |
| 2. Koteswararao, D. | 9. Shankar, K. S. |
| 3. Milton Cedric Moses | 10. Krishnamurthy, K. |
| 4. Sudarsanam, A. (W) | 11. Nazhath Ara Begum (W) |
| 5. Virabhadrarao, Y. | 12. Seshagirirao, A. |
| 6. Subhadra Bai, K. (W) | 13. Ramarao, G. |
| 7. Kamala Bai, K. (W) | 14. Mahaswara Rao, B. B. V. |

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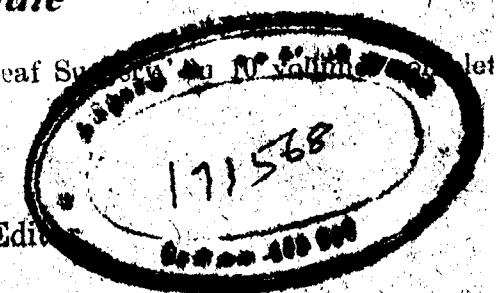
Dr. K. John, M.B.B.S., from Malabar to Coimbatore Dt,
Dr. Bhaskara Menon, from Nilgris to Calicut
Dr. E. K. P. Nambiar, from Nilgris to Chittoor
Dr. Rajamannar, from Nilgris to Kakinada
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Announcement

The Third Session of the Indian Pharmaceutical Congress will be held at Calcutta on the 30th and 31st December, 1950. Dr. Sir J. C. Ghosh, Kt., D. Sc., F. N. I., F. R. A. S. B., Director General of Industries and supplies, Government of India, will preside at this session. This Congress session will be of historic importance in that it will be held on a Pan-Asiatic basis. Reading of scientific papers and symposia on selected topics of pharmaceutical interest will form the main programme. The occasion will be utilised to establish contact on an international basis among scientific workers interested in Pharmacy and allied sciences. We are glad to extend to you an invitation to become a member of the Indian Pharmaceutical Congress Association and join in the deliberations of the Congress. We further invite you to contribute papers for reading at the meeting of the Sections of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy and Pharmacology.

The members of the Pharmaceutical Association are, by virtue of their membership, entitled to contribute papers for reading at the Session, of the annual Congress, to receive free of charge all publications issued by the Association and to fill any office of the Association on being duly elected thereto. Suggestions regarding suitable subjects for discussion meetings will be also welcome from them, which should reach the undersigned before the 30th of June, '50.

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The first International Congress on Diseases of Chest is to be held in Rome on September, 17-20.

∴ ∴ ∴

Doctor: "You call yourself a mechanic and do not know what the trouble is with this car. You can't pull on like that in my profession".

Mechanic: We have new models almost every year with plenty of new devices whereas you are working on the same old model from the beginning of the world, don't you?

∴ ∴ ∴

The couple were interviewing the land lady for a sub-tenancy in the house.

"You see we have no children" one said, as a plea to give them a place.

"All right, all right" said the lady.

"But, don't restrict on my account. I am fond of babies."

∴ ∴ ∴

"Please examine me doctor. I feel so drowsy that I could sleep standing."

"What is wrong with it, my dear man. The donkey does it, doesn't it?"

∴ ∴ ∴

Pompously intruding into the crowded clinic, the stout gentleman shouted, "My hair is falling out, doctor. Can you give something to keeping it in?"

"Certainly", replied the doctor and handed over to him a small empty cardboard box.