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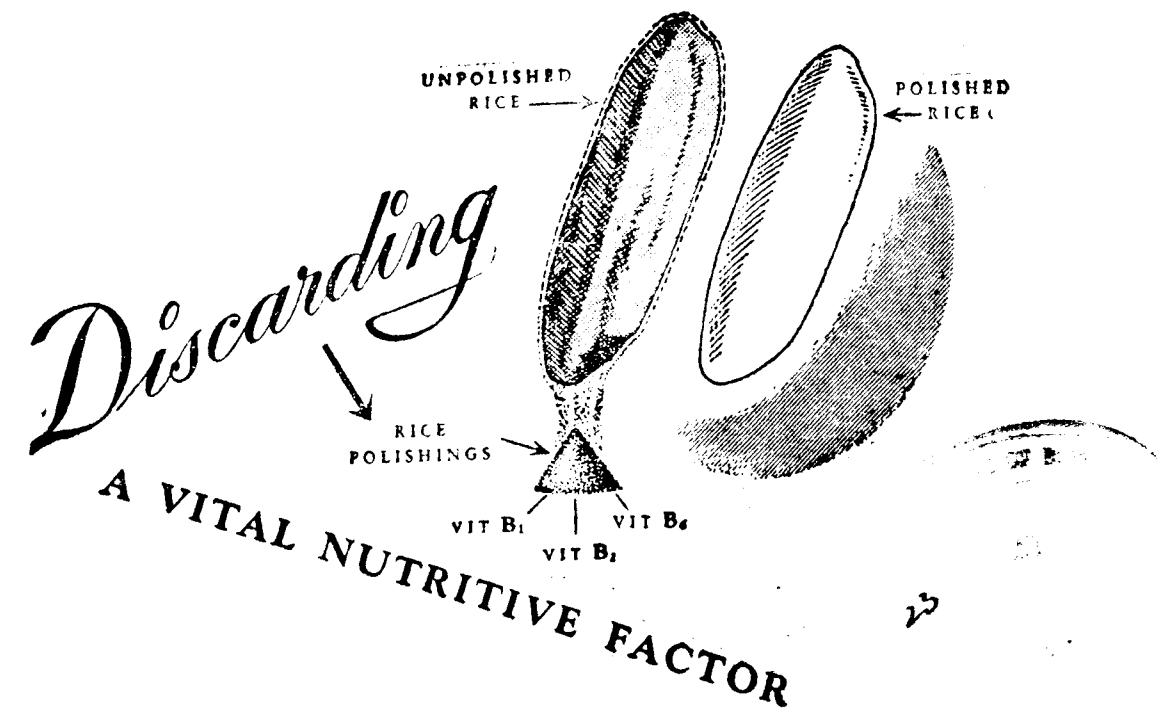
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[No. 1

SURGERY IN THE RELIEF OF PAIN

BY

B. RAMAMURTHI, M.S., F.R.C.S.

Neurosurgical Unit, Newcastle upon Tyne

Relief of pain has been one of the greatest aims of medicine since the day when humans first walked this earth. Pain, described as the greatest gift of nature to humanity, serves as a warning of disease. All diseases where pain forms an early symptom naturally get treated early whereas serious diseases like malignant growths do not come to light because of the absence of this benevolence of nature namely pain.

But pain, though a useful friend, has to be relieved when it goes beyond a certain level or persists beyond a certain time and one of the great duties of the physician is this relief of pain.

Pain can be relieved obviously by removing the cause of pain. In most of the cases this is possible by drugs or by knife and with the removal of cause, the pain subsides. But there is a certain percentage of cases in which unfortunately the cause is not removable though *known*. There are certain other cases in which, though the pain is severe and incapacitating, the cause of the pain is *unknown*. It is with the latter two types we are chiefly concerned here.

Unfortunately medical men are only too familiar with those cases where a known cause of severe pain is irremedi-

able. Commonest of these of course being advanced malignant diseases. How many of us have not been moved by the most pitiable sight of a woman with late carcinoma of the cervix rolling in agony with severe pain in an already emaciated condition—the person with advanced intraoral carcinoma with half his face eaten away by malignant disease: cancer of the bladder, of the prostate, of the rectum—examples can be multiplied. In most of these cases the growth is so advanced and requires such a radical removal as is impossible considering the site and the size of the growth. Removal of the cause of pain being thus precluded we perforce fall back upon palliative means—Palliative Irradiation with Radium or deep X-ray being considered often. This is almost useless in the presence of severe secondary infection which is always present and almost always flares up with irradiation. Being deprived thus of a useful physical means, the doctor has to resort to the common method of relieving pain—by drugs—i.e. by dulling the capacity of the pain receptive centres in consciousness, to receive the pain impulses. This method of using analgesics is found useful in the early days of the pain, but later on the dose of drugs has to be increased as the pain relieving effect begins to lessen and there is always the risk of cumu-



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lative poisoning. To a certain extent of course this is circumvented by a change of the analgesic, but finally a stage is reached when no drug is of great use (unless death has mercifully released the victim). No wonder many physicians are firm supporters of the idea of Euthanasia—voluntary merciful release from unconquerable pain.

But surgery here offers a scope—at least in a good percentage of these cases. If dulling the pain reception centre in consciousness is not successful why not interrupt the pain impulses on their way to consciousness—in other words cut the pain conducting paths. Pain from limbs and trunk is carried by the peripheral nerves to the spino-thalamic tract in the spinal cord. This tract is joined in the brain stem by the pain conducting tract from the head and face and the combined path reaches the thalamus, where pain is at present supposed to reach consciousness. (There is some evidence to show pain may be conducted partly in the posterior columns of the spinal cord too. This will be referred to later). If we interrupt this tract, pain cannot reach consciousness. Interruption of this tract in the spinal cord is a surgical possibility and is being widely practised to relieve pain arising from irremediable causes in the limbs and the trunk. Certain aspects of touch sensation are also carried up this tract, but loss of these aspects is not noticeable, and even if noticed it does not cause any disability. This interruption of pain tract known as *cordotomy* is a very useful measure of relieving pain and is used chiefly in the following conditions—to cite a few—carcinoma of the cervix, carcinoma of the prostate, cancer of the bladder, painful hip joint diseases which are not relieved by orthopaedic means and pain caused by adhesions in pelvis after a treated inflammatory or malignant lesion.

In addition to these, it may also be used in the peculiar condition known

as phantom limb pain. Here, a man who has lost a limb, still continues to feel severe pain in the toe or foot or finger or wrist which is not present. If asked he will exactly point to a spot in the missing limb. This is due to irritation of cut nerve stump—irritation of the fibres that were conveying sensation from the missing part of the limb causes pain in the missing part. Many methods have been tried to relieve this—one of the useful ones being cordotomy.

Cordotomy is not a cure—but is a merciful relief from pain for whatever time the stricken patient might live. Carefully performed, the results of cordotomy are very good in most of the cases and damage to other functions of the spinal cord is not caused. Instead of the tract being cut by knife, alcohol injection into the spinal canal was tried but was not found very successful because of the uncertain results and the commonly present side effects due to damage to the other tracts in the cord. Very rarely a well performed cordotomy may fail to give relief; probably in this case the pain was partly conducted by the posterior columns.

Another useful procedure for relieving pain is *Sympathectomy*. It is not definitely known whether any sensation is carried up the sympathetic system—but it is believed to be so. By interrupting these sensations pain may be relieved. This is shown by the relief of pain in certain cases of phantom limb and more so in the case of pain from the heart—anginal pain; where the cause is known to be ischaemia of the heart muscle. Certain selected cases of angina pectoris get relief by a carefully performed extensive upper thoracic sympathectomy or by alcohol injection into the upper thoracic ganglia. This procedure is believed to interrupt the sensory fibres from the heart muscle. While experts are discussing the advisability of in-

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interrupting these pains, which are only danger signals from an overworked heart muscle, the relief to the selected patients is unmistakable.

Pain in the lower and the upper limbs due to deficient blood circulation is also relieved by sympathectomy; in those cases where the cause of the deficiency of blood is the spasm of blood vessels: e.g. thrombo-angeitis obliterans, Raynaud's disease. But here sympathectomy relieves pain by removing the immediate cause of pain, namely deficient blood supply.

A more drastic procedure for relief of pain is PREFRONTAL LEUCOTOMY—cutting the association fibres from the frontal lobes to the lower emotional centres. This is extensively used as a method of treatment for certain mental diseases. As a procedure for relief of intractable pain its indications are limited and the decision to do this should be adopted only after careful consideration as changes in personality of the individual may occur. It is usually done in those cases of irremediable pain where there is a strong psychological background. In these cases even after removal of the cause of pain and cutting all the pain paths leading to the brain, still the patient suffers from the original pain as this idea of pain has got so fixed in his conscious centres. Only in such cases is a prefrontal leucotomy considered as a therapeutic measure.

Taking the second and the more interesting group of cases where the cause of pain is NOT KNOWN, we are faced with an intriguing problem. The common examples of this group are some types of causalgias, migraine, and the idiopathic neuralgias, namely trigeminal and glossopharyngeal.

In causalgia, there is a severe burning pain which is not relieved by ordinary means. Certain nerves e.g. the median, are more prone to this type of pain and even a small injury may

cause it. The actual cause is not definitely settled. The interruption of pain pathway in the spinal cord by cordotomy, sympathectomy and even prefrontal leucotomy have been tried with variable success.

The problem of migraine is more fascinating. The story of a usually one-sided sickening headache coming on at intervals and persisting for a variable time and finally disappearing is common. It is usually associated with visual and gastric disturbances. What is the cause of such a pain? The site of origin of these painful impulses, the path up which it travels and the mode of its reaching consciousness form part of a very interesting experimental study of my chief, Mr. G. F. Rowbotham, Neurosurgeon, Newcastle upon Tyne. He propounds the theory of a migraine cycle where a cause in the psychic plane upsets the physiological cycle in which the hypothalamus and the sympathetic system play a great part. He is able to prove that in certain cases interruption of sympathetic fibres, and in certain others of the parasympathetic, gives relief in persisting migrainous neuralgia. The discussion is too big to be entered into here.

The problem of trigeminal neuralgia has been fairly SATISFACTORILY solved by the neuro-surgeons, though here too the cause is unknown. Intracranial section of the trigeminal root gives better and more lasting results than alcohol injection of the ganglion. In both cases there is inevitable anaesthesia of the side of the face.

Pain is difficult of definition. No one definition covers it and people having pain define it in a variety of ways. It is a relative term. What is painful in one circumstance or to one person may not be so in another circumstances or to another person. Here the great part played by the mind comes. The idea of the all-pervading nerve force of VYANA VAYU as the conductor of sensory impulses

including pain, reaching the consciousness of the ego (ATHMA) through the mind, is a unique conception in Indian Medicine.

The sensory impulses of touch, sight, hearing, smell or taste (Panchendriyas) after reaching the material brain centres, must reach the mind (or consciousness) before the person becomes aware of it. This is an obvious everyday fact. We may have heard a lecture or a piece of music, but never become conscious of it, if our mind has been pre-occupied with something else. Similarly with the other senses of touch, vision, smell or taste. Taking

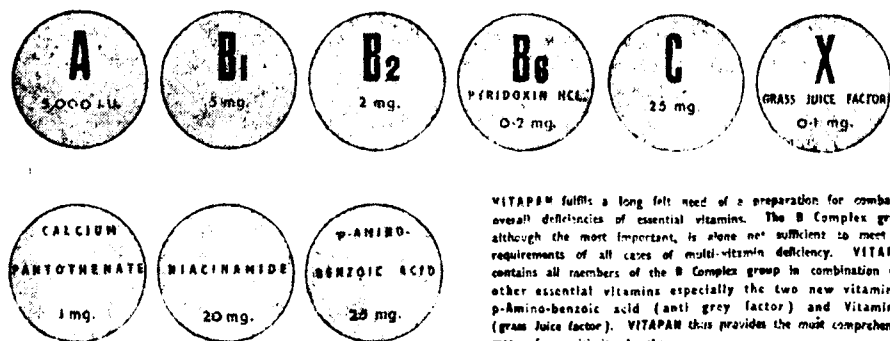
this analogy, if the mind can take itself away from the impulse of pain, no pain will be felt. This is the great secret of YOGA—namely CHITTA VRITTI NIRODHA, controlling the activities of the mind. But the majority of us are too frail to achieve the greatness of Yoga either for our benefit or for the benefit of our patients. Hence a great awareness is needed of the possibility of surgery in relieving pain so that we might extend to those stricken sufferers of severe pain all the available means at our disposal and thus try to achieve a great aim in medicine—namely relief of pain and suffering.

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INDUSTRIAL MEDICINE

BY

K. S. KRISHNAN, M.B.B.S.,

Formerly Hon. Surgeon, Government Royapettah Hospital,
Chief Medical Officer, the T. V. S. Workers' Hospital, Madura.

Industrial Medicine is now a vast subject. Since the time allotted for this paper is very short I have had to apply the guillotine mercilessly and the paper now emerges in a somewhat mutilated form. I have tried my best to make it most interesting and least scrappy. Before I proceed with the paper I have to clarify my position with reference to this paper. Any observation I make about an industrial concern does not mean that I am referring to the conditions in the T. V. S. workshop and transports with which I am connected, unless, I make specific mention. This paper is the result of personal experiences, visits to some other factories and information collected from other Industrial medical officers and books.

I. Historical Introduction :—

The earliest reference to something of industrial medicine was in the Greek and Roman periods. Aristotle seemed to have interested himself in the investigation of certain disabilities resulting from certain sports. Pliny, and latter Hippocrates described the toxic effects of sulphur, zinc and lead. It appears Galen described the symptoms of lead poisoning in the 2nd Century A. D., Herodotus is said to have written about the nourishment of industrial workers. The study of compensation of injuries dates back to 643 A. D. A serious attempt to study the toxic action of chemicals and vapours was made in the 15th Century. With the advancement of Chemistry more and more substances in relation to industrial hazards were investigated in the 16th & 17th centuries. In 1551 George Agricola investi-

gated and reported on the health hazards in mining. For example, he said that "in the mines of the Carpathian mountains women were found who had married seven husbands, all of whom the terrible consumption had carried off to a premature death." In the earlies of the 18th century Bernardo Ramazzini, an Italian, who is considered even today as the father of industrial medicine had produced an excellent treatise on the hazards to industrial workers engaged in nearly one hundred common trades and professions of his day. For a century there-after the book was translated into English, French and German. Even today this work is considered to be classical. The nineteenth century found England, France and Germany entering the field and producing concrete literature on the subject. To Germany goes the credit for carrying out animal experiments on the toxic effects of gases and vapours and to put the pathology of industrial diseases on a firmer basis. The industrial revolution in England exposed workers to more risks and consequently some physicians made individual studies of occupational diseases. The results of their labour was the passage of the Factories Act preceded by the reports of the Factory Commissions. America has been a new comer, as her first contribution to the literature was in 1837 but today she stands foremost among the few countries which have raised industrial hygiene to a high pedestal. In Russia within the past quarter of a century great strides had been made in industrial medicine in all its aspects and the industrial workers get better medical aid than the rest of the population.

II. The back ground of Industrial Medicine in India :—

Though Russia, Sweden, America and England had been practicing Social Medicine in some form or other, our erstwhile rulers did not think it worthwhile putting us in the way during the 100 years of their rule. I think many among you have not taken any interest in this new branch of medicine. I may say briefly that this is an application of the social implication of medicine to the industrial community, besides giving medical aid in the usual way. This is but one aspect of the so-called "Social Medicine" about which alas! very little is known to the medical profession in India. It is wrong to think that this type of medicine is applicable only to the industrial classes. The principles underlying can be most advantageously applied to the general medical practice as well. We have at the helm of affairs in India, highly seasoned statesmen who have proved to be second to none in the world. Within the very first year of our freedom they have very successfully handled many problems which no other part of the world had faced in all their history. They are imaginative, unconventional and bold and having toiled among the masses, they have an insight into humanity at large. They have great visions of the future. The Hon'ble Shri. Jagjivan Ram is the first minister in the world to get legislation passed for the institution of Provident Fund for the benefit of casual workers. It may well be that our country is going to lead the world in solving intricate problems of labour. The Hon'ble Dr. S. P. Mookerjee in his presidential address at the Indian Industries Conference in December last, said that India was a land of villages and the Government must attach the greatest importance to the development of cottage and small scale industries in order to ensure a balanced national economy. The agricultural industry and agricultural labour have yet

to gain any kind of recognition for medical relief in respect of diseases, arising out of agricultural operations. The problem in India will therefore be more complex than it is in other countries, on account of the diverse kind of work to be done and relief to be afforded to the large-sized, medium-sized, cottage and agricultural industries. In our country it will be possible to provide a small and successful health and social centre in every industrial village. If doctors are not available for this work the employment of trained industrial nurses will go a long way in administering social medicine to the industrial population in villages.

The greatest experiment in social service and medical relief has been started in England by the plan formulated by Sir William Beveridge. In India a beginning has also been made in this direction by the Workers State Insurance Scheme now put into operation. The success of such large schemes depend to a very great extent upon the proper application of the principles of industrial medicine and side by side with making progress in social service the state has got a paramount duty to see that there is proper development of this aspect of medicine. Industrial medicine is almost entirely a new science in our country. In our free India we should not copy the mistakes of other countries. We are living in a country with appalling illiteracy, ignorance, poverty and diseases and we should approach the problems with a really social mind. "Success in social life lies in the path of the man who can make himself valuable to those who are all too frequently overlooked in the mad rush of the machine age." (1) For us industrial medicine should be but an inauguration of social medicine for the masses. The workers are comparatively more disciplined than the common folk and so a beginning in social medicine is best made among them. Once we start, we can develop it on our own lines after studying the

experiences of more advanced countries like Russia and America. In Russia social workers are among the most highly paid and honoured but unfortunately in India they are neglected in every possible way. Nevertheless, today we require an innumerable number of socially-minded individuals to develop the India of our dreams. Our top-leaders are toiling hard towards the same goal. The general practitioners who form the foundation for the building of the nation will have to help them to the utmost. This help will certainly be forthcoming if the Government will encourage only efficiency, abolish caste system in our profession such as licentiates, graduates and post-graduate diploma-holders, and make the best use of the medical personnel already available.

In other countries industrial medicine first came into existence not out of philanthropic motives but out of the selfish interest of the industrialists, to reduce the hidden cost of sickness to industry and to appease the workers. Diseases had not been considered in relation to the whole body, its environment, physical, social, economical and psychological. In the words of Ryle, they have not thought of the patient as a whole man or woman with a home and anxieties and economic problems and a past and a future and a job to be held or lost. (2) The mental make-up of the patient which is a resultant of social and economic forces has an important influence in the causation and cure of diseases. We have to educate the workers to correct them to remove their prejudices and superstitions and give them intellectual help in the solution of these problems. Socio-medical work has got to be carried out to improve the standards of health among a population living under the stress and strain of a civilised life. It is not meant that this form of service is to take the place of clinical and laboratory methods of investigation of diseases but that it should greatly sup-

plement them. Housing of industrial population must get top priority in Industrial schemes, if certain diseases, particularly Venereal diseases, are to be avoided. A socio-medical inquiry which is being conducted by our hospital staff (T. V. S. Workers Hospital) at Madura has already started revealing interesting facts about the social pathology of diseases.

Industrial Disabilities & Rehabilitation :—

We are yet to produce statistics on industrial accidents, occupational diseases, industrial mortality and morbidity and social conditions among our workers. Mechanisation of industry presents many hazards for which preventive methods have to be found. Many chemicals with known and unknown composition will be used in many of the manufacturing processes. There are the noxious dusts and vapours which emanate from many mechanical process. X-rays will be used increasingly in industrial testing operations. Atomic research will introduce newer problems of health hazards. We have already large mining industries which have claimed a high toll of deaths and disabilities. We shall have to start a safety engineering movement and institutes for research in industrial psychology and toxicology. The susceptibility to accidents, the so-called "Accident-proneness", in most cases has been proved to have a psychological basis and can be avoided only by a careful job analysis and a proper placement of the workers. Our national Government is no doubt highly concerned about this state of affairs and we shall hope that as a first step they will very soon open labour welfare schools as in the Soviet Russia, to properly train the present and the future labour inspectors.

Most of our industrialists think that the disabled workers are inefficient. So the problems of rehabilitation and resettlement have not entered their minds. There are American statistics to show that accident and absenteeism

rates and the production figures do not differ appreciably between the handicapped and able bodied workers. There is even some evidence that the disabled is slightly more efficient if properly rehabilitated and resettled. "Rehabilitation pays economic dividends" Donald Stewart (3) points out, "The Austin Motor Company has shown the value of a planned scheme for industrial rehabilitation. Here a special rehabilitation workshop was set up some four years ago as part of the general scheme of health supervision at the factory. During this time over 1000 disabled employees have passed through the shop The 1000 workers who now belong to the shop group exert a significant influence on the attitudes and morale of their 16,000 colleagues in the firm". To this statement I may add that improvement of morale is the *sine qua non* of all our efforts. Programmes for the rehabilitation of the diseased and the injured must include training for new and suitable vocations and prosthesis. In the United States the cost of the complete administrative machinery and 50% of the cost of the rehabilitation of the disabled workers are borne by the state. Even Cardiacs are of late resettled in industries.

Industrial Medical Service in India :—

While the usual diagnostic and curative work is done the most important function of the service is the prevention of both industrial and non-industrial diseases among the workers. The worker in India has to be taught a good deal about personal hygiene. His mental hygiene nutrition should receive special attention from us, if his output is to be increased. He is most superstitious. He requires education on environmental hygiene, social hygiene, diet, home economics, family responsibilities, recreation and in fact on all problems which stand in the way of a healthy and a satisfactory social living. The services of at least three specialists must be available to him

namely dermatologist, ophthalmologist and dentist. The oral hygiene programme cannot be too much emphasised. The habit of indiscriminate betel chewing among our workers, while it may supply a little more Calcium to the body, is a potent cause of dental sepsis and is directly and indirectly responsible for a considerable number of man-days lost to industry.

The Industrial Medical Officer :—

May be full-time or part-time, depending on the size of industry and finance allotted for the service. Even in the United States some large and many medium sized industries employ only part-time medical officers. The functions of the Officer may be advisory or executive. It is difficult to demarcate either of them. Much depends on the relationship between the doctor and the management. In small industries an ideal medical officer must be something of a safety engineer and a psychologist. The essential functions of an industrial physician may be mentioned here.

(1) Pre-employment or pre-placement examination and certification of fitness for jobs according to physical and psychological standards. The object of this examination is not to select sturdy individuals but to see that the applicants are not below certain minimum standards and to decide for them the jobs suitable to their constitution and temperament. When there is manpower shortage as in times of war the standards may have to be brought down to a low level. But always in the case of certain types of workers such as the drivers of public transport vehicles a high standard of physical and mental efficiency must be insisted on.

(2) Examinations when a worker returns to duty after illness to ascertain whether he is fit enough to resume work.

(3) Rescue and resuscitation in accidents.

(4) Diagnosis of the medical and psychological causes of accidents.

(5) Diagnosis, treatment and prophylaxis of occupational diseases.

(6) Periodical examinations for health maintenance.

(7) Practice of preventive medicine including the study of nutrition of workers.

(8) Carrying out the usual diagnostic and curative work of non-industrial diseases.

(9) Control of the sanitation of the plant.

(10) Psychological study of men at work.

(11) Health education and propaganda.

(12) Maintenance of records and statistics.

Henry S. Brown, President of the American Association of Industrial Physicians and Surgeons summarises the attributes of an industrial doctor thus :—"The modern well-trained industrial medical man should be a physician, surgeon, psychiatrist, toxicologist, hygienist, dermatologist, engineer, writer and teacher—a very large order for any human being, but he must at least be very proficient in one or two and surround himself by or have access to those who can round out the requirements of his job." (4) Even with those qualifications, in our country the present position of the industrial medical man is not a bed of roses. There are many difficulties facing him in his relationship between the management and the workers. And in the discharge of his duties the medical officer fails in his task for reasons absolutely beyond his control.

Industrial Psychology :—

Industrial psychology forms an integral part of industrial medicine and in its proper application depends the morale and health of any factory.

The increased tempo of life everywhere produces many psychiatric problems. The men at work require a proper handling and guidance if human waste in industry is to be avoided. In our country they are becoming rapidly conscious more of their rights than their responsibilities. "There can be no rights without responsibilities." All prospective industrial workers must pass through a school where a short preliminary training in various jobs is given. Here frequent appeals must be made to their patriotic sentiments to make them realise their responsibilities to society at large. They should be given a general idea of the health and physical hazards in industry and should be impressed that the avoidance of such hazards largely depends on themselves. Then, in the industrial establishments when the men are recruited they must be given, as in other advanced countries, psychological tests for intelligence, mechanical aptitude and emotional stability. Unless they are properly selected and placed in jobs suited to their temperaments and capacity, a group of malcontents will result and become a menace in the plant. After the recruitment they must be made to work under enlightened supervision. Unfortunately the foremen in our country are not sufficiently educated and I know many are illiterate. The training that is generally given to persons before they occupy positions as foremen and the scientific principles on which they are selected are particularly absent in our country. They have to be the liaison between the operatives and the management and should hold the scales evenly between them. But, they are bad psychologists. Remember, a bad foreman can produce not only many types of neuroses but also discontentment among the men under this supervision. He may be instrumental in bringing about labour unrest. He can make and mar progress. So it is imperative that he should be provided with facilities for good training in

foremanship. He must develop in himself qualities of leadership and must realise that his work is not merely to guide men at jobs but to correctly and convincingly interpret the view points of the management and workers vis-à-vis. He must be able to inspire and to infuse a sense of responsibility among the operatives under his care. Such a training of foremen is the responsibility of both Government and Industry.

Neuroses in industry are also due to improper job selection and maladjustments of individuals. The psychopathology of some of the occupational neuroses have been studied in detail. Most of you have read about the neuroses such as writers' cramps, typist cramps, etc., Of similar nature are the occupational cramps, occurring in Industry. There is an interesting condition known as "miners' hystagmus." Though various factors such as defective illumination and changes in atmospheric pressure had been incriminated it is now known that there is a fear complex underlying the condition.

Industrial Recreation :—

Recreation forms an important part of any industrial health programme. It fosters good employer-employee relationship. It gives a sense of comradeship and certainly improves morale besides the physical well-being. It enables the worker to express his personality. It increases production. May Smith (5) records that the output increases in a number of ways during weeks preceding annual holidays and Easter holidays and even at the anticipation of a fancy dress dance. Three kinds of recreation are usually provided, namely physical, excursions, and cultural.

Before leaving this subject of industrial psychiatry I should make a reference to a few other important subjects where a combination of psychological, physiological and pathological factors are concerned—I mean industrial noise,

industrial fatigue and industrial sickness absenteeism.

Noise in Industry :—

I must first tell you about the effects of music on human psychology. Music soothes passions. From time immemorial it has been associated with safety and comradeship and has been advantageously applied to group activities. Physiologically it reduces fatigue and increases the efficiency of workers, thus stepping up production. Noise, on the other hand, infuses a sense of fear. It inhibits the contractions of the stomach. Long continued noise produces organic changes in the ear and leads to chronic deafness. Noise can be measured and methods of making factories noise-proof have been suggested. In some plants especially in Russia, a form of mild background music during work hours has been provided with pleasing results. Great interest centres round a physiologically allied condition known as "Repetitive ailments" of the hand. Men whose work involves repeated operations of high frequency e.g. riveting and handling of vibrating tools suffer from this disability. The hands get cold and numb even if they are gloved. An investigator found that immersion of the hands of two such workmen in water at a temperature between 15 & 20°C resulted in marked cyanosis and loss of sensation.

Industrial Fatigue :—

The phenomenon of fatigue has been extensively studied in relation to industry. It results from psychological and physiological causes. Monotony leads to fatigue. Uncongenial surroundings and unenlightened supervision produces in men and women at work, a sense of frustration and early fatigue. Actually no one works continuously and there is always surreptitious ways of taking rest the *modus operandi* depending upon the temperaments. Periodic changes of work whenever possible are effected to relieve monotony. One

useful finding is that the incentive in the so-called piece-rate system—i.e. payment for the number of pieces turned out, irrespective of the number of hours of work, reduces fatigue. Faulty postures and prolonged hours of work lead to fatigue. It has been found that a light but high carbohydrate diet supplemented by fluids containing sodium chloride tablets taken in the midst of work reduces fatigue and increases work efficiency. In highly industrialised countries measures have been adopted to counteract fatigue by the provision of small mid-morning and mid-afternoon rest pauses 5 to 10 minutes—during which period the workers are given a snack of carbohydrates and milk while music goes on. Since these pauses have official sanction behind them they are better enjoyed and so are more effective than surreptitious rest in combating fatigue.

Industrial Sickness Absenteeism :—

Conditions of work, rest and even the level of wages have a bearing on the incidence of sickness among industrial workers. People on night shifts go down in weight and contribute to sickness absenteeism because they cannot have natural and undisturbed sleep during day time. Lack of sleep leads to lack of resistance to disease. Men who have to walk long distances to the works everyday get easily fatigued and yield to the temptation of applying for sick leave. I have already alluded to the part that psychology plays in sickness absenteeism. The capacity of workers to work in spite of minor ailments depends much upon their own mental make-up as well as that of their foremen. Supervisors who scold and find fault with workmen constantly are instrumental in increasing the sickness absenteeism. The young workers are the worst sinners in exaggerating insignificant ailments. A study in the T. V. S. workshops and transports at Madura has shown that the unmarried and the lower age groups contribute

more towards absenteeism. Further absenteeism is highest on Mondays. This is due to the fact that many workers especially the young do not take sufficient rest but spend themselves completely on Sundays. May Smith's observation that output is nearly always low on Monday and at the end of the week is significant here. A study of the sickness absenteeism in the T. V. S. workshops and Transports for the 6 months (March to August 1948) showed the highest figures on Mondays and the lowest on Saturdays. In that period the number of man-days lost were 2449 out of which absenteeism on Mondays contributed 22.2%, Tuesdays 16.5%, Wednesdays 16.3%, Thursdays 14.9%, Fridays 16.3% and Saturdays 13.2%. 75% of the man-days lost in September this year were due to men who were underweight. As in other countries the largest single cause of sickness absenteeism is disease of the upper respiratory tract. Then come the so-called rheumatic diseases in which upper respiratory tract infections is considered to be an aetiological factor. In this connection we must remember what Ryle says: "All diseases of high incidence may be said to have a 'social' as well as an 'individual pathology.' Referring particularly to rheumatic fever he says, "It has been stated that the disease is more common in northern than in hot southern climates but the medical statistics of tropical countries are at present unsatisfactory and the rarity of rheumatic fever in countries such as India should not be over-emphasised. In Madras in 1944, I was shown a number of cases of grave rheumatic heart disease in a single ward of one hospital. The squalor and poverty in many of the working-class districts of Indian cities are appalling and although seasonal and weather variations may be less favourable there than in our own country to the occurrence and spread of catarrhal infections, density of population and living conditions should be far more so."

The Nutrition of Workers :—

(6) The medical Director of the Caterpillar tractor Company in America has organised a "Fat Man's Club" among his workers to bring down the weights of obese individuals and I think we in our country should organise a "Thin Man's Club" to put up weight. Low vitality and poor nutrition have been proved to be important causative factors in industrial accidents. The average worker in India is under nourished. There is a scarcity of food and nothing much can be done to improve the quantity in view of the inflation of currency. Meat, eggs and fish have become very costly and the animal protein moiety of food is very low. Dairy products have become scarce and even the price of the vegetables is very high. Before we leave the subject of nutrition mention should be made of the prevalence of gastric and duodenal ulcers among the workers in South India. Large number of workers come to us only when the symptoms have become intolerable. Sickness surveys in factories will unearth a large number of cases of potential and early disease. These cases should be provided with a subsidiary diet of milk or milk made product at mid-morning and mid-evening intervals. Again there are the transport worker who cannot take timely meals and the night shift workers who are particularly liable to get peptic ulcers. These men should receive special attention.

Occupational Diseases :—

The subject of occupational disease is one of the most important aspects of industrial medicine. It is so vast that it is not possible in a short paper like this to do justice. The occupational diseases that we may have to deal with will depend upon the nature of the industries that we are going to develop in our country. Among the strictly occupational diseases about 60% are dermatoses, about 10% are those

affecting the eye and a smaller percentage are due to systemic poisons. We have to carry out environmental surveys within the factory. There is scope for considerable research and we require the whole hearted co-operation of the industrialists in our country. I have to point out here to a great American institution namely "The Industrial Hygiene Foundation of America" which is the only one of the kind in the world. It is a research organisation run by voluntary contribution from the Industries. Its finance is sound and is doing excellent work. Is it too much to expect that we may also have a similar institution in our New India in the near future?

Women in Industry :—

Women in industry present the same problems except that they require smaller hours of work, maternity leave and benefits, creches and other facilities.

Industrial Medical Education :—

In our country no facility worth mentioning exists. The subject must be introduced in the under-graduate medical curriculum and at least 10 hours with visits to plants must be allotted. Understudy appointments must be made available to doctors in the medical departments of large industrial establishments. A degree course in the subject in our universities should be started and it should include research in Industrial Toxicology, Industrial Physiology & Psychology, social medicine and statistical research.

Before I finish I have to refer you to the broadcast on the 5th September this year by the Hon'ble Shri. Jagjivan Ram, in which he outlined the Government programme to make labour happy and contented and an excellent article in the *British Medical Journal* received a few days ago (September 11th issue) on "Human Relations in Industry" by Sir George Schuster which must be

read carefully both by medical men and industrialists.

References

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| (1) Wolfe, "How to be happy though Human" Routledge, London. | (3) Donald Stewart, Lancet, 15 May 1948, p. 737 |
| (2) Ryle, speech about the "Institute of Social Medicine at Oxford." | (4) Brown, Industrial Medicine, March 1948 p. 86 |
| | (5) May Smith, 'An introduction to Industrial Psychology' Cassel, London. |
| | (6) Ryle, "The natural History of Disease", 11th Ed. Oxford. |

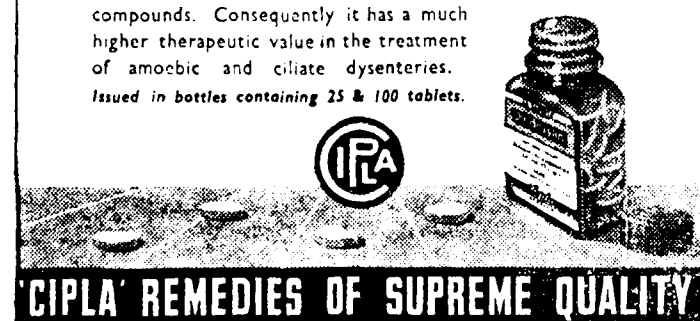
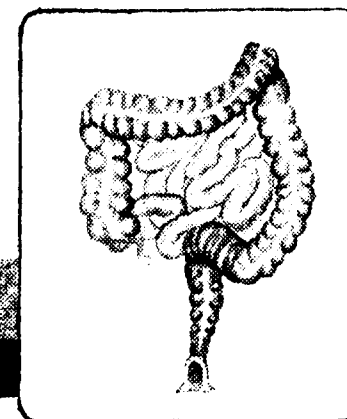
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ABSTRACTS FROM THE CURRENT MEDICAL LITERATURE

WIND—Charles Baker, O. B. E., M. D., F. R. C. P.—*Clinical Journal* Mar-April '49

Wind is a common complaint of many patients. It is important because it is a symptom which may lead us to a diagnosis of treatable disease and it is also a symptom which is often unassociated with organic disease at all. In such instances, though it may have no immediate or future effect on the physical health as occurs in disease, it may constitute a grave disorder which dominates the life of the patient and is an intolerable burden to those who have to live or associate with him. In addition, misinterpretation of the symptom may lead to misdiagnosis which may have far-reaching consequences and whether it indicates disease or disorder, it is a symptom which is too often disregarded.

Patients have very definite misconceptions about wind, and it is essential that we should not fall into the same errors. They think it is always due to the production of abnormal gas in their insides and it is not surprising that the more introspective should therefore assume that their intestines are diseased. They are unaware that it is normal to swallow air and that the mixture of gases oxygen and nitrogen which constitute air are, in small quantities, normally present in the upper alimentary tract, nor that other gases are normally produced by bacterial fermentation in the lower alimentary tract. They make no distinction between air that is swallowed and gas that is produced, and in this country both are politely called wind. The American patient is more accurate when he complains of gas, but one gathers that, although he is better informed on health matters by literary digests, he is not much clearer on this digestive distinction.

Of the air which is normally swallowed, the oxygen is largely absorbed, leaving the nitrogen to be passed as odourless flatus, about a litre a day being the usual amount. To the nitrogen from the swallowed air is added other gases produced by bacterial activity, mainly in the large gut, some of which are also odourless. The smell of wind is therefore not an absolute means of distinguishing between air swallowed

and gas produced, but it is a useful index and one which the patient can understand. There is also an exchange of gases through the walls of the alimentary tract, according to the physical laws of diffusion of gases through a semipermeable membrane. A mixture of gases is therefore normal in the stomach and bowels and while in normal conditions "the gentle wind does move, silently, invisibly," all are at times conscious of its presence. It is when the gases are in excess or the proportions are abnormal that it causes the distressing system of wind which may, or may not, mean disease.

It will be convenient to consider the symptom in the three forms in which it may present. First there is belching or burping, which is associated with gas in the stomach. Then bloating or distension, in severe form known as tympanitis, which is often associated with pain and causes the patients to loosen their clothes. Thirdly is the passing of excessive amounts of flatus due to gas in the colon. It is a pity that the old English verb, both transitive and intransitive, to fart, is no longer "indecent use" (O. E. D.) for it is helpful in distinguishing between wind passed up and wind passed down. The polite suppression of the word fart and the survival of the word belch in modern English usage is, of course, paralleled by the behaviour of the windy sufferer who conserves his lower wind for private expression but often fails to show the same consideration for others by belching in public. In practice, belching, bloating and farting are often all present in the same case.

Belching. Belching of gas other than air is uncommon. The hydrochloric acid prevents fermentation, but in achlorhydria a small amount of gas may actually be produced in the stomach, particularly if there is delay in its emptying. The belching of foul wind may therefore be a symptom of carcinoma near the pylorus and the onset of this symptom in the middle aged or elderly without a history of previous indigestion is more than suggestive. In pyloric stenosis, with gross retention of the stomach contents, fermentation steadily

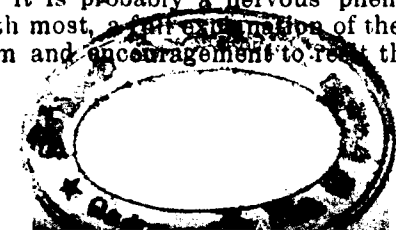
produces gases and "unpleasant" belching will occur. A year ago there was a report in a medical journal of someone who lit a cigarette in the cinema, whereupon a sheet of blue flame shot forward over several rows in front of him. This story produced several letters recounting similar dramatic incidents, but I must stress that it is not a common or presenting symptom in pyloric stenosis. Another condition in which foul wind may be belched is gastro-colic fistula where there is a communication between the stomach and colon, usually due to a neoplasm of one or other organ. Owing to the fact that "bowel wind" is belched, the patient is often shy to mention it and a leading question may be needed to elicit this diagnostic symptom. In this condition, which is not common one, the small intestine is short-circuited so that there is no absorption of food and extreme wasting and diarrhoea results.

Wind which is belched is usually swallowed air. We know how the baby after its feed will bear witness with a contented burp that it has swallowed air. We experience the same thing when we bolt our food or when it contains large quantities of air with new bread. An air bubble in the fundus of the stomach is normal and will be seen under the left lobe of the diaphragm by X-rays. An increased amount of air in the stomach will cause an uncomfortable feeling of fullness which is relieved when the excess is spontaneously removed by a belch or by the stomach contents moving on through the pylorus. The efficacy of sodium bicarbonate in such cases is due to the production of carbon dioxide which helps these two means of relieving stomach distension. But if belching is consciously resorted to, it defeats its object. Repeat belching is associated with further swallowing of air which adds to the air bubble, increases the discomfort, and so a vicious cycle of events is set up.

In what conditions is there excessive swallowing of air? First of all excessive salivation will carry down air with the saliva and this will occur not only in painful and septic mouths but reflexly in nervous people and also in duodenal ulcer. It is very common in old people with uncomfortable mouths and unsatisfactory dentures; they suck their teeth and waggle

their plates for hours on end and swallow air in the process, which is so often followed by belching, rumbling guts, and sometimes actual pain from distension. Next, diseases of the stomach and duodenum such as peptic ulceration and gastritis, gall-bladder disease, and cancer cause discomfort or pain which is temporally relieved by belching with consequent air swallowing. In such cases wind may be an early symptom and particularly important in cancer of the stomach, where diagnosis is so often too late. It will also occur in right-sided heart failure and portal obstruction, where the mucosa is congested, and in conditions away from the alimentary tract, where pain, apprehension or discomfort is a feature, as in angina pectoris, extra systoles, paroxysmal tachycardia, asthma, or the raised diaphragm of pregnancy. It is particularly common in nervous, frightened, and anxious subjects both on the isolated occasion or as a more constant feature or nervous dyspepsia. Lastly, gas in the splenic flexure of the colon causes a feeling of fullness which is often aggravated by increasing the amount of air taken into the stomach. With all these conditions in which air swallowing occurs and belching is a symptom, the treatment will be that of the underlying cause of discomfort. It is, however, most important to explain the mechanism to the patient to prevent them adding to their troubles, and they must be encouraged to refrain from belching and a simple carminative will often help them.

Far from uncommon is the patient whose air swallowing or aerophagy has progressed to a habit which disorders his life and disgusts his relatives. It is here a hysterical symptom—a substitution for some past or present discomfort. It is also a presenting symptom—they belch in your face—and is a tic or habit which is increased when there are people about, whether they be sympathetic or not. You may distinguish the aerophagist from the patient whose wind is secondary to organic disease by the frequency as well as the blatancy of the belching, and those who start from the moment they wake in the morning and continue throughout the day are much less likely to have organic disease, and it is probably a nervous phenomenon. With most, a full explanation of the mechanism and encouragement to resist the desire



to belch is sufficient. They must understand that it is a bad habit and an unpleasant habit and one that can, and should be, restrained in the same way that they deal with their flatus. Keeping the mouth open or biting on a large object which prevents swallowing may help to impress them that it is the intake of air into the stomach which causes them to bring it back, and it may even be necessary to convince them by showing them an X-ray of the air bubble. In some, however, the neurosis is so entrenched or their nervous state is so deranged that simple explanation is not enough and a complete psychological investigation and psychotherapy is needed. It is a condition that is well worth taking seriously, not only for the sake of the patient but for those who have to live with the chronic belcher, for to them a cure is particularly gratifying.

Bloating. Distension or bloating is usually associated with the symptoms of belching or farting, due to excessive air in the stomach or gas in the colon. This is particularly so when air is trapped in the upper part of the stomach and is not expelled, the condition known as Aerogastrie Bloquee. It may be caused by an inability to void an excess of air by belching as in spasm of the lower end of the oesophagus with oesophageal or high gastric ulcer, but more commonly where the air is not passed on because the stomach is divided into two by pressure from the colon which may itself be ballooned. Air bloating is therefore not necessarily associated with belching though this often aggravates it. Pain may gradually increase to great severity until it is relieved by the air passing on, which is sometimes facilitated by lying down, often face downwards, or its removal by an explosive belch or by the passage of a tube. The severity of the pain may suggest a coronary occlusion or abdominal emergency or, when the attacks are frequent, a peptic ulcer, and I have recently seen cases where these diagnoses have been made. The history gives the diagnosis even if you do not witness the attack. Severe distension without passage of wind above or below also occurs in an interesting but rare condition where the diaphragm is kept in the position of full descent. Although it is most common where there is an unfulfilled desire for pregnancy-Pseudocyesis-it can occur apart from this and

in males, and has led to laparotomy for a suspected growth or subacute obstruction.

Distension of the small intestine without the large intestine being affected is rare. It occurs either with failure of the normal movement of the small guts such as may occur in post-operative conditions and with severe illness such as typhoid or pneumonia, or with disease or congestion of the mucosa as in the congestion of heart failure or liver cirrhosis. The normal interchange of gas through the wall does not take place and the proportion of CO₂ and gases formed as the result of bacterial action such as H₂S or CH₄ will increase because of stagnation. There is again a vicious cycle in ileus. The absence of peristalsis impairs absorption of gas, and the increase of gas causes distension which further impairs peristalsis. It is interesting that a recent treatment for post-operative ileus is to decompress the intestines by forced respiration with oxygen, the same method and mechanism as is used in dentrifying high altitude fliers.

Excessive Flatus. We come now to the third symptom, that of farting, which is due to excess of gas in the large bowel. The commonest cause is constipation. The increase of wind in the large bowel will be due either to failure to absorb gas or to increased production of gas, and both these factors are favoured by constipation. There is diminished movement, and with impaction of hard faeces actual mechanical obstruction, which interferes with normal function and therefore absorption of gas, and with the stasis there is opportunity for increased production of gas due to bacterial activity. There is no need to emphasize the fact that in chronic constipation the production of large amounts of foul wind is common. The unpleasant gases arise from the breakdown of the endproducts of protein metabolism by bacteria, with the production of what are euphemistically called "aromatic" compounds. The treatment of constipation I will not emphasize, except that habitual or excessive use of purgatives increases rather than decreases the production of wind.

Certain foods are wind-producing. It has been known since the time of Hippocrates that rough diet increases the

tendency to wind, and that has been very apparent in this country since a higher reliance has had to be placed on carbohydrate and the vegetable foods. There is no doubt that more people have suffered and complained of wind in the last few years than was known before. It is sometimes said, particularly in America that there is a definite allergy to wind-producing foods, but allergy is a very fashionable diagnosis on the other side of the Atlantic. Most of these foods actually are cellulose-containing, and I will go into the mechanism of that in a moment. Hinshore and Alvarez went through a list of these foods, finding out which of them were notable wind-producers, and the conclusions they reached by that analysis are, on the whole, what one would expect from ordinary experience. Onions were at the top of the list. Cabbage, raw apples, radishes, beans, cucumber all these substances, particularly in certain people, will produce wind and those people with sensitive and delicate insides should best avoid them.

But most of the wind due to intake of food is caused by abnormal digestion of carbohydrates. Normally, carbohydrates are digested into sugar and absorbed in the small intestines without any difficulty, but the carbohydrates in vegetables with a cellulose covering are less accessible to the digestive ferments even when the envelopes are softened by cooking. If that digestion is delayed, so that it begins to occur in the lower part of the small intestine or in the large intestine, bacterial activity results, with the production of acetic acid, CO₂, and butyric acid. That is the so-called Intestinal Carbohydrate Dyspepsia. It will occur if the contents of the small intestine pass quickly through before there is time for absorption, and fermentation continue in the large intestine. It will occur if there is failure of absorption as in sprue and allied conditions. It will occur if there is an increased amount of carbohydrates in vegetable from owing to the cellulose barrier. Vegetarians are notoriously "windy" persons, but the same thing occurs in other sensitive people if there is an excess of carbohydrates in the diet. Most people who have wind take themselves off meat and tend to rely on carbohydrates, which so often increases their disability.

The symptoms of carbohydrate dyspepsia are, apart from wind, pain around the umbilicus referred from the lower part of the small intestine, or more often in the right iliac fossa, where one can feel and hear the squelching of the caecum. With it there is an associated desire to belch due to the accumulation of gases in the splenic flexure pressing on the stomach. In a severe case undigested food will be found in the stools, which, if incubated, will produce large amounts of odourless gas. The presenting symptom may be belching of wind though it is the gas in the large gut which is primarily the cause, and the patient should be specifically asked whether, as well as bringing up wind, he is not passing wind, which is characteristically odourless.

Misdiagnosis of Wind. Flatulent dyspepsia does not mean Cholecystitis, though it is one of many causes of discomfort which may lead to air swallowing and therefore flatulence. I have an impression that chronic cholecystitis is less often diagnosed than it was when the radiology of the gall-bladder was not so efficient, and nonfilling with the dye in a flatulent person might lead to a misdiagnosis. In the last year at Guy's there were 37 operations for gallstones and only 6 for chronic cholecystitis without stones.

You have only to look at an X-ray where the left lobe of the diaphragm is ballooned upwards by gas in the stomach or splenic flexure to realise that "wind round the heart" is a very real thing. The heart can give evidence of temporary embarrassment by displacement due to wind and when pain is associated with the distension it is not surprising that a diagnosis of coronary ischaemia may be made. Temporary ischaemia or angina pectoris may, by its discomfort, cause air swallowing and belching, but careful questioning will show that the actual pain is short in duration and related to effort so that wind is not often mistaken for angina. But when wind causes prolonged pain and is associated with disturbance of the heart it may be mistaken for the prolonged ischaemic pain of coronary occlusion. This is not uncommon, particularly in old people following an unaccustomed heavy or rich meal, with the result that they are committed to bed

for six weeks, and old people do not stand enforced rest well. In a wage earner it is also a serious thing, to say nothing of the effect such a misdiagnosis may have on future activity and confidence. It is always worth bearing in mind when you are faced with an atypical case of angina or coronary infarction, and in such patients, X-ray screening may show an association between wind under the diaphragm and their pain and a hold up of the swallowed barium in the oesophagus or top of the stomach. People who have "wind congealed round the heart" are naturally apprehensive that their heart itself has congealed and if the heart is normal, as it usually is, they must be told so.

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THE CHOICE OF SULPHONAMIDES—*The Practitioner*, September 1948.

A note on this subject was published in *The Practitioner*, in January 1946 (Vol. 156, P. 72). Since then there have been no fundamental changes, but a few modifications in emphasis have become desirable through greater experience, improved supplies, and the wider availability of Penicillin. Before considering these, the opportunity must be taken to urge that sulphonamides should be prescribed or ordered only by the official or semi-official names, e.g., those used in the M. R. C. War Memorandum No. 10 on "The Medical use of Sulphonamides". It is these names which are used in this article. The use of trade names is liable to cause confusion and to render supply difficult.

The choice of which sulphonamide to use in any particular case depends upon several different principles.

(1) *Degree of activity against bacteria*, usually measured *in vitro*.—For all practical purposes the difference between the sulphonamides is quantitative rather than qualitative, i.e., some compounds are more active than others, but there is no specificity so that one organism, e.g. staphylococcus, is sensitive to one compound whilst another organism is sensitive to an entirely different compound. The advantage of using certain compounds for certain infections depends rather upon the different distribution of the compounds in the body, e.g. sulphathiazole, which is

excreted rapidly in the urine, is especially useful for the treatment of urinary infections. As measured in the test tube, sulphathiazole is probably the most active compound; sulphadiazine, sulphamezathine (sulphadine thylpyrimidine and sulphapyridine are almost as active; sulphanilamide, sulphacetamide and similar compounds are much less active particularly against penumococcal infections.

(2) *Height and duration of blood concentration reached with therapeutic doses*. Sulphamerazine, sulphamezathine, and sulphadiazine (in this order) are advantageous in that persistently high blood concentrations can be produced by relatively small, infrequent doses. With sulphathiazole, on the other hand, it is more difficult to maintain a satisfactory level in the blood owing to its rapid excretion.

(3) *Distribution in the body*.—Sulphaguanidine, succinyl sulphathiazole and phthalyl sulphathiazole persist in the lumen of the intestine longer than the others, and so are especially effective against dysentery. Sulphathiazole, as already pointed out, is excreted rapidly in the urine and is therefore useful in urinary infections.

(4) *Tendency to produce toxic reactions*.—Sulphadimethylpyrimidine and sulphanilamide are probably the least toxic. Sulphadiazine also causes few toxic reactions, but occasionally it causes obstruction in the urinary passages, if the patient is not well supplied with fluids. Sulphathiazole is more apt than the others to produce sensitization, e.g. drug fever, rash. Sulphapyridine is prone to cause vomiting and should be discarded from clinical use on this account.

(5) *Sensitization*.—If a sulphonamide has been given in the two previous years, it is well to try a different compound in order to diminish the probability of reactions due to sensitization by the earlier treatment; but such sensitization often extends to other sulphonamides besides the one which initially produced it.

(6) *Expense*.—The prices of the different compounds vary from time to time and up-to-date information on this subject is best obtained from the local pharmacist.

A recent inquiry elicited the following prices per 100 tablets:—sulphanilamide 2s. 3d.; sulphapyridine 9s.; sulphathiazole 5s. 9d.; sulphadiazine 17s. 6d.; sulphamerazine 20s. 3d.; sulphamezathine 12s.; sulphacetamide 17s. 6d.; sulphaguanidine 5s. 3d.; succinyl sulphathiazole 31s. 6d.; phthalyl sulphathiazole 13s. 6d. According to this price list, the best value for the least expense is obtained from sulphanilamide, sulphathiazole, sulphamezathine, sulphaguanidine, and phthalyl sulphathiazole. The prices of these compounds when supplied under trade or brand names are often much higher.

(7) *Supply*.—This was often the deciding factor in war time, but it should no longer require consideration.

Individual Sulphonamides. The chief features of the sulphonamides in common use are as follows:—

Sulphanilamide is cheap, fairly well tolerated and comparatively soluble. It is not very potent, however, and its use should be restricted to moderately severe infections by haemolytic streptococci and to local application to the peritoneum or to wounds; it may also be used as a base for the local application of penicillin.

Table Showing which Sulphonamide to use in different conditions.

Condition.	Sulphonamide (in order of preference)
Haemolytic streptococcal infections. Otitis media Pneumonia Chancroid Lymphogranuloma inguinale Gonorrhoea (if penicillin is not available)	Sulphamezathine, sulphadiazine, sulphathiazole.
Meningitis	Sulphadiazine, sulphamezathine, sulphathiazole.
Urinary infections	Sulphadiazine, sulphamezathine
Wounds and burns (local application, if penicillin is not available)	Sulphathiazole, or a mixture of this and sulphanilamide.
Peritonitis (local application)	Sulphathiazole, sulphamezathine, sulphadiazine
Bacillary dysentery	Phthalyl sulphathiazole, sulphaguanidine, sulphadiazine (or sulphamezathine)
Prophylaxis against rheumatic fever or meningococcal or streptococcal infections.	Sulphamerazine, sulphamezathine sulphadiazine.

Sulphapyridine is effective but toxic and its use is not recommended.

Sulphathiazole is highly active, and not very toxic apart from its tendency to produce sensitization; it may occasionally cause obstruction in the urinary passages. It is rapidly excreted; however, and large and frequent doses are required to maintain a satisfactory blood concentration. It is a satisfactory compound for general purposes but sulphamezathine is better. Although the best sulphonamide for the local application to the peritoneum or to wounds, it has been overshadowed or supplanted by penicillin.

Sulphadiazine is highly active and in a moderate dosage produces a high and persistent blood concentration. Although it may occasionally block the urinary passages, it is relatively non-toxic. It diffuses into the cerebrospinal fluid better than sulphamezathine. It is good for insertion into the peritoneum.

Sulphamezathine (sulphadimethylpyrimidine) is similar to sulphadiazine but is more soluble and does not block the urinary passages. It also produces higher blood concentration. It is probably the best sulphonamide for general use.

Sulphamerazine (sulphamethylpyrimidine) also resembles sulphadiazine but excretion is slow, so that the same blood concentration can be maintained with lower and less frequent dosage than is necessary with sulphadiazine. Accordingly it is particularly useful for prophylaxis.

Sulphaguanidine tends to remain in the intestine to a greater extent than the above compounds, but its antibacterial activity is only moderate. Its use should be limited to moderately severe cases of bacillary dysentery.

Phthalyl sulphathiazole is not absorbed to any significant extent, but it breaks down in the intestine to liberate small amounts of sulphathiazole. It is most effective in suppressing coliform bacilli in the intestine and it is non-toxic. Its use is restricted to bacillary dysentery and to the preoperative preparation of patients before surgical operation on the colon. Succinyl sulphathiazole is similar but is slightly less active.

Thus out of the score or more of sulphonamide compounds which are readily available a small group may be selected for regular use, i.e. sulphamezathine for most general purposes, sulphamerazine for prophylaxis, and phthalyl sulphathiazole for bacillary dysentery and preoperative preparation of the colon. Sulphadiazine and sulphathiazole may be used instead of sulphamezathine as shown in the table. It is often an advantage to use three sulphonamides in combination as their total solubility is thereby increased and there is less danger of blocking the urinary passages. Any three out of the four—sulphamezathine, sulphadiazine, sulphamerazine and sulphathiazole—are suitable.

* * * * *

MESANTOIN—*in the treatment of Epilepsy*.—*Ohio State Med. Jour.* Dec. 1947.

Drs. Fetterman *et al* treated 50 epileptic patients with mesantoin (3-methyl-5, phenyl ethylhydantoin) for 1 year in their private practice. The drug is relatively non toxic and was found to be superior to phenobarbitone. Larger doses than dilantin or phenobarbitone can be safely employed. Treatment should be continuously started with 1 to 2 tablets of (0.1 g.) 1.1/2 grains daily during the first week and then slowly increased; in adults a daily dose of 4 tablets was usually found sufficient. Patients suffering from attack of *Grand mal* were most benefited by this drug. Those having *petit mal* showed little or no improvement. Patients suffering from Jacksonian Epilepsy were considerably relieved. T. N. S. R.

* * * * *

THE ANTIHISTAMINE DRUGS—*Clinical Journal*—Mar. Apr. 1949.

R. B. Hunter and D. M. Dunlop point out that the antihistamine drugs produce dramatic relief in over 80 per cent. of cases of acute and chronic urticaria. If hay fever they are almost as effective while in vasomotor rhinitis about 50 per cent. of patients derive marked benefit. Antihistamines have a place in the treatment of sensitivity reactions to liver insulin, penicillin and sulphonamides, especially when the reactions to these drugs are purely urticarial in type. In serum sickness, though they improve the urticaria they have little or no influence on the

arthralgia and pyrexia. Antihistamines, are of undoubted value in diminishing itching in some cases of pruritus arising from a variety of causes. The claims put forward for antihistamine drugs in the treatment of asthma are variable and contradictory, and are often based on ill-controlled experiments. In the authors' view they have no place in the treatment of asthma. Nor has their value been proved in X-ray sickness, allergic purpura, scleroderma, migraine, periarteritis nodosa, or dermatomyositis.

Antihistamine drugs appear to have their main sphere of usefulness in the treatment of conditions characterized by vascular phenomena in the skin and mucous membranes bearing a resemblance to the effects of locally applied histamine. It is significant that in the bronchospasm of asthma, the arthralgia of serum sickness and other "deep-seated" allergic states these drugs have not proved of value. Possible reasons are that in these allergies the histamine is released in intimate contact with the effector cell, so that it is not clinically possible to produce a high enough local concentration of the histamine drug to block the resistance receptors or histamine may not play a major part in their production.

* * * * *

CAFFEINE AND GASTRIC SECRETION—*B. M. J.* Aug. '48.

Dr. Wood, pharmacologist at the Sheffield University, carried out elaborate experiments on animals and on men to study the effect of caffeine on gastric secretion and as a result of his findings advises that ulcer patients should restrict their intake of beverages containing caffeine and also suggests that it is desirable to limit their intake of consumption of foods containing theobromine and theophylline. Patients with hyperchlorhydria should also avoid these beverages. T. N. S. R.

* * * * *

PENICILLIN AND SULPHATHIAZOLE IN TYPHOID FEVER—*Lancet*—10-4-48.

McSweeney in 1946 reported in the *Lancet* of the good results he had obtained in treating a few cases of typhoid fever with

Penicillin and Sulphathiazole. A controlled clinical trial on a fairly large scale was therefore carried out during the typhoid outbreak in Aberystroth (Wales) in August 1946, by a team of doctors representing physicians, pathologists, bacteriologists and Health-Officers. Their experiences of the combined Penicillin—Sulphathiazole therapy have been totally disappointing. Of the 30 patients who were thus treated the majority were in the second and third weeks as were also McSweeney's patients. The speedy disappearance of the toxæmia and subsidence of pyrexia described by McSweeney were not to be observed in any of the 39 patients treated by Dr. Bevan and his colleagues at Aberystroth (Wales) who therefore consider it necessary to warn against the indiscriminate use of Penicillin-Sulphathiazole in the treatment of Typhoid Fever. T. N. S. R.

* * * * *

TREATMENT OF SPIDER BITES—*J. A. M. A.*, 23, Apr. 1949.

As soon as a diagnosis of spider bite is made or if the patient merely complains of a bite which stung a little and then experiences severe cramping in the abdomen or limb muscles, give 10 to 20 cc. of calcium gluconate solution intravenously. This is given rapidly enough to produce a slight sensation of heat in the tongue and palms of the hands and soles of the feet. As soon as this sensation is felt, the patient will tell you that the cramping has largely ceased. The calcium would give the average adult quicker and more complete relief from pain than 1/2 grain (30 mg.) of morphine. As soon as the calcium is administered, the patient is given a skin test for horse serum and 1 to 2 units of *Lactrodectus mactans* antivenin is given intramuscularly, depending on the severity of the symptoms and the size of the patient. This is now manufactured by Wyeth. This material is dried and will keep for at least five years, so a physician can keep at least two packages in the office at all times.

The patient is asked to remain either in the office or in town for five to six hours, as 10 to 40 cc. more calcium may be necessary to control the pain before the antivenin neutralized the effects of the bite.

ASSOCIATION NOTES

Proceedings of the Southern Districts Medical Meeting

The Southern Districts Medical Associations meeting organised by the Madura Medical Association was held at Kodaikanal on Saturday and Sunday the 21st and 22nd May 1949. More than 150 doctors from the districts of Coimbatore, Salem, South Arcot, Tanjore, Trichy, Madura, Ramnad and Tinnevely and a few from Madras City attended. The members arrived by special buses and cars, mostly on the morning of the 21st, though a few had arrived earlier. About 100 doctors availed themselves of the boarding and lodging arrangements made in the Holiday Home. About 30 doctors were accommodated in the Municipal Rest Houses, the Travellers Bungalow and the Municipal Schools. The rest had arranged their own boarding and lodging with friends or in hotels.

Dr. A. S. Mannady Nayar, the Surgeon-General, sent a message regretting his inability to attend on account of official engagements at Delhi.

The meeting began at 2 P.M. on 21-5-49 in the Kodaikanal Missionary Union Hall with a prayer by Kumari Vijayalakshmi. Dr. P. Vadamalayan, President of the Madura Medical Association, welcomed the members and requested Lt.-Col. T. S. Shastry, to take the chair. The Chairman in his address dealt chiefly on anamolies in post-graduate medical education, and requested the Govt. to increase the lower limit of paying patients from Rs. 50/- income per month to Rs. 100/-. The Organising Secretary Dr. K. G. Ramabhadran then made some announcements regarding the visit to the observatory and picnics etc.

Dr. Jones of Miraj read a paper on Bronchoscopy and Broncho-graphy prepared by Dr. Reeve Betts of Vellore.

He explained in detail the technique of Bronchoscopy and Broncho-graphy and mentioned their various uses. He was of the opinion that more doctors should learn and be able to do these as a routine method of examination in diseases of the chest.

Dr. V. C. Rambo of the X'ian Medical College, Vellore, gave a lecture on some External Eye conditions and illustrated the same with excellent lantern slides. He dealt mainly with Acute Catarrhal Conjunctivitis, Trachoma, Follicular Conjunctivitis etc. and explained the method of prevention of the spread of Acute Catarrhal Conjunctivitis in school children by daily prophylactic installation of Zinc Sulphate $\frac{1}{8}\%$ and Boric acid 3% drops during the epidemic period.

Dr. K. M. Ananthan then gave a very humorous and interesting talk on his experiences of South Indian hill stations during his official career and stated that he considered Kodaikanal the most healthy of them all. The members were then entertained to a sumptuous Tea by Mr. S. G. Jayaraja Nadar, Proprietor of the Holiday Home.

By the kind courtesy of the Philips Electrical Company India Ltd., a medical sound film on Angina Pectoris was next screened.

The Hon. B. Gopala Reddi, Finance Minister, in the Madras Govt. who had been invited to Tea, arrived a little later and witnessed the film show. He was introduced to the audience by the President. The Minister speaking a few words on the occasion, stressed the value of such conferences and the medical films for the betterment of the knowledge of the members of the medical profession. The day's session ended at 7 P.M.

July, 1949]

ASSOCIATION NOTES

23

The members again assembled at 9-30 A.M. on Sunday the 22nd May, in the premises of the Indian Club, Kodaikanal. After prayer the proceedings began with a lecture on Tropical Eosinophilia by Dr. P. K. Kalyanaraman of Coimbatore. The lecture was short, spicy and interesting and was followed by a discussion in which many members took part.

Dr. S. Balasubramaniyan, M.S., D.M.O., Cuddappa delivered an extempore lecture on Ileo-cæcal diseases. The lecturer traced in detail the Surgical Anatomy, the Symptomatology, the Pathology and treatment of Appendicitis, and also briefly dealt with the other more important Ileo-cæcal conditions. A discussion followed the lecture.

Dr. K. G. Ramabhadran then read a paper on Median Nerve test in Leprosy, prepared by Dr. Joseph of the B. E. L. R. A.

Lt. Col. Shastry in his concluding remarks, mentioned the need for specialists in this country and the necessity of giving them proper training. He also urged the abolition of the communal rule in selection for appointments and admissions to the Medical Colleges.

The Organising Secretary, Dr. K. G. Ramabhadran proposed a vote of thanks

to the President, the lecturers and the members of the various sister associations that took part in the combined meeting.

Dr. T. M. Pillai of Tiruvadi and Dr. N. R. Subramanyam of Tanjore on behalf of the members of the sister associations, thanked the organisers for the excellent arrangements made for boarding and lodging and the valuable scientific lectures arranged at the occasion.

With the singing of Vazhia Senthamil by Kumari Vijayalakshmi the Meeting ended at 12-45 P.M.

Some of the members were shown the Solar Physics Observatory on the 22nd afternoon.

The Provincial Council met in the Municipal Council Hall at 2 P.M. on the 22nd under the Presidency of Dr. P. A. S. Raghavan.

A party of members in two buses and three cars left on the 23rd morning at 9-30 A.M. for a sight-seeing trip and a picnic lunch at the Berijam lake. The party had a pleasant trip in good weather and returned to Kodaikanal by 2-30 P.M. Most of the members left Kodaikanal on the 23rd afternoon and a few others on the 24th.

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SOUTH INDIAN PROVINCIAL BRANCH

Proceedings of the meeting of the Working Committee of the South Indian Provincial Branch held on 6th July 1949 at Col. T. S. Shastri's Bungalow, Tyagarayanagar, Madras.

Members Present :—

Dr. P. A. S. Raghavan	President	Trichy.
Dr. D. V. Venkappa	Member	Madras.
Lt. Col. T. S. Shastri	"	Madras.
Major G. Gangadaran	Co-opted member	Madras.
Dr. A. G. Leelakrishnan	Member	Coimbatore.
Dr. K. R. Hariharan	"	Salem.
Dr. G. Joseph Gnanadickam	"	Trichy.
Dr. P. V. Sundaram	Treasurer	Trichy.
Dr. S. Chandrasekaran	Member	Cuddalore.
Dr. A. K. Rajagopalan	Secretary	Madura.
Dr. S. Subramanian M.L.A.	Co-opted	Karaikudi.

Dr. P. A. S. Raghavan the President presided and the following resolutions were passed unanimously.

1. The Working Committee considered letter No. 909 dated 16-5-49 of the I.M. A. Central Head Quarters regarding the deputation to the Health Minister to the Government of India on 3-4-49 and the reply of the President dated 26-5-49. The Working Committee approves the action taken by the President and empowers him to do the needful in the matter when necessary.

2. The Committee approves of the emblem of the World Medical Association sent for approval by the Central Office.

3. The Working Committee considered the circulars Nos. 30 of the central office suggesting amendments to rule No. and resolves to suggest the following words to the new clause "involving violence or moral turpitude" after "crime"

4. Read letter No. 1562 from the Central office and the same was recorded.

5. The Hony. Secretary and President will contact branches and fix up the venue of the next Provincial conference, as convenient.

6. The Working Committee resolves to extend the time to receive nomi-

nations for the Presidentship and the 2 Vice-Presidents for the South Indian Provincial Branch till end of July 1949.

7. The Working Committee resolves to recommend that rule No. 3 (1) of the South Indian Provincial Council read as "8" instead of '7'.

8. The accounts of the Branch upto 30th June 1949 are passed.

9. The travelling allowance bills and office contingent bills upto end of June 1949 are passed.

10. The Working Committee resolves to sanction a supplementary budget of Rs. 250/- under Travelling allowance and other expenses.

11. The Working Committee resolves to request the Government to give adequate facilities to all the licentiates to take the condensed M.B. course by increasing the number of seats in the Medical Colleges.

12. The Working Committee resolves to request the Government that in order to meet the needs of the Province more medical colleges be started immediately in various parts of the Province. The Working Committee suggests to the Government that large sums of money need not be spent on buildings and the existing buildings which lodged the medical schools in Madura, Tanjore

Calicut and Guntur be utilised for the purpose of the new colleges. If there was any difficulty in the Universities giving recognition to these colleges for want of adequate buildings as per their requirements, the Working Committee suggests to the Government that a Board of Examiners be appointed by the Government as in England, who might issue diplomas to the products of these colleges. For purposes of practice and appointment, these diploma holders should have the same facilities as University graduates.

13. The Working Committee considered in detail the Chopra committee report and resolved to submit to Government its view on the same as follows:—

(i) Integration of various system of medicine is possible only in the higher level i.e., after research into the indigenous systems. Integration of the various systems of medicine at the lower levels as attempted in the school

of Indian Medicine during the last 20 years has not been successful and the products of this school administer only modern medicine for which they are ill-trained.

(ii) The suggestion of the Chopra Committee for the introduction of 6 months training in Public Health and incurative medicine such as medicine, surgery, midwifery, ophthalmology, etc., is impossible, as the time is too short a period for this. It is problematic in what language this training can be given, as most of the indigenous practitioners are illiterate.

(iii) The Committee is of opinion that the only method of carrying medical relief to the masses is to implement the Bhoré Committee report in full.

With a vote of thanks to Mrs. Shastri who provided Tea, the meeting terminated.

A. K. RAJAGOPALAN,
Hony. Secretary.

D. V. VENKAPPA,
Jt. Secretary.

P. A. S. RAGHAVAN,
President.

THE UNIFICATION OF CIVIL MEDICAL SERVICE

The members of the Committee of Action of the A. I. M. L. A., Madras consisting of Drs. D. V. Venkappa, R. Sankaran, A. M. Sivaraman and Dr. P. A. S. Raghavan waited on a deputation on the Hon'ble Dr. T. S. S. Rajan, Minister for Public Health, and submitted a Memorandum to the Government. The deputationists pointed out that giving gazetted rank to Asst. Surgeon Cl. II (Sub-Asst. Surgeons) though promised long ago but not yet given effect to, does not remove caste distinctions in the service. They pointed out that only about a 150 Licentiates were in Govt. Service as Asst. Surgeon Cl. II. The number gets reduced year after year and after about 10 years there will be no more Licentiates in Service and hence the Government could easily abolish the S.A.S. Cl. II immediately and absorb them into Cl. I. The Hon'ble Minister gave a sympathetic hearing and promised to pass early orders on the subject. He also said that in view of the above assurance, the gazetting of Asst. Surgeons Cl. II need not be considered now.

The Hon'ble Minister promised to do his best and give more facilities for Licentiates to take the condensed M. B. Course.

COIMBATORE BRANCH

President: Dr. N. K. Sampath
 Vice-President: Dr. C. Nanjappa
 Secretary: Dr. A. G. Leelakrishnan
 Associate Secretary: Dr. S. Ganapathy
 Treasurer: Dr. T. V. Sivanandam

The monthly clinical meeting of the Association was held at 6 P.M. on 26-3-49 in the Association premises with Dr. N. K. Sampath the President in the Chair. About 70 members were present.

After Tea and reading of the minutes of the last meeting the following resolution was passed unanimously by all standing.

"This meeting of the Coimbatore District Medical Association unanimously passes a resolution of condolence at the death of Dr. S. K. Sundaram, B.A., M.D., Physician, General Hospital, Madras and hereby authorises the Hon'y. Secretary to convey their condolences to the members of the bereaved family."

Then the Secretary read a letter from the Secretary, Madura Medical Association inviting this Association for a joint meeting of the Medical Associations of Southern Districts at Kodaikanal Hills on the penultimate Saturday and Sunday of May 1949. It was decided to accept the invitation.

The President then introduced Dr. N. Vaidyanathan, M.D., Professor of Medicine, Vizag, Medical College and Physician, King George Hospital and requested him to deliver his address on Acute Rheumatic Fever.

The lecturer dealt at length with the ætiology, pathology, signs and symptoms, complications and sequelæ and treatment of Acute Rheumatic Fever. A lengthy discussion followed in which several members took part.

The President in his concluding remarks thanked Dr. N. Vaidyanathan for his exhaustive elucidation of the

subject. And after a vote of thanks to the host of the evening, Dr. C. R. Tiruvengadam the function terminated at 8-45 P.M.

* * * * *

The monthly clinical meeting of the association was held at 6-30 P.M. on 23-4-49 in one of the spacious halls of the Military Hospital, Coimbatore, with Dr. N. K. Sampath the President in the Chair. Over 80 members were present.

Major T. K. Narayanan, I.A.M.C., S.E.M.O., and members of the staff of the Military Hospital received the members.

After reading of the minutes of the last meeting, the President introduced Dr. V. Govindan Nair, M.R.C.P. F.R.F.P.S. and requested him to deliver his address on "The Modern Conception of Syphilis and its treatment". The learned lecturer dealt at length on the diagnosis and treatment of Syphilis. Major T. K. Narayanan spoke about the routine management of Venereal Diseases in the Army.

A sumptuous dinner followed and after a vote of thanks by the Secretary to the lecturer and to Major T. K. Narayanan and staff of the Military Hospital for the faultless arrangements they had made for the reception and dinner, the function terminated at 9-45 P.M.

* * * * *

The monthly clinical meeting of the association was held at 6 P.M. on 28-5-49 in the association premises with Dr. N. K. Sampath, the President in the Chair. 55 members were present.

After Tea and reading of the minutes of the last meeting the following doctors were unanimously nominated for the office of the President and three Vice-Presidents of the I. M. A.

Dr. Sir A. Lakshmanaswamy Mudaliar for the President.

Lt-Col. T. S. Shastri, Dr. V. Govindan Nair and Dr. P. Kutumbiah for the Vice-Presidents.

The President at the outset expressed regret at the inability of Dr. K. Vasudeva Rao to be present and requested Dr. B. S. Viswanathan, L.M.S.,

T.D.D. Supdt. C. D. J. T. Sanatorium, Perundurai, who so readily consented to address the association at short notice to speak.

Dr. Viswanathan talked on the combination of various therapeutic procedures in collapse therapy with the aid of X-ray films. An interesting discussion followed in which many members took part.

Then after a vote of thanks to the lecturer Dr. B. S. Viswanathan and to the host Dr. N. Jaganathan for his tea the function terminated at about 8-30 P.M.



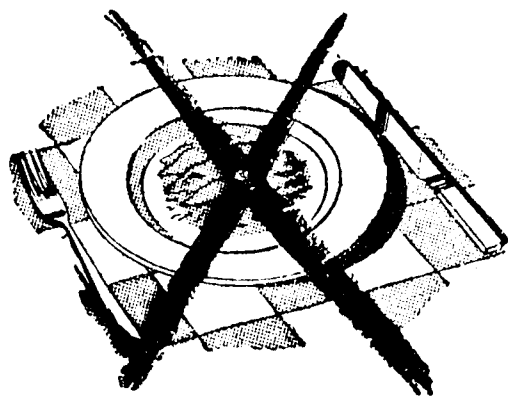
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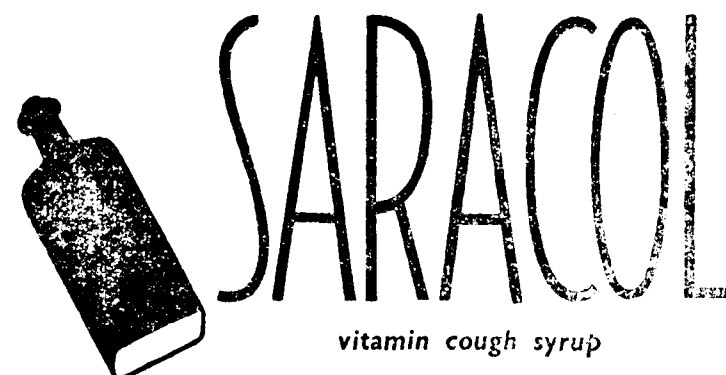
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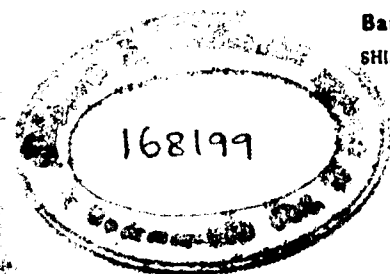
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Fresh cabbage juice given in cases of peptic ulcer is showing encouraging results.

Physicians as a class enjoy the best of medical care: yet they do not live longer than other males. *J. A. M. A.*

An organisation has been created in Paris to render service to foreign doctors visiting France, i.e. to inform them on scientific and hospital centres as well as on cultural and tourist matters.

The 17 International Congress on Electro-encopholography will be held in Paris from 1st to 3rd September.

Tailor, returning after a funeral: "Sure, doctor, you must be a happy man."

Doctor: "Why so?"

Tailor: "Because you never have any of your bad work returned."

Doctor's son taking 11 found his father's dispensary opened a cupboard and showed a skeleton and said "My father is very fond of this skeleton."

"Why?" asked his friend.

"I don't know. Probably, it is his first patient."

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One for long sight, one for short sight and the third to look for the other two.

Doctor (on the phone): "How is your old father today?"

"Oh, he can't complain."

"Is he as bad as that? I shall come at once."

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