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(Established 1932.)

VOL. XVII

JANUARY 1948

No. 1

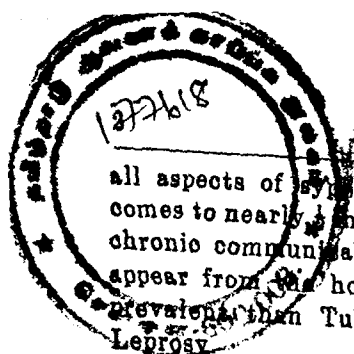
THE PROBLEM OF VENEREAL DISEASES IN SOUTH INDIA IN ITS MEDICAL AND HYGIENIC ASPECTS*

BY DR. R. V. RAJAM, M.S., M.R.C.P. MADRAS.

I have chosen to address you on the problem of venereal diseases in South India in its medical and hygienic aspects for the principal reason that the medical profession should have some idea of the enormity and the urgency of tackling the problem in this presidency. Though primarily a clinician who has been practising this speciality for the past two decades, it has been my privilege or lot to study the subject in its wider public health aspects. The ignorance, apathy and disgust of the general public about these diseases is only equalled by the laissez-faire, indifferent and individualistic attitude of the average medical man. The exact prevalence of these diseases among the population is not known and can never be accurately known because of the moral and social stigma attached to it. It is my opinion that venereal diseases constitute a major and menacing public health problem in this Province. To illustrate the serious nature of the problem I shall take the two principal major diseases, Syphilis and Gonorrhoea for discussion.

According to the Annual Report of the working of the Civil Hospitals and Dispensaries in this Presidency during the year 1945, 2,93,835 patients with syphilis and gonorrhoea had attended one or the other government, state-aided, municipal and local-boards medical institutions in this Presidency. Of this, 165,888 were cases of syphilis and 1,27,947 were cases of gonorrhoea. Syphilis is one half times more prevalent than gonorrhoea and generally considered a better indicator of the venereal diseases status of a country or population. Further the number of syphilis patients which are given in the report probably represents only obvious cases of early syphilis, late cutaneous syphilis and congenital syphilis and does not include all aspects of the disease. It is well known that syphilis causes serious disorders of the nervous and cardio-vascular systems years after the original infection. From the 1945 annual report, it is gathered that 541,474 patients with diseases of the nervous system and 99,286 patients with diseases of the circulatory system, had been treated in the institutions of this Presidency. In at least 50 per cent of the former and 15 per cent of the latter, it is my cautious estimate that syphilis is the aetiological culprit. So taking

* Address delivered at the 2nd South India Medical Conference of I.M.A., in Coimbatore on 19-10-47.



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all aspects of syphilis, the annual hospital incidence of syphilis comes to nearly 1 million cases. From a comparison with two other chronic communicable diseases, Tuberculosis and Leprosy, it would appear from the hospital returns, that syphilis is five times more prevalent than Tuberculosis and 6½ times more frequent than Leprosy.

It is my statistical surmise that for every twenty persons suffering from either syphilis or gonorrhoea, only one person seeks treatment in a hospital and the rest either get no treatment or are treated by quacks, or private medical practitioners. Hence an approximation to the real prevalence rate of the two principal diseases, among the general population may easily be twenty times the hospital rate. This would mean that 5,876,700 people of either sex have had or are suffering from one or other of the two diseases. From the figures worked out in the Venereal Clinic at Madras, it would appear that five out of every eight patients seeking treatment for either syphilis or gonorrhoea are in an infectious state. Applying this ratio to the probable prevalence rate among the population, nearly 3½ million persons of either sex are harbouring the diseases in a communicable state and are a source of danger to the uninfected population. To the physical havoc wrought by these diseases and by the conditions in which they breed must be added the social wreckage of twisted moral and ethical values of warped and irreparable damaged lives. Syphilis is a great destroyer of child life, both antenatal and neo-natal. During the past half a decade the admissions for congenital syphilis in the Venereal Clinic at Madras alone, have shown a fourfold increase. From the hospital returns for the year 1945, the district-war distribution of these diseases is worked out in the accompanying table, giving the total number of syphilis and gonorrhoea, syphilis alone, gonorrhoea alone and also the estimated population of the districts with the hospital rate per 100,000 of the population. The last column in the table is an estimate of the prevalence of these diseases among the population. From these figures it is apparent that the hospital attendance rate alone of these diseases in the districts and in the city of Madras shows a disturbingly high rate; with Guntur and East Godavari leading in the north Madras in the centre, Madura and Ramnad in the south. In the decade between 1935 and 1945, there has been an increase in the incidence of syphilis alone among the urban population of the Madras City, Guntur, East Godavari, Madura, Ramnad and Malabar as may be gathered from the accompanying table.

War has been the traditional vanguard of the venereal disease epidemics all over the world and this province could not have escaped its consequences. The increase in the syphilis rate has been particularly marked during and since the war years (40-45) the

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indigenous spirochetes having been reinforced with Burmese, West African and European strains. There has been a decrease in the hospital rate of gonorrhoea in the city of Madras as well as in many of the districts and this decline may be due to the widespread use of Sulphonamide drugs by the population not only for gonorrhoea but also for other conditions. As the result of such widespread use, it is possible that the more susceptible strains of gonococci have been weeded out of the population and only the more resistant types persist. The increasing number of Sulphonamide resistant cases of gonorrhoea which one sees in clinical practice lends support to this view.

With the abolition of commercialised prostitution by the enforcement of the Suppression of the Immoral Traffic Act in many of the urban areas of this Presidency, sexual promiscuity and prostitution have become individualised, widely disseminated and have assumed Bizarre, Clandestine, Causal, and Perverted forms. The old professional prostitute is no longer in the picture, her place having been taken by an increasing army of amateurs. A very disturbing feature in many of the towns and cities is the prevalence of what is known as "Wife Prostitution." It would appear from my investigations that venereal diseases are more frequently disseminated by such casual clandestine sex behaviour.

A communicable disease can be controlled in four ways:—

1. Immunization.
2. Isolation.
3. Sterilization of the infected individual.
4. Education of the public with respect to prevention.

In the case of venereal diseases, immunization does not exist. Isolation and quarantine of the infected individuals is a practical impossibility. The education of the public in respect of prevention has only a limited value for civilian populations. For disciplined communities, like the army, the applications of preventive measures has had a measure of success as may be gathered from the reports in the Armies during World War I and II. There remains therefore for the control of venereal diseases the fundamental public health principle of sterilization of the infected individual. In recognition of this important principle most of the European countries have instituted various public health measures for its control. It is recognised that the treatment of the infected persons by modern scientific methods and with the help of patent remedies is the strongest weapon we have at our disposal. And in the case of venereal diseases treatment is prevention, as it will reduce to the lowest possible proportion the number of infection carriers in the community. Let us take a look, for information and guidance, what other countries have done with regard to the control of these diseases.

All the progressive nations of the World, which really mean the European nations, have recognised that the health of the men, women and children should be the prime responsibility of the State. The first of the diseases to be socialised is venereal diseases and the credit for tackling the problem of control goes to the Scandinavian countries. It is a fascinating story of a century of ceaseless unremitting effort on the part of these countries. The steady decline of venereal diseases during the inter-war period (1919-39) in these countries is now recognised as one of the classical public health achievements in the field of venereal diseases control and unsurpassed by any other country. The public health measures for the control of these diseases were based on the principle that the diseases are communicable and should be dealt with as such. The measures adopted by them are as follows:—

1. Compulsory notification of cases.
2. Free and compulsory treatment at state expense.
3. Penalising the knowing transmission of the infection.
4. Tracing of contacts and bringing them under treatment.

The decline rate in syphilis alone in these three countries between 1919-1935 was something spectacular. In Denmark, the rate of 527 cases of syphilis per 100,000 of the population in 1919 declined to 21.3 per 100,000 in 1935. In Norway the decline was from 316 to 15 and in Sweden from 11.9 to 9.4 during the same period. These countries were enabled to achieve such results because they contain a small homogeneous, cohesive, highly literate population with great respect for law, and greater respect for modern medicine and almost completely free from the social inhibitions attached to these diseases in other countries. In Great Britain in 1917, an act called the Venereal Diseases Order was passed by the Parliament implementing the recommendations of the Royal Commission on Venereal Diseases. By this act, the state recognised its statutory obligation to provide facilities for the free and confidential treatment of persons afflicted with venereal diseases, irrespective of their social and economic status. The treatment of venereal diseases by unqualified persons and the advertisement of spurious drugs were prohibited by law. By 1939, 188 free treatment centres and 99 approved laboratories for free examination of venereal diseases specimens had been created in the country and 88 per cent of patients with V. D. took advantage of the facilities afforded. In addition free diagnostic facilities and supply of special drugs were given to the practitioners, to enable them to treat their private patients. A continuous educational propaganda greatly helped to bring the patients under treatment. As a result of these measures, 1939 was less than $\frac{1}{3}$ of those in 1920. Without the element of compulsion and law enforcement, the success of Great Britain in

the control of venereal diseases, particularly syphilis has been remarkable. America started late in the national drive against venereal diseases and have been following the Scandinavian example in the institution of public health and law enforcement measures. There are 3,800 public clinics financed by Federal State and local governments where facilities for free treatment are provided. Recently they have also opened a number of rapid treatment centres with facilities for the hospitalization of early infectious cases. Russia is a signal example of a country where the concept of socialisation of health has been carried out to its logical end in the space of 25 years. Venereal distribution and prostitution received a high priority at the hands of the Soviet Government. Free and compulsory treatment was instituted by the opening of a net work of treatment centres all over the vast country. In Czarist Russia, venereal diseases especially syphilis was pandemic and there were only ten V. D. clinics affording treatment for such a vast country. In 1931, nearly thousand clinics were functioning.

Prophylactoria were established in the immediate vicinity of large cities and in industrial areas where the infected prostitutes were kept in quarantine and treated till they were no longer a danger to the community at large. It is claimed by the Soviet Government and confirmed by other neutral medical observers that prostitution has been almost completely liquidated. Flying squads of doctors and nurses equipped with the W. R. set-up and specific drugs are sent to the distant Arctic Siberian and Central Asian tribes to find syphilis and treat it. It is reported that in the decade between 1927 and 1937 the incidence of syphilis in Russia decreased by about 45 per cent. In all these countries, during and since World War II, there has been a phenomenal increase of venereal diseases from the lowest 1939 pre-war level. But most of the countries are keenly alive to the danger of the post-war flareup and taking energetic measures of control.

India along with other Asiatic countries is nowhere in this stirring picture of action and high planned endeavour. The first volume of the Bhore Committee report is a sad tale of the appalling health conditions of the people. In our country where physical malnutrition, undernutrition, malaria, tuberculosis, leprosy, and so on, contend for preferential treatment at the hands of the government, venereal diseases are likely to be relegated to a secondary place in the scheme of things. But I have tried to show from the meagre statistics available, that venereal diseases constitute a major problem in South India.

Madras is the first province in India to tackle the problem of V. D. by establishing V. D. clinics in the presidency town and in many district head-quarter hospitals and in some taluq hospitals. There are 29 clinics for the whole presidency, 17 in the district

head-quarters, 8 in some of the important taluq stations and 4 in the city of Madras. I do not know how many of these are efficiently functioning from the point of view of accommodation, out-patient facilities, staff, equipment and the supply of drugs. In 1930, as one of the items in the campaign against V. D., the Provincial Government had sanctioned for two years at a time a scheme of free post-graduate training in venereal diseases for both service medical officers and private medical practitioners of this province, at the Venereal Department of the Government General Hospital, Madras. The concession is being extended every two years and during the past 17 years, 131 post-graduates have been trained in the Venereal Department of which 100 were men and 31 women. Except for the few who are in-charge of V. D. clinics in the district head-quarters, the majority of the trained graduates are probably private medical practitioners and it is surmised they are giving the benefit of their training to the community in which they are living. I consider the existing facilities for the treatment and control of venereal diseases in this presidency with a population of more than 50 millions and with one of the highest venereal diseases rate in the world is grossly inadequate. The control of venereal diseases in this province is a matter of urgent importance and should receive a high priority at the hands of the government. In the present diarrhoeal set-up of the medical and public health administration in this province, the immediate short range control measures, I would recommend, are the following:—

1. Provision of facilities by the State for the free diagnosis, prevention and treatment of patients suffering from venereal diseases.
2. A continuous sustained educational propaganda among the public with regard to the control and spread of these diseases.
3. Mobilization of the services of the private medical practitioners in the fight against these diseases.

Venereal diseases clinics should be established in all district head-quarter hospitals, taluq hospitals of more than 50 beds and in all hospitals catering for Women and Children alone. In the larger cities of more than 50,000 population the municipality should be compelled to establish V.D. clinics to enable as many patients as may be possible to avail themselves of the benefit of treatment. Industrial concerns employing a large volume of labour should be compelled by law to make provisions for the free treatment of the employees suffering from venereal diseases. Likewise, the State Railways in the provinces should provide venereal clinics in important railway centres for the free treatment of their employees. Laboratory examination of venereal diseases specimens is essential for accurate and quick diagnosis for early treatment. In the case of

venereal diseases, three routine laboratory procedures are necessary for accurate diagnosis and early treatment. They are (1) dark-field examination of specimens for *spirocheta pallida*, (2) microscopic examination of specimens for gonococci, and (3) serological examination of the blood for syphilis.

In every venereal diseases clinic to be established, an essential equipment is an oil immersion microscope with a special out-fit for dark-ground examination for the immediate performance of the first two diagnostic tests mentioned above. In every district head-quarters venereal diseases clinic, provision should be made for the performance of a single, least expensive, easily carried out serological test for syphilis, like the Kahn Test. The present system of sending bloods for examination to distant laboratories like Guindy and Coonoor is time consuming, expensive and unsatisfactory. Laboratory technicians should be trained to staff the district laboratories and they will work under the supervision of the medical officer-in-charge of the clinic. The basic requirements of a good venereal diseases clinic are:—

1. A full time salaried medical officer with enthusiasm and trained in the diagnosis and treatment of venereal diseases.
2. A sufficiency of other personnel including nurses, nursing orderlies, social worker and clerk-typist.
3. Out patient accommodation ensuring privacy and separation of the sexes in the examination and treatment. Limited in-patient accommodations for the ill patients in the district head-quarters and the larger Taluq hospitals.
4. Morning and evening sessions in the V. D. out-patients to enable the working class people to take advantage of the facilities without interference to their means of livelihood.
5. A liberal supply of special drugs used in the treatment of these diseases.

From the point of view of control of infectiousness, within the shortest possible time the introduction of Penicillin in the therapy of syphilis and gonorrhoea is a tremendous advance on the older drugs. But Penicillin at present is unsuitable for the mass treatment of syphilis as it is costly and requires hospitalization and the third hourly frequency of injections round the clock. The per capita of treating syphilis with Penicillin alone comes to about Rs. 45 without taking into consideration of the cost of hospitalization. In the case of the older drugs, arsenic and bismuth, 20 injections of each administered over a period of 3 to 4 months will effectively control of the infectiousness in the vast majority cases of syphilis. The per capita cost of these drugs, 20 doses of arsenical and 20 of

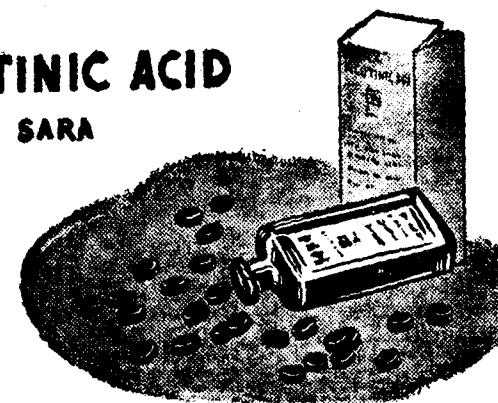
bismuth comes to only about Rs. 7 which is only 1/5 as costly as an adequate dose of Penicillin. Therefore in the free treatment of syphilis in public clinics, these drugs alone will have to be used in the ambulatory treatment of syphilis. In the treatment of gonorrhoea, Penicillin should be the drug of choice. The recommended dosage of 200,000 to 300,000 units is not more costly than Sulphonamides, it is more potent and the treatment is compressed within few hours.

Prophylaxis.

At each of the treatment centres, facilities for personal prophylaxis should also be made available. In addition the larger municipalities and congested industrial areas, in pilgrim centres, there should be a few more such prophylactic ablution centres. In the Army as well as civilian population of the western countries, there is a stronger reason to believe that the condom of rubber sheath has been the most valuable single venereal diseases preventive measure, so much so that girls out for a good time as well as the confirmed prostitutes carry these articles in their vanity bags. But chemical prophylaxis is a more certain preventive against infection. The Americans have evolved what is known as a Unitary Chemical Prophylactic, effective against all the venereal diseases. It is an ointment containing 15 per cent Sulpathiazole and 30 per cent Calomel in a vaseline light mineral oil and alcohol base. It was extensively used during World War II, easily self administered and found to be very effective. Such an ointment can easily be made at any hospital or by a Pharmacist and should be freely available at the public clinics as well as for private patients at a cheap price.

For the control of any communicable diseases like venereal diseases, next to affording facilities for treatment educational propaganda among the public is of the utmost importance. Provision of free facilities for treatment is likely to be of little use unless organised and continuous propaganda at the same time helps to educate the people on the nature and danger of venereal disease. So far as I am aware, the propaganda is almost non-existent. Unlike Tuberculosis and Leprosy, individuals and voluntary associations fight shy of interesting themselves in venereal diseases. Hence it devolves on the State to devise measures for the education of the public. The various modern devices such as films, radio, magic lantern slides, lectures, newspapers, posters, pamphlets, handbills, and touring exhibitions should be employed in a continuous and systematic manner to impress upon the adults of both sexes, the nature of venereal diseases, their mode of spread, their prevention, the dangers of neglect when once the disease is acquired. The great success which England and Wales achieved in bringing 80 per cent of patients suffering from venereal diseases under treatment is largely due to the educational propaganda conducted through out

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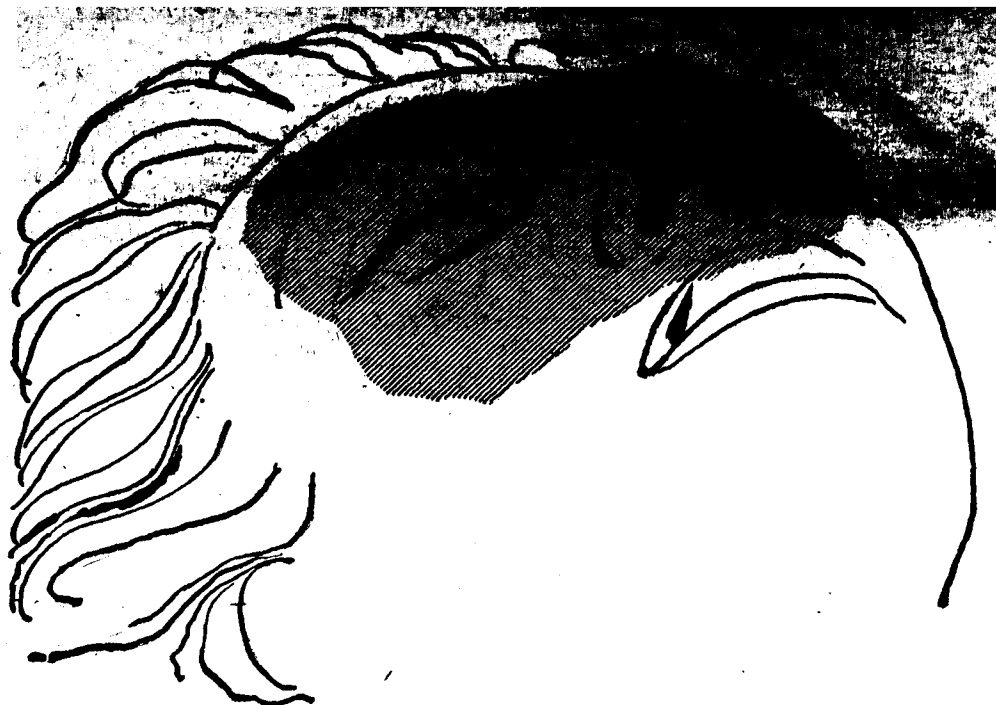
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the country In our country it is not only the illiterate public that has to be educated but also the medical profession which brings me to the third item in the fight against these diseases, i.e., *the role of the private medical practitioners* in the control of venereal diseases. In all the cities and municipal town in our province, nearly 95 per cent of the doctors practising the modern scientific system of medicine are concentrated. It is my impression that a fairly large but unknown number of patients with early venereal diseases are treated by the private practitioners in the towns and cities. The standards of diagnosis and treatment in private practice are neither fair to the patient nor a credit to the profession. Faulty diagnosis, misuse of drugs, sub-curative treatment and the absence of the epidemiological approach to these diseases are some of the disconcerting features in the treatment of these diseases under private auspices. There are several causes for the unsatisfactory state of affairs one being the ignorance of many practitioners of the elementary methods of recognising venereal diseases, particularly syphilis. A lack of understanding of the proper use of and interpretation of serological tests and the absence of appreciation of syphilis and gonorrhoea as infectious diseases requiring certain optimum standards of treatment to render them non-infectious. The ignorance, carelessness of the treated patients and the expense of treatment. I am optimistic enough to hope that the co-operation and the services of the private medical profession can be mobilized in the fight against these diseases, provided certain conditions for their co-operation are brought into being; free diagnostic facilities, and free supply of drugs should be made available to the practitioners at state expense. Such of those practitioners who are willing to come under this scheme may be given short refresher courses in a state clinic in the diagnosis and treatment of these diseases. Free consultative service should be available to the practitioners at the public or State clinics. The practitioners in their turn will be expected to treat poor patients free and charge a nominal fee for those who can afford to pay. Under such a scheme, the reporting of cases by number if not by name should be obligatory. If and when the financial resources of the State permit I envisage a desirable state of affairs in which the treatment and diagnosis of venereal diseases will be completely socialised as in Western Countries. The recommendations of the Bhore Committee which are merely quoted now like 'Shakespeare and Milton' will be implemented in its entirety. In other progressive countries, the treatment of venereal diseases by unqualified persons is punishable by law. It will be premature to suggest the enactment of any such law in our province, till the state has provided abundant facilities for treatment and has educated the public sufficiently intensely to take advantage of the facilities so provided. In the

near future a provincial venereal diseases organization may have to set up as part of the provincial health department under the administrative control of the head of the Public Health services. A full time venereal diseases control officer should be in-charge of this organization and he should combine in himself public health experience, and wide clinical knowledge of venereal diseases. It should be the function of this officer to plan the campaign against these 'diseases' in its public health and medical aspects. He should have a number of trained assistants, both medical and nonmedical, for dealing with the various aspects of control as the following :—

1. Propaganda.
2. Treatment control.
3. Supply of special drugs.
4. Social work including contact tracing.
5. Maintenance of accurate statistics.

In conclusion let me thank the organisers of this conference for affording me this opportunity to address you of the medical fraternity who have a great part to play in the fight against this social menace.

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PENICILLIN IN NEUROSYPHILIS

BY C. WORSTERDROUGHT, M. A., M. D. F.R.C.P.

(Abstracted from the B. M. J.)

The present day treatment of syphilis is by intramuscular injections of penicillin at three hourly intervals over a period of 7.5 days in a course of 60 injections. The total amount of penicillin advocated is from 2,400,000—4,000,000 units. The rationale of this treatment is the fact that a certain constant level of penicillin is needed in the blood for therapeutic effects in syphilis. But some workers differ from this view. They say that it may not be necessary to keep a measurable level of penicillin in blood constantly throughout the period of the treatment. Larger doses at longer intervals may be effective. Lloyd Jones and Maitland (1945) state that single doses of from 300,000—500,000 units for 14 days have given good immediate clinical response in neurosyphilis as well. Harrison (1946) has used 300,000 units in oil-wax for 10—14 days. This will give penicillin level in blood for 12—16 hours and not 24 hours.

Combined Bismuth and Arsenic Treatment with Penicillin. :—A synergistic action exists between the chemotherapeutic and an antibiotic treatment. The most appropriate method of applying the combined treatment is to give three injections of arsenic and bismuth during the week of penicillin treatment (in doses of 0.3 g. of neoarsphenamine and 0.2 g. of bismuth). The course of penicillin is then followed up by 12 injections of an arsenical, 0.45 g. of neoarsphenamine or 0.06 g. of mapharsen and bismuth (0.2 g.) at weekly intervals.

Intrathecal Penicillin :—Formerly intrathecal use of penicillin was thought necessary in neurosyphilis, but now it has been found to be unnecessary and so has been given up. Adequate clinical response is obtainable in most cases of meningovascular neurosyphilis and considerable improvement is obtainable in forms of parenchymatous neurosyphilis (general paresis and tabes dorsalis) by parenteral penicillin therapy alone.

Therapeutic Reactions :—In early syphilis, some 10 per cent of cases treated with penicillin experience varying degree of malaise and usually slight pyrexia after the initial doses. Generalised urticaria, with or without constitutional disturbance has occasionally been observed one week or so after the first injection, but it is not an indication for discontinuing treatment. Severe systemic reactions have been reported only in few instances. Herxheimer-Jarish reactions have been reported from time to time in case of neurosyphilis in addition to other forms of late syphilis as well as in early syphilis, treated by penicillin alone. This is avoided by preliminary course of bismuth injections.

Meningovascular Neurosyphilis.

Penicillin therapy in adequate dosage has a striking initial beneficial effect on all forms of meningovascular neurosyphilis, especially acute forms. There is improvement in clinical symptoms as well as in cerebrospinal fluid. The cell content and protein content of the C. S. Fluid often show a noteworthy decrease within a few days of starting treatment and reach a normal level within 2-4 weeks. The intensity of the serological reactions of the C. S. Fluid gradually decreases and may become negative within two to four months. But there is no parallel decrease in the serological reactions of the blood, showing selective action of penicillin on

C. S. Fluid or meninges. The Blood Wasserman reaction may continue positive for many months, and even indefinitely after treatment limited to penicillin.

In acute syphilitic meningitis penicillin produces immediate and dramatic results. Headache and neck rigidity may disappear within 48–56 hours and the increased cell and total protein content of the C. S. Fluid rapidly reaches a normal level. The serological response is slower. Cranial nerve palsies improve gradually and usually recover. It is doubtful if any further change towards improvement occurs after four months from the termination of penicillin treatment. Therefore it is advisable to repeat the course of penicillin after four months.

Parenchymatous Neurosyphilis.

Even in this form of the disease, the initial effect of penicillin treatment on the symptoms and C. S. Fluid changes is remarkably good. The cell and protein content of the C. S. Fluid becomes normal within four weeks and Wasserman reaction becomes negative within two months.

General Paresis:—There is definite clinical improvement in cases of general paresis treated by penicillin alone. The improvement in pathological state of the C. S. Fluid is seen in 60 per cent of cases. But no case of general paresis has been reported to have become serologically negative in both C. S. fluid and blood, with the maintenance of clinical improvement, on penicillin treatment alone. The best results appear to have been obtained in those cases treated with penicillin with some form of pyrexial therapy. Rose at al used a total of 33 lacs of penicillin in conjunction with only half the usual amount of fever therapy for 49 cases of general paresis. With improvement in 25 cases, failures in 21 and worsening effect in three.

In cases of general paresis treated with full malarial or fever therapy, whether or not followed by courses of arsenical and bismuth injections, the positive serological reactions in blood and C. S. Fluid take 2–4 years to become negative. The addition of an initial course of penicillin to therapeutic malaria certainly appears to hasten the reversal of the positive serological reactions, especially in the C. S. fluid. The scheme advocated by the author is:—

Four initial injections of bismuth (bismostab 0.5 c. c. or metallic bismuth 0.2 g) to obviate Herxheimer-jarisch reactions.

2. A full course of intramuscular penicillin in doses of 40,000 units every three hours (preferably), or 300,000 units every 12 hours, for a total dosage of 40-40 lacs units.

3. This is followed by the usual standard course of fever therapy, e. g., induced malaria to 12 rigors if possible, or at least 10.

4. Arsenic and bismuth is then given in weekly doses of neoarsphenamine (0.45 g) or mapharsen (0.06 g) or acetylarsan 3 c. c. and bismuth 1.05 c. c. of bismostab equal to 20 per cent suspension. 12 injections of each substance constitute a course. Three such courses should be attempted during the year. The C. S. fluid is examined every six months and treatment is continued until the serological reactions became negative. A further examination should be made six months later and then at intervals of one year for two years.

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In cases of general paresis in which malarial or fever therapy is contraindicated by reason of hyperpiesis or cardiovascular disease one needs to rely on penicillin alone.

Tabes Dorsalis.

No dramatic change is to be expected in tabes dorsalis following penicillin treatment. But C. S. fluid usually shows definite improvement and there is improvement in symptoms even if temporary, in some 40 per cent of cases. Malarial or fever therapy is not advocated for tabes cases. After 2 or 3 years intensive treatment with courses of arsenical and bismuth therapy most cases of tabes dorsalis can be arrested and the serological reactions rendered negative. An initial course of penicillin in doses of 40,000 units every three hours intramuscularly upto a total of 40-50 lac units is given. This is then followed up with arsenical and bismuth therapy in the usual doses. The arsenic bismuth treatment is continued upto 1-2 years. Attacks of so called lightning pains often persist in tabes dorsalis even when other symptoms are absent and when the disease is apparently arrested. Intrathecal penicillin (10,000 units in 10 c. c. of saline daily for 8 days) along with the usual standard course of penicillin injections intramuscularly gives better results in lightning pains.

Primary Optic Atrophy.

Malarial therapy (preferably) followed by bismuth and arsenical treatment is capable of arresting primary optic atrophy of syphilitic origin. It is known that 75 per cent of untreated cases become totally blind within three years and 100 per cent within 5 years. Penicillin treatment gives some excellent initial effect. Both malarial and penicillin treatments should be combined. Penicillin is given by intramuscular route 3 hourly in doses of 40 lac units and this is followed by 10-12 malarial rigors.

Late Asymptomatic Neurosyphilis.

Asymptomatic neurosyphilis is one in which cerebrospinal fluid shows the changes but no symptoms are present. It may be of two types:—

1. Early asymptomatic neurosyphilis. This is of meningo-vascular type and readily amenable to treatment. This occurs during or after the secondary stage.

2. Late asymptomatic neurosyphilis. This occurs long after primary infection. It is a parenchymatous form of disease in which C. S. fluid is only slightly affected by the intensive treatment with the ordinary remedies. It often terminates in general paresis. The early asymptomatic form is rapidly and favourably influenced by penicillin. The late form is also benefitted. Penicillin should be given in full doses 40 lacs units in divided doses every 3 hours intramuscularly. This is then followed by full pyrexial therapy malaria 10-12 rigors and finally the full arsenic bismuth therapy until the C. S. fluid is normal and the serological reactions are negative.

Erb's Syphilitic Spinal Paralysis.

In this parenchymatous neurosyphilis there is degeneration in the antero lateral portion of the spinal cord and is highly resistant to all the antisiphilitic drugs. At least five years must elapse before we can determine fully the value of penicillin in neurosyphilis.



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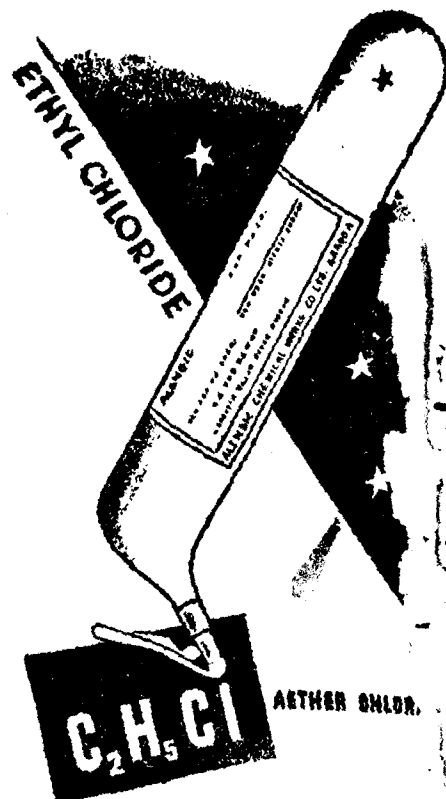
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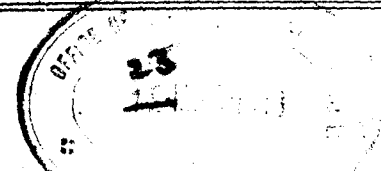


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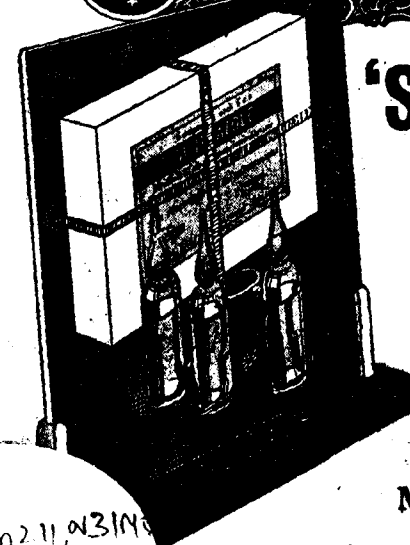
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Editor: Dr. P.R. Venkappaya
Established 1932

VOL. XVII FEBRUARY 1948 NO. 2

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Annual Subscription: Rs. 5; Foreign: 10 sh. Single Copy: As. 8

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MEDICO-SURGICAL SUGGESTIONS

(Established 1932.)

VOL. XVII FEBRUARY 1948 NO. 2

SOME LIVER DISORDERS*

S. K. SUNDARAM, B.A., M.D.,
Madras.

The subject I have chosen to-day of some liver disorders will be dealt with under two main headings, viz., jaundice and ascites. I do not propose to deal with those aspects of the problems which are recognised and about which there is no controversy. I just propose to take up for discussion points about these two symptoms of liver failure on which our views have changed in the course of the last few years.

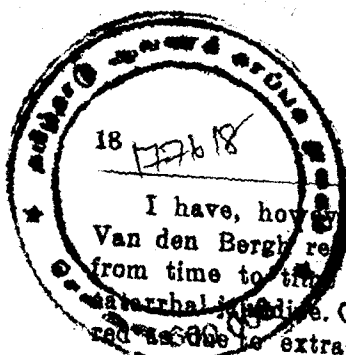
There is, of course, the classical division of jaundice into hæmolytic and obstructive jaundice, according to McNEE, the equivalent of which under Rich's classification are retention and regurgitation jaundice.

Taking the obstructive jaundice in the first instance, the obstruction may be within or outside the liver. It is very important to be able to locate the site of obstruction, because there is scope for surgical interference in extra-hepatic jaundice. The differentiating points centre round history and laboratory tests for efficiency of liver function. As regards history, in intra-hepatic jaundice, nausea and other constitutional symptoms of liver damage occur in the beginning, whereas in extra-hepatic jaundice, these symptoms come on late as a result of retained bile. Secondly, between the two, other things being equal, there will be greater variation of icterus index from time to time in intra-hepatic than in extra-hepatic jaundice. Thirdly, liver efficiency tests which are in vogue to-day are:

1. Serial Van den Bergh, or icterus index estimations.
2. Plasma cholesterol and serum albumin and globulin (liver being the chief seat of manufacture of albumin).
3. Hippuric acid excretion test; and more recently cephalin flocculation test
4. Colloidal gold test.
5. Brom-sulphathalein excretion test.
6. Vitamin K required to bring prothrombin time to normal.

I do not propose to waste any time over the techniques or the details of these tests.

*Paper read under the auspices of The Indian Medical Association, Madras.



I have, however, to take into consideration the sequence of Van den Bergh reaction, for the interpretation we have given it from time to time is based on our changing view in regard to catarrhal jaundice. Catarrhal jaundice was in the old days considered as due to extra-hepatic obstruction. The site of obstruction was the common bile-duct. The inflammation was supposed to have spread into it in retrograde manner, starting from duodenal catarrh. The inaugural symptoms of stomach upset in catarrhal jaundice were thus attributed to duodenal catarrh. When Van den Bergh reaction was first discovered, it always gave a biphasic reaction in catarrhal jaundice and not an immediate direct reaction which one would expect in a pure extra-hepatic obstruction. Instead of doubting the authenticity of our then views on catarrhal jaundice, the usefulness of Van den Bergh's reaction as a qualitative test was questioned. Later on, it was noticed that catarrhal jaundice occurred in epidemics. In certain epidemics liver biopsy was done and necrosis of the liver cells was demonstrated. Two conceptions then arose of catarrhal jaundice,—one in which the jaundice was purely extra-hepatic and the other in which it began in the liver. The question could not be finally solved, because there was practically no post-mortem material available, where the patient died before the late effects on the liver of jaundice were felt. During the last war, however, there have been plenty of opportunities for studying every aspect of the so-called catarrhal jaundice, because it occurred in very heavy epidemics. It is now accepted that the so-called catarrhal jaundice is infective hepatitis, the result of a virus infection. Inaugural symptoms of gastro-intestinal upset, viz., nausea, vomiting, fever, tenderness in the hypochondrium, and in 25 per cent of cases, enlargement of the spleen are the result of the virus infection. Later on, the chief symptoms centre round intra-hepatic obstruction from necrosis of the liver cells caused by the virus. It is now clear why we always have biphasic reaction in catarrhal jaundice, because the obstruction there was the result of disorganised liver structure caused by necrosis of the liver cells. The last war has also helped us in clearer elucidation of other changes closely related to infective hepatitis. For instance, the so-called arsphenamine jaundice has long been recognised and has been considered as the inevitable result of organic arsenic poisoning. It was known that arsphenamine jaundice could occur several months after the last injection of N.A.B. It has now been established that arsphenamine jaundice is the result of a virus infection—the virus being transmitted from person to person through the use of the same infected syringe. Arsphenamine jaundice has been completely eliminated in certain clinics by the use of a new syringe for every patient. There is no doubt that transient jaundice may occur as allergic reaction to the arsphenamine injection. That

is altogether different. The classical arsphenamine jaundice which results in hepatitis has a much longer incubation period than infective hepatitis. It is now believed that the prolonged incubation period of four months and over in arsphenamine jaundice is due to the unusual mode of infection, viz., through the blood. By the usual method of droplet or other oral infection, the incubation period is up to a few weeks.

Similar to arsphenamine jaundice, we have jaundice caused by vaccination against yellow fever, protection against measles and even blood transfusion. In all these cases, it is presumed that infection must have come from a non-recognised human source whose blood must have gone into the pool in the preparation of vaccine etc.

It is not finally settled whether the same virus is responsible for infective hepatitis as well as for homologous serum jaundice. Evidence is more or less complete for incriminating the same virus except that the person who has had an attack of infective hepatitis is not totally immune to homologous serum jaundice and *vice versa*.

I have dealt at some length with catarrhal jaundice, because on the changing conception of the aetiology of catarrhal jaundice, much of modern treatment of jaundice depends. In the old days when we thought that obstruction was extra-hepatic and catarrhal, we naturally gave cathartic drugs to relieve catarrh and cut out protein and fat from the diet because there was not only biliary but also pancreatic duct obstruction. Now we know that there is primarily damage done to the liver cells,—the obstruction being only secondary to disorganisation of liver structure, our treatment is to protect the liver as much as we can. There is no place for any cathartics, except perhaps for mild cathartics in the early stages when the patient has nausea, loss of appetite and so on. The modern view is that the diet which protects the liver best is high protein, high carbohydrate, low fat, and high water-soluble vitamin diet. As we no longer postulate pancreatic obstruction there is no need now to restrict protein. If we see to the low fat content of the diet, especially of cooked fat, and leave the rest to the patient's own discretion with weightage in favour of bland proteins and carbohydrates and vitamin content, there is no other treatment required in the great majority of cases, for 99.4 per cent of cases of infective hepatitis tend to spontaneous recovery.

It is further known now that sulphur containing amino-acids are of particular value in protecting the liver. The two most important of these are Methionine and Cystine. Besides the sulphur containing amino-acids, we have a component of the vitamin B complex, viz., Choline. This seems to have a definite protective function on the liver. The role of these three factors

in protecting the liver is to protect it against fat infiltration. They are, therefore, called lipo-tropic factors. They protect the liver against excess of fat in the diet and prevent fat-laden cirrhosis of the liver. Their role is comparable to that of vitamin B₁ and D against excess of carbohydrate diet. Methionine alone seems to have an additional protective function, *viz.*, that of preventing liver necrosis. The role of these three factors in liver protection is only one part of the story of our modern conception of liver protection and damage.

We now believe that there are three factors concerned in liver damage—(1) dietetic, (2) infective and (3) toxic. Dietetic factors have just been discussed, but infective factors are the yet unidentified virus of infective hepatitis and homologous serum jaundice, the viruses of yellow fever and Weil's disease and the bacterial causes that may cause infective cholangitis. Of all these infections of the liver, the most well-known and commonest is infective hepatitis. Its chief differentiating points from the other infections of the liver associated with jaundice are its persistent leucopenia and normal sedimentation rate. In doubtful cases, these two points help in diagnosis.

There is no specific treatment for infective hepatitis, but in inflammation of the liver associated with leucocytosis, Penicillin comes in very handy. I have known of cases where patients have been snatched, as it were, from death by Penicillin.

Another point that must be mentioned in connection with the diagnosis of infective hepatitis is its differential diagnosis from malaria. In 25 per cent of infective hepatitis the spleen is enlarged and in malaria there may be bilious vomiting. In certain cases of infective hepatitis, the inaugural fever lasts for several weeks. Apart from the presence of parasites in malaria, one has to depend in such case for differential diagnosis on the presence of bile in the urine in infective hepatitis (absent in malaria) and on a normal sedimentation rate in infective hepatitis.

The curative value of Methionine, Cystine and Choline in infective hepatitis is yet unproved. The treatment is prolonged, 5 g. a day of Methionine and 1 g. a day of Choline for several weeks till the patient is absolutely free from disease. But there is considerable experimental and clinical evidence available as regards their protective value.

I may here say a few words about certain old prescriptions for catarrhal jaundice. There is no special virtue in the administration of Glucose by injection, with or without Insulin. Glucose need only be given to the patient when he is unable to retain any food or when he is feeling too drowsy to be depended upon to take in anything, or by nasal feeding as the case may be. Calcium has no value in the treatment of infective hepatitis. It was used with

the idea of protecting liver cells and of preventing hæmorrhage for which there is tendency in infective hepatitis. Hæmorrhage can only be controlled by adequate parenteral administration of vitamin K, preferably in aqueous solution. If liver is badly damaged vitamin K can no longer be converted by it into prothrombin. Calcium has no proved protective value for liver function.

I have been unable to understand the rationale of giving Insulin along with Glucose in the treatment of infective hepatitis. For, it must be admitted that in non-diabetic persons, there is no need to give Insulin to promote utilisation of sugar. Fortunately, in view of 92.4 per cent spontaneous recovery, there is scope for a variety of a treatment. That is why each exponent of a particular line of treatment claims a high percentage of cures for his own special treatment. The disease is best left alone after seeing to it that the fat intake is well covered by high protein, high carbohydrate and high vitamin diet.

Just as jaundice is the manifestation of acute liver failure, so also ascites is the result of slow progressive destruction of the liver. In fact it has been speculated that a patient who has recovered from infective hepatitis is a potential future candidate for portal cirrhosis of the liver subject, of course, to the nutritional and toxic effects coming into operation. The so-called alcoholic origin of portal cirrhosis of the liver only requires to be mentioned as one of the ætiological factors. Too much importance was attached in the past to the alcoholic origin of cirrhosis of the liver, as if it was a specific ætiological factor. We now believe that the role of alcohol in cirrhosis of the liver is dietetic and toxic. Chronic alcoholic addiction certainly tends to dietetic deficiency and it also causes toxic hepatitis. The recent work of this triple ætiological role of cirrhosis of the liver must enable us to prevent cirrhosis both in children and in adults, and, at the same time, it improves the outlook in early cirrhosis of the liver, before the liver has contracted sufficiently to cause irreparable fibrosis.

In children it is believed that Choline is the most important protective constituent against liver damage. It may be that Methionine may also play some part. In adults, the treatment of cirrhosis of the liver with the advent of modern ideas of its ætiology is not as hopeless as it was a few years ago. In our own province, some years ago, we were asked to try the effect of a pure milk diet on cirrhosis of the liver. This treatment was apparently started by some sub-assistant surgeon in service who seemed to have had good results. I have myself tried four cases and followed them up completely. Two of them died and two recovered completely, and in one of the cases that recovered, I have had the opportunity of seeing the effect of milk treatment on two different occasions. On both the occasions, the ascitic fluid completely

disappeared. Retrospectively, in view of the modern work on cirrhosis of the liver, it is clear why milk had such good results. It is essentially a high protein diet, and milk protein is of the best quality. It is also clear now that one can liberalise the diet and need not insist on an exclusively milk diet. In practice, however, I restrict the diet to milk and fruits and in intelligent patients to rice, etc., without any cooked fat, chillies, condiments and spices. This I consider to be of some value when the patient's liver is still enlarged and palpable. To reinforce the protein in such a diet we have hydrolysed proteins. As regards drugs, we have now to depend upon Methionine and/or Choline.

Where the liver is palpable 5 g. are given for three to five months. More recently, crude liver extract (Cohn's fraction) has been used by daily intravenous injections with success. The role of liver extracts in the cure of cirrhosis of the liver is not clear. It has been suggested that it just increases the appetite of the patient and his assimilation of food. At this stage I should like to emphasise the importance of differential diagnosis of hepatic from cardiac ascites. Ascites as a result of cirrhosis of the liver may be due to two causes (1) portal obstruction, and (2) toxic cirrhosis of the liver. In portal obstruction, the ascites will be the outstanding or only manifestation. In toxic cirrhosis, it will be part, and not necessarily the first manifestation, of a general anasarca.

The simulation with heart failure will in the latter event be greater. Whatever the sequence of ascites in cirrhosis of the liver, it should not be attributed to cardiac failure, unless there is clear and unequivocal evidence that hepatic congestion is present. Increased intra-abdominal pressure may cause pressure congestion of the bases of the lungs and transverse increase in the diameter of the heart. Cardiac murmurs may be caused by embolism. But murmurs, if they are systolic, are not diagnostic of heart failure. Impairment of the heart's boundaries in heart failure is not accompanied by elevation of the apex beat, as it is in primary ascites.

I cannot sufficiently emphasise this particular difficulty in diagnosis, because, I have had cases of cirrhosis of the liver referred to me again and again as heart failure and treated ineffectively with Digitalis.

I am aware that my treatment of the subject is sketchy and incomplete. I have no intention of making it exhaustive. I mean my remarks to be provocative.

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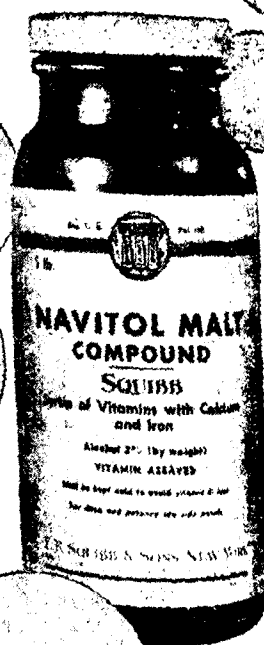
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ORAL PENICILLIN TREATMENT OF GONORRHEA.

ALFRED COCHIN, BORRIS A. KORNBLITH AND ISAAC GRUNSTEIN.

AM. J. SYPH. GONOR & VEN. DIS., 50: 485-489, 1946.

In a study of methods of obtaining maximal concentration of penicillin in the blood, the authors treated 111 gonorrhea patients in clinics.

The tablets used in this study contained varying amounts of calcium penicillin buffered with magnesium oxide and coprecipitated aluminum hydroxide and calcium carbonate. Four treatment schedules were evaluated. In group I, a total amount of 450,000 Oxford units of penicillin was administered orally in tablet form in 3 equally divided doses over a period of 4 hours, the patients taking 6 tablets (150,000 O. u.) at 2-hour intervals. In group II, a total amount of 300,000 O. u. of penicillin was administered orally in 5 equally divided doses over a period of 8 hours, each tablet containing 20,000 O. u. The patients swallowed 3 tablets (60,000 O. u.) every 2 hours until all tablets were taken. The patients of group III received a total dosage of 600,000 O. u. of penicillin divided into 10 tablets containing 60,000 O. u. each. Two tablets (120,000 O. u.) were taken every 2 hours for 8 hours. In group IV, a total amount of 800,000 O. u. of penicillin was given over a period of 7 hours as follows: 24 tablets, each containing 25,000 O. u. of penicillin, were given to the patient; 6 tablets (150,000 O. u.) were taken immediately, followed by 2 tablets (50,000 O. u.) every hour for the succeeding 6 hours. On the seventh hour, the patient was instructed to take the remaining 6 tablets (150,000 O. u.) The tablets administered to the patients in groups I and IV contained double the amount of buffering material used in groups II and III.

The diagnosis and determination of cure of gonococcal infection were established by repeated smears and cultures of the urethra and prostate in men and of the urethra and cervix in women. An average of four bacteriologic examinations over an average period of 3 weeks were performed before the patient was considered cured. In this study, bacteriologic findings reversed from positive to negative within 24 hours in all patients who responded to this form of therapy, remaining negative for the duration of the follow-up. No toxic effects were observed as a result of the oral administration of penicillin in the manner of this study.

In group IV, a cure rate of approximately 90 per cent was obtained (treatment failure in 4 out of 50 patients) attributed to the hourly administration of penicillin. Also noteworthy was the fact that repeated doses of 50,000 O. u. of oral penicillin given at hourly intervals are sufficient to sustain a therapeutic effect when combined with a large initial and final dose of 150,000 Oxford units.

ASYMPTOMATIC NEUROSYPHILIS: PROGNOSIS.

RICHARD D. HAHN AND E. GURNEY CLARK.

AM. J. SYPH., GONOR & VEN. DIS., 30: 513-548, 1946.

The authors report a study to determine the prognosis of asymptomatic neurosyphilis in 533 patients with at least two spinal fluid examinations and in 467 patients with at least two physical examinations. These two groups, although not mutually exclusive, are analyzed separately throughout the study. In 40 per cent of these individuals, very few of whom were untreated, the observation period was less than 2 years and in 35 per cent it was more than 5 years.

This study considered the variables which confront the physician dealing with a patient who presents no clinical evidence of neurosyphilis—the variables being race, sex, and age of the patient, treatment prior to diagnosis of neurosyphilis, degree of positivity of the spinal fluid at first examination, duration of syphilis at the time of initial spinal fluid examination, and type and amount of treatment received after the diagnosis of asymptomatic neurosyphilis. Prognosis was determined with respect to both spinal fluid and clinical outcome.

It was found that the spinal fluid outcome and the probability of developing clinical neurosyphilis were not significantly different in males compared to females, nor in white patients compared to Negroes. Since the Negro patients in this study had received inferior treatment to that of white patients, the identical outcome suggests a somewhat more favourable prognosis in the former race. The longer the duration of syphilis the more strongly positive and the more resistant is the spinal fluid; in this group, therefore, the patients with late asymptomatic neurosyphilis, despite better treatment, did less well regarding cerebrospinal fluid outcome than did the patients with early asymptomatic neurosyphilis when observed over a similar time period. It is claimed that spinal fluid improvement is a relative but not an absolute guarantee against clinical progression and that lack of spinal fluid improvement is an extremely grave prognostic sign portending the development of parenchymatous neurosyphilis.

It is concluded that the longer the posttreatment follow-up of a group of patients with asymptomatic neurosyphilis who were treated, as in this group, predominantly by metal chemotherapy, the greater is the percentage who will develop clinical neurosyphilis. The probability of developing clinical neurosyphilis by the tenth year of observation was 15.8 per cent for the group as a whole, 36.3 per cent. In the patients whose spinal fluids became worse or remained unchanged, and only 6.8 per cent in the patients whose spinal fluids became negative or significantly improved.

An attempt was made to assess the value of tryparsamide, but no correlation whatever could be demonstrated between the amount of tryparsamide received and either the final spinal fluid outcome or the probability of developing clinical neurosyphilis. In the small group given malaria therapy, the probability of clinical progression was 9.5 per cent at 5 years with no increase in 10 years. There was no spinal fluid progression and 25 per cent achieved a negative fluid.

It is concluded that although adequate amounts of routine therapy with trivalent arsenical and bismuth are of distinct value in the treatment of many patients with asymptomatic neurosyphilis, fever therapy is the most efficacious form of treatment in this disease.

VITAMINS IN THE TREATMENT OF CHRONIC ARTHRITIS

C. H. TRAEGER, M. Cl. N. Am.; 30: 616; 1946.

Vitamin-A: This has no place in the treatment of chronic arthritis.

Vitamin-B Complex: Thiamine hydrochloride does not help in the alleviation of the neuritic pain of rheumatoid arthritis. Niacin, orally or parenterally, brings about temporary relief of joint pain. Oral and intravenous administration of nicotinic acid, in large doses, produces significant improvement in a large percentage of rheumatoid arthritis cases. This result is however temporary. Niacinamide and riboflavin have no place in the treatment of chronic arthritis in any form.

The vitamin-B complex can be given as a tonic.

Vitamin-C: No clinical improvement has been noted with this vitamin in chronic arthritis.

Vitamin-D: From three to six capsules, representing 150,000 to 300,000 units of vitamin-D, could be employed with relative safety. Vitamin-D in weekly dosages ranging from half a million to one and a-half million units may be given parenterally. Medication with vitamin-D is a relatively nontoxic therapeutic agent, and is beneficial in the treatment of chronic arthritis of the rheumatoid type. Intolerance occasionally occurs but is easily controlled by reducing the dosages or discontinuing the medication temporarily. Demonstrable signs of improvement are definitely noted, and are frequently sustained even after cessation of medication. There is no increase of calcification of the blood vessels observed either radiologically or by ophthalmological examination of the retinal vessels. The renal function is not impaired. Gallbladder and liver function are not impaired. There is no casual relationship between an occasional elevation of blood calcium and vitamin-D toxicity.

Vitamin E: Until more controlled studies in the treatment of fibrositis are conducted the value of vitamin-E must be considered as questionable.

Vitamin K: Patients receiving large doses of salicylates over prolonged periods of time should receive concurrently adequate doses of vitamin-K. The author did not find it necessary to use this vitamin in any of his cases with prolonged salicylate medication.

It is concluded that the role of vitamins in the treatment of chronic arthritis is unquestionably not specific, but only supportive, and in the case of vitamin-D empirical but definitely useful. There seems to be no direct indication for the use of Vitamin-A, vitamin-B complex (thiamine hydrochloride, niacin, riboflavin), vitamin-G, -E, or -K, in the relief of symptoms of chronic arthritis.

HABITUAL CONSTIPATION.

Management: If cathartics are bad, then enemas are much worse. An enema reverses the physiology of the colon. Determine whether the patient has colonic stasis or rectal constipation, and treat him accordingly.

Diet: Commence active treatment by the elimination of meat, fish and cheese (which are concentrated proteins) from the diet for at least one week. The protein requirement can be made up by eating vegetables, salads and eggs. Fruit and fruit juices should be consumed generously. In addition, eight glasses of tap water should be taken every day, at least two glasses before breakfast. For elderly people a generous amount of sour milk is beneficial. (Sour milk is prepared by adding to pasteurized milk either sour cream or lactic acid tablets.) Sour milk may be used for lunch. It is nourishing and beneficial for the bowels. It is advisable to give dehydrated fruits to these patients. These fruits have hydrophilic action on the bowels.

Regulation of habits: A fixed time should be reserved for bowel evacuation, preferably in the morning. The toilet should not be converted into a library. Concentration upon the act is very important in re-establishing its reflex. The abdominal muscles should be employed to facilitate the action. The patients masticating organ should be inspected and repaired if necessary. The teeth must be in good repair. With gingivitis and infections of their gums it becomes difficult for the patients to chew their food on account of pain. Finger massage followed by a gentle mouthwash is more beneficial than the accepted method of brushing the teeth.

Exercise and mechanical aids: Exercise designed for the purpose of strengthening the abdominal muscles should be instituted. Get the patient lie flat on his back with the hands folded behind the

head. Then have him touch the left knee to the right elbow and the right knee to the left elbow. After doing this a few times pull up both knees and touch both elbows. This has a tendency to tighten the abdominal muscles. This is suitable for older people and young women and those who have weak abdominal muscles. For every old or weak people (who cannot perform strenuous exercise) rotary abdominal massage may be of some help. Sometimes the author recommends the rolling of a small bowling ball on the abdomen.

In those people who have a spastic sphincter and with the resultant rectal constipation, anal dilatation is indicated. For this purpose the finger is preferable. If further dilatation is needed, then the accepted anal dilators may be used.

Drugs: As an adjunct to bowel elimination, magnesium oxide or bicarbonate soda is sufficient. In others we recommend three or four drops of cascara. The old reliable lapactic pill is of still great help. In elderly people with atony of the bowel hydrophilic remedies are recommended. These have a tendency to increase the bulk of stool and their usage should be decreased in direct proportion to the benefits obtained. Copious amounts of water should be taken.

For older people the author recommends the following:—Cook one pound of prunes together with one ounce of senna leaves. If the patient eats one or two prunes with a little prune juice as a dessert it will give him regular bowel evacuations. In rectal constipation of older people, oil retention enemas are indicated. For them the author advises instillation of about four ounces of warm mineral oil at night before retiring. Bile salts in older people are frequently beneficial. Brewer's yeast will activate the bowel somewhat. (D. A. Meiselas; *Rev Gastroenterology*; 14: 558; 1947.)

Medical Notes & News.

CERTIFICATES FOR INNOCULATION

According to international requirements, certificates of inoculation and vaccination against cholera, smallpox, typhus and yellow fever must be in the internationally prescribed form. Copies of prescribed forms can be obtained from the nearest Administrative Medical Officer. These forms should be filled in by the passenger's doctor very carefully to see that all items have been accurately completed, as any defective or incomplete answers to the various items may result in the certificates not being recognized by the countries of transit and destination and the passenger may, in consequence, be placed in quarantine. It is very important for instance, to put in, the origin and batch number of vaccine used in the case of smallpox vaccination and to record the date and the result of inspection of vaccination in one of the columns prescribed at the

Considerable difficulty has been experienced recently by Indian passengers going abroad on account of their inoculation and vaccination certificates being found defective by the countries of destination. It is therefore essential in the interest of the passengers themselves to see that they carry with them certificates on the prescribed forms which have been carefully completed by their doctors.

1. Haffkine Institute, Bombay.
2. All India Institute of Hygiene and Public Health, Calcutta.
3. King Institute of Preventive Medicine, Guindy, Madras.
4. Central Research Institute, Kasauli.
5. The Provincial Public Health Laboratory, New Delhi.

Vaccinations should be arranged :

Vaccinations should be arranged, by appointment with the nearest of these centres where internationally recognized certificates on the prescribed form will also be issued. The Government of India propose to take legal action against any unauthorised issue of yellow fever certificates. The medical profession are therefore warned not to issue yellow fever vaccination certificates under any circumstances what so ever and direct passengers requiring such certificates to one of the above mentioned centres.

UNIFIED INDIAN MEDICAL SYSTEM

Need urged at Madras meeting

Madras, Feb. 19: Addressing a meeting of students of the Government College of Indian Medicine at Kilpauk yesterday, Dr. B. A. Pathak, Principal, Benares Ayurvedic College, and a member of the Central Government Indigenous systems of Medicine Inquiry Committee, urged the need for development of a synthesis of the various systems of medicine in this country, integrating the useful elements of all systems into a unified Indian medical system. Dr. M. Parankusam, Principal, presided.

Dr. Pathak referred to the problem before them as a kind of rivalry between medical system in India, and said that the aim should be to evolve a cheap and effective scheme of medical relief

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MEDICO-SURGICAL SUGGESTIONS

Vol. XVII.

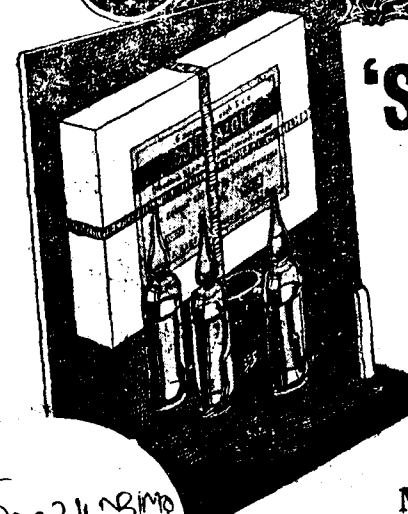
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A MONTHLY JOURNAL OF PRACTICAL MEDICINE & SURGERY
Editor: Dr. P.R. Venkappaya Established 1932

VOL. XVII MARCH 1948 NO. 3

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Annual Subscription: Rs. 5; Foreign: 10 sh. Single Copy: As. 8

Sample Copy for 4 As. Stamps.

Office of the Editor & Publisher; 2/337, Mint Street, Madras, India.

Phone: 4030.

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MEDICO-SURGICAL SUGGESTIONS

(Established 1932.)

VOL. XVII

MARCH 1948

NO. 3

TREATMENT OF ANAEMIA

BY J. G. PAREKH *

Moderate degree of anaemia especially in women is extremely common in our country but because it does not give rise to marked symptoms it is often neglected. It is only after restoration of the blood to normal that the patient gets a feeling of well-being and realises what he or she had been missing. As an illustration it may be stated that in a recent investigation on so called normal healthy individuals of Gujrati community, 88 females gave an average of a little over 12 g. of haemoglobin.

There are certain fundamentals which must be stressed for rational and efficient treatment of anaemia.

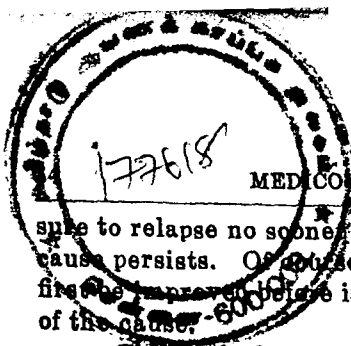
The first thing to be done is to be on a look out for anaemia so that treatment may be instituted early.

Secondly, the diagnosis of anaemia must be based not only on clinical grounds but on actual count of the red cells of the blood and haemoglobin estimation. Pallor is not synonymous with anaemia. It has been the experience of many that not uncommonly a person looking pale when referred for blood examination is found to have a red cell count of 5 million or over with a full complement of haemoglobin, to the surprise of the clinician. The blood examination, besides establishing the presence of anaemia gives one an idea of the type of anaemia viz., whether it is hypochromic or macrocytic, etc. This information is extremely valuable from treatment point of view for it tells one, whether the person needs primarily iron or liver. Accurate diagnosis before the treatment is started may mean saving of needless transfusions or giving of costly liver extract injections when the purpose could have been served by an in-expensive iron preparation. Unfortunately there is a prevalent belief that all anaemias need liver and iron.

Thirdly the haematological examination must precede therapy otherwise the picture gets altered and results in confusion.

Fourthly, every attempt must be made to find out the cause of anaemia. It is no use treating a case of anaemia as is commonly done, with haematinics without removing the root cause. The patient may and very often does improve with treatment but he is

*From the Department of Medicine J. J. Hospital, Bombay.



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sure to relapse no sooner the treatment is stopped as long as the cause persists. Of course if the anaemia is severe, the blood must first be improved before instituting treatment for the eradication of the cause.

The methods of treatment in a case of anaemia are:

1. General management of the patient.
2. Removal of the cause and of the factors inhibiting blood production.
3. Administration of haematinics—liver, stomach preparation marmite, iron, copper, vitamin C, folic acid, thyroid extract etc.
4. Blood transfusion.
5. Irradiation of bone marrow
6. Splenectomy.

The above measures, individually or in combination would result in (a) restitution of normal haematology (b) relief of symptoms (c) rehabilitation of the patient.

GENERAL TREATMENT

General management of a case of anaemia is often neglected. In severe cases rest becomes essential in order to avoid strain on the enfeebled myocardium. For moderate degrees of anaemia restricted movement may be permitted. Fresh air and cheerful surroundings would make the illness less irksome and would help to speed up the recovery.

Diet must be adjusted to suit the patients digestive ability. The patients have often anorexia and hence food must be appetizing and given in an attractive form. Food rich in blood building substances such as meat, eggs, oatmeal, lentils, splitpeas, green vegetables etc. should be selected.

ADMINISTRATION OF SPECIFIC SUBSTANCES

Hypochromic Anaemia:

The commonest type of anaemia met with in practice is hypochromic anaemia. The causes which may give rise to it are many. The following clinical conditions are included Hypochromic anaemia of infants, idiopathic hypochromic anaemia, hypochromic anaemia in pregnancy; anaemia of chronic haemorrhage chronic infection, ankylostomiasis, chronic diarrhoeas and dysenteries etc.

The main deficiency in these anaemias is iron and this may be brought about by an inadequate supply or excessive loss. This deficiency can be corrected only by supplementing enough of iron. For rapid effects iron preparations need to be given, for maintenance and for prevention food rich in iron must be given.

Iron is best administered by mouth. Parenteral administration of iron is not recommended. Ferrous salts are more efficient than ferric salts. Organic iron preparations are useless.

For oral use the salts of iron commonly used are ferrous sulphate ferriet ammon citrate and ferrous carb :—Blaud's mass.

Ferrous sulphate is by far the best and cheapest. 3 gr. tablets given three to four times a day is sufficient in an average case. Being in tablet form it is easy to administer and can be easily carried. On exposure it is likely to get converted to the less desirable ferric state.

Ferriet ammon citras in a dose of 90 gr. per day is another efficient preparation. It makes an elegant mixture and can advantageously be given together with dilute hydrochloric acid. Its disadvantages are that large doses are required and this may be a cause of gastrointestinal upset. It is more expensive and less convenient to carry. It is likely to stain the teeth even if it is taken through a glass tube.

Blaud's mass—*Pillula Ferri Carbonas* is a very old remedy and is given in 15 gr. doses three times a day. The tablets are likely to harden on keeping and may pass through the gut unabsorbed freshly made pills should only be used.

Iron preparations are best given after meals. It is preferable to start with a small dose and increase it gradually to the maximum dose. Large doses, if given in the beginning produce nausea, vomiting, or diarrhoea. Small doses are likely to produce constipation. If one preparation does not agree, one should change over to another. In presence of chronic sepsis, chronic nitrogen retention or arteriosclerosis a larger dose of iron is required. Iron must be taken over prolonged periods. Concurrently, administration of diluted hydrochloric acid with or without glycerine pepsin not only helps assimilation and absorption of iron but improves appetite, removes flatulence, stops diarrhoea and helps digestion.

Iron administration, though primarily causing an increase in the haemoglobin results in an increased delivery of red cells from the bonemarrow. In addition, the condition of the tongue improves, in many cases irrespective of vitamin B administration. The size of the spleen is reduced, dysphagia disappears and the pale concave or flat nails are restored to normal. The general condition of the patient shows concomitant improvement. Achlorhydria is usually not benefited.

Liver extract contains many factors and some of these are useful in hypochromic anaemias. Therefore, in such cases administration of crude liver extract by injection enhances the haematinic effect of iron and the rise of haemoglobin is more rapid. Whole liver by mouth is useful in haemorrhagic anaemia and in nutritional anaemias as it is a rich source of aminoacids, iron and vitamins. It is not effective in idiopathic hypochromic anaemia. Oral liver extracts are of not much use in these cases and use of combinations of iron with such liver extracts is to be deprecated.

In refractory cases administration of vitamin C in 50 mg. doses helps blood regeneration by allowing more iron to reach the intestines in the ferrous state due to the reducing action of vitamin C.

Addition of copper to enhance the effect of iron is seldom necessary as most of the iron preparations contain traces of copper as impurities.

Recently reports have appeared about the use of molybdenum compound in combination with iron—(2.5 mg. in 40 mg of ferrous sulphate). The haematinic effect of this compound is said to be far superior than the above mentioned preparations. In the United States attempts are being made to use radio-active iron the treatment of anaemias.

With efficient treatment the haemoglobin should rise at least by 1 per cent daily after an initial lag preceding the reticulocyte response.

A diet rich in iron such as meat, beef, liver, eggs, cheese; whole green cereals and green leafy vegetables should be consumed regularly.

Co-existing hypoproteinaemia and avitaminosis should also receive attention.

Macrocytic Anaemias:

The other type of anaemia which is not uncommon is a macrocytic type of anaemia. Pernicious anaemia is not common in this country. But other types of macrocytic anaemia such as tropical macrocytic anaemia, macrocytic anaemia of sprue, pregnancy, pellagra, those associated with liver and gastrointestinal disorders are not so uncommon. In these anaemias the deficiency is mainly of the erythrocyte maturation factor (E.M.F.) found in liver. This factor is composed of extrinsic and intrinsic factors. In pernicious anaemia the intrinsic factor is absent, but in tropical macrocytic anaemia the extrinsic factor is wanting. In macrocytic anaemia of pregnancy the stomach does not produce the intrinsic factor temporarily.

In the treatment of these anaemias liver extract is necessary. In pure pernicious anaemia refined extracts are useful; whereas in the other types cruder preparation are valuable. Proteolysed liver extract has been found to be useful in tropical macrocytic anaemias. These extracts must be administered by intramuscular route. Intravenous route is not advocated due to the danger of severe or very fatal allergic reactions, besides there is seldom such an emergency and even when there is an emergency, a blood transfusion would serve the purpose better.

Formerly the liver extracts were not standardized and different preparations varied in their haematinic effects. The establishment of anti-anaemia unit (U.S.P. unit) has brought order out of chaos. There is no one standard dose of liver extract for all patients: every

patient varies in his response to the liver. The dose required is the effective dose and the individual patient is the final criterion. The dose has to be varied according to the severity of the anaemia and a larger dose would be required if the patient is old or has got arteriosclerosis or is suffering from some infection. Patients with subacute combined lesions of the nervous system required 4 to 5 times the usual dose. Ordinarily in a moderate case of anaemia one unit per day is recommended. But more is often necessary. In a severe case 15 units daily for 4-5 days followed by bi-weekly and weekly injections of similar amount till the count is normal and then a maintenance dose 15 units fortnightly or monthly must be continued. If products like reticulogen are used 0.5 c.c. to 1 c.c. dose is satisfactory. Repeated blood checks are necessary especially in cases of pernicious anaemia for it must be realised that liver therapy in such cases is a mere substitution therapy and there is always the danger of relapse or of the patient developing subacute combined degeneration.

Liver extract injection are likely to give rise to untoward manifestations. Locally there may be pain and tenderness. Induration may persist for some time. Allergic reaction of the type of flushing, tachycardia, fainting, cough, nasal or ocular discharges, general weakness, urticaria, asthma, diarrhoea, vomiting, abdominal pain, substernal pain, rigor, fever, angioneurotic oedema, and in severe cases collapse and even death may occur. For the immediate relief of these symptoms injections of adrenalin 0.5-1 c.c. should be given subcutaneously and ephedrin by mouth to maintain the effect. Calcium should be given orally or by injections. To prevent the repetition of manifestation it is necessary either to change the brand of liver extract or better still to desensitise the patient. The desensitisation can be carried out by giving minute doses of liver extract subcutaneously gradually increasing the dose till no more reaction occurs. In the alternative the maximum tolerated dose of liver extract may be given with antigen H 0.1 c.c. intramuscularly, gradually increasing the dose of antigen by H 0.1 c.c. weekly till the full dose is tolerated. In patients known to have blood pressure, diluted adrenalin may be mixed with liver extract.

Oral administration of liver extract is not practicable. Because it has to be given in very large amounts which is in itself a disadvantage. Many vegetarians will not take it by mouth. But they would not mind the extracts of liver given to them parenterally. The most important point against the oral administration of liver extract is its relatively poor result—parenterally administered liver extract being 60 times as effective as the oral liver. Recently introduced proteolysed liver extract concentrations have been found to give good results. Other oral preparations which are not in common use but are useful in cases of macrocytic anaemia, are derived from hog's stomach (Ventricoline, Gastron, Pepsac, etc.)

These have to be given in doses of 10 g.—15 G. four times a day and later once daily for maintenance. Extracts of kidney and brain have also been used fairly successfully. Autolyzed yeast, marmite, etc., are curative in tropical macrocytic anæmia due to malnutrition, sprue or pregnancy.

In those cases where the hemoglobin falls behind the red cells count it may become necessary to administer iron.

Most of the cases of anæmias have an associated achlorhydria or hypochlorhydria with gastrointestinal upset and indigestion and for these administration of hydrochloric acid is very helpful.

In the field of therapeutics of anæmias a new drug has recently made its appearance. This is folic acid.

It was observed that rhesus monkeys when kept on a special diet developed syndrome characterised by anæmia, leucopenia, loss of weight, diarrhoea and ulceration of the gums. If untreated, the animals died in 1 to 3 months. Addition of various vitamin B factors such as riboflavin, nicotinic acid or thiamin chloride did not help them. However, addition of 2 g. of liver in 10 G. of Brewer's yeast restored them to normal health and their blood count was also restored. It was therefore concluded that these monkeys were suffering from lack of some vital nutritional substance; this substance was called vitamin M and it is present in yeast, spinach and liver extract.

Later it was found that a substance derived from yeast and liver extract was found to be essential for the growth of *lacto bacillus casei*. Hence it was called *lacto-bacillus casei* factor. This was the substance also curative for monkeys kept on vitamin M deficient diet. Still later a synthetic substance crystalline in nature and identical with *lacto-bacillus-casei* factor was prepared which was called folic acid.

On account of the similarity between the vitamin M deficiency syndrome in monkeys and sprue in human beings a trial was given to folic acid in these cases. Folic acid produced a dramatic improvement both symptomatic and hæmatologic in cases of sprue. On account of these remarkable effects, folic acid was used in other macrocytic anæmias and it produced results more or less identical with that of liver extract. Thus, for the first time it was possible to administer a pure synthetic compound to patients with macrocytic anæmias. With further experience, it was found that folic acid does not cure nor prevents occurrence of peripheral nerve lesions or subacute combined degeneration of the cord. It was also found that in an identical case or in the same case at the same hæmatological level, a reticulocyte response to concentrated liver extract was better than that of folic acid. Reports have appeared of liver-refractory anæmias responding satisfactorily to folic acid.

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CALCUTTA BOMBAY MADRAS KARACHI RANGOON DELHI LAHORE

Folic acid can be administered either by mouth or by injections and is useful in all macrocytic anæmias. Though the dose is not yet definitely worked out the experience up-to-date shows that for oral use 10 mg. twice a day or 2-5 mg. by injections brings about maximum reticulocyte response. In hypochromic anæmias folic acid produces a slight initial increase in the red cell count, but further administration does not restore the blood count to normal. It has no effect on aplastic anæmia, idiopathic thrombocytopenia, leucopenia and leukæmia. At present folic acid is difficult to get and is very expensive. But being a synthetic drug it can be prepared on a large scale: then its cost would be considerably reduced with the result that its administration will be cheaper than that of concentrated liver extract. And this should be of particular value in our poor country. Further, vegetarians will have no objection in taking this preparation.

Another synthetic preparation 5-methyl-uracil (thymine) in daily oral doses of 15 g. has been tried in cases of macrocytic anæmias and it produces a remission in macrocytic anæmias but the response is not as good as with liver extract or folic acid. But it opens up a fresh field for investigation for other synthetic preparations of this group which may ultimately lead to the discovery of some hæmatinic factor equally efficacious if not more efficacious than concentrated liver extract.

Before the advent of liver therapy arsenic was the sheet anchor in treatment of anæmias. The consensus of opinion now is that arsenic has no place in the treatment of anæmias except perhaps in an indirect manner in cases where the bone-marrow is over-crowded by other elements.

Anæmia of scurvy responds primarily to vitamin C administration and this is to some extent true of thyroid in hypothyroid state.

BLOOD TRANSFUSION

Transfusion of blood becomes necessary for cases with a count below 1 million. Concentrated red cell suspensions are preferable to whole blood in such cases.

This method of treatment is now employed for following types of cases:

1. Sudden loss of blood.
2. Severe anæmia.
3. Refractory anæmia.
4. If surgery becomes necessary in an anæmic patient.
5. In hæmorrhagic blood disorders.
6. Acute hæmolytic anæmia.
7. Nutritional and other anæmias with lowered plasma proteins and œdema.
8. Aplastic anæmia.

Before considering the above it may be stated that a transfusion of 500 c.c. of blood will ordinarily result in an elevation of red cell count and hæmoglobin by about 10-15 per cent within 24 hours. The red cells thus transfused would remain in circulation for a period of one to three months whereas leucocytes are removed within a few hours. Platelets last for 3-4 days.

1. Sudden loss of blood: If external it would be obvious, but internal hæmorrhage has to be diagnosed clinically. The blood count will not indicate the loss; one has to depend on the following

picture: restlessness, air hunger, pallor, a rising pulse rate and a low systolic pressure of 70 mm. of Hg. or less to diagnose diminution blood volume. In such cases an immediate transfusion of 500-1000 c.c. of suitable blood would be a life saving procedure, for otherwise a fatal tissue acidosis for a vasomotor collapse may ensue. In absence of facilities a whole blood transfusion, plasma, gum saline, glucose saline or even normal saline may be used.

2. Anæmia unless of severe degree seldom needs a blood transfusion. If, however, the red cell count and the hæmoglobin level are very low and the patient manifests evidences of deficient oxygen carriage, such as dyspnoea, cyanosis, restlessness, severe weakness, anginal or cerebral symptoms then a small transfusion of 250-300 c.c. of blood may be given very slowly at a rate not exceeding 40 drops a minute. If necessary, the transfusion may be repeated.

3. There are certain cases of anæmia which do not respond initially to specific hæmatinics or after having responded initially get so to say stuck up at a particular level. In such cases a small transfusion has been found to set the ball rolling again and the red cell count and the hæmoglobin level to reach normal.

4. If anæmia alone is a contraindication to the performance of surgical operation especially in an emergency, the difficulty can be tidied over by transfusion of blood before, during and after operation.

5. The most dramatic effect of a blood transfusion is in hæmorrhagic states. When other methods have failed to check the bleeding, transfusion of fresh whole blood comes to the rescue. It is useful in all hæmorrhagic states and specially in hæmophilia, in thrombocytopenic purpura, in hæmorrhagic states brought on by acute infections or drugs like benzol, in hæmorrhagic disease of the new-born or in liver diseases.

Small transfusions are as effective as large ones and in absence of availability of suitable blood even intramuscular injections of 10 or 20 c.c. of blood serves the purposes to some extent. Within a few minutes of transfusion the hæmorrhages stop.

6. In acute hæmolytic anæmia, repeated, small blood transfusions given over a period during which hæmolysins are present and active is the only means of saving the patient.

7. Quite a large number of cases of anæmia especially of the nutritional type are associated with œdema and most of these have lowered plasma proteins. Such cases respond well to repeated blood transfusions. Diuresis and lessening of œdema may be observed within 24 hours of transfusion.

Of late concentrated red cell suspensions are being used with advantage in the treatment of some cases of anæmias in preference to whole blood especially when the aim is to increase the oxygen carrying capacity of the patient's blood. These are especially valuable when it is desired to obtain the maximum rise in hæmoglobin with the minimum volume of fluid transfused especially in cases with a low cardiac reserve or where the hæmoglobin is very low. Refractory anæmias respond well to this mode of transfusion.

8. In aplastic anæmia blood transfusion should be given till it is definitely shown that the diagnosis is correct, after that it is debatable point whether transfusion should be continued indefinitely or not.

IRRADIATION OF BONE MARROW

This procedure is not in common use. It may become necessary to use this method where anæmia results from invasion of the bone marrow by leukæmic or neoplastic infiltrations. Suitable irradiation in such cases may result in a rise of hæmoglobin and red cells and the general well being of the patient. Arsenic also acts similarly. However, this is only of temporary benefit.

SPLENECTOMY

This major surgical operation must be decided upon if there is evidence to show that the spleen is responsible for the production of anæmia.

It has been found that splenectomy is of distinct value in two blood disorders which cause anæmia, viz., familial hæmolytic jaundice and essential thrombopenic purpura.

In cases of splenic anæmia, the opinion of authorities is divided regarding the value and necessity of splenectomy.

Apart from the above-mentioned conditions, splenectomy is not advisable.

Finally there are certain anæmias for which there is no satisfactory treatment, viz., aplastic anæmias, acute hæmolytic anæmia, Cooley's anæmia.



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Extracts.

THE COMMON COLD.

BY N. D. FABRICANT, M. D.

The common cold may rightly be called the patient's plight and the doctor's despair. The common belief is that nothing much can be done about the common cold:—the only way to treat it is—with contempt; a practice as current today as it was in ancient Rome. It is responsible for at least economic loss of one hundred crores of dollars in U. S. A. every year. Though rarely a direct cause of death, it may cause other serious infections such as bacterial pneumonias, subacute bacterial endocarditis, septicemia and meningitis and frequently precipitates the symptoms of coronary thrombosis, peptic ulcer and other diseases. It causes more loss of time from industry and from schools than all other diseases combined. Industry has lost 20 times as much time by the common cold as by accidents.

Etiology: The epidemic form of the disease is caused by a filterable virus. Small outbreaks of colds, however, are sometimes caused by micro-organisms capable of invading the healthy mucous membrane in the absence of a concurrent virus infection. Immunity after an attack is short lived—lasting for few weeks only. Local resistance of the nasal mucosa is impaired by structural abnormalities such as nasal polypi, hypertrophied adenoid tissue, or chronic sinusitis. Chilling of the surface of the body causes a reflex vasoconstriction, and a fall of temperature of the mucous membrane favouring the invasion of viruses. Sudden chilling of the body may bring on an attack in a person who has had a recent infection or recent contact, but only if such a condition accompanied the chilling (Paul and Freese).

Vasomotor disturbances in the nasopharynx may be caused by various irritants, allergens in the air or food or by injection. Systemic causes may do the same, hence factors like constitution fatigue and emotional strain are of etiologic importance in the common cold.

Common cold Therapy: No method of prevention of common cold is effective. Dietary treatment is of no avail. If food deficiency is present, vitamins and extra protein in diet may be helpful, but not otherwise 'alkalinization' of the system is of no value. Even measures conditioning the body to sudden changes in external temperature of the skin like cold baths and exercise in the open air have failed to lower the incidence of colds (Gafafer). Cold vaccines given by injections orally or by nasal spray are also useless (Diehl). Recently sterilization of the air of rooms with ultra violet light and chemicals has been practised in order to reduce the incidence of respiratory infections, but these methods too have proved of doubtful value.

The chief line of treatment is symptomatic. During the earliest stages of the common cold the prime objective is to supply moisture by means of inhalations to the stricken upper respiratory passages. Alcohol may abort a cold by causing peripheral vasodilation and re-establishing circulation in chilled cutaneous and mucosal surfaces. The best treatment is rest in bed especially when fever is present. There is no need to give fluids if there is no thirst and cathartics are of no value. Salicylates do not have any effect on the cold but reduce headache and body pains. Sulfonamide and penicillin are ineffective in virus-initiated colds.

Local nasal medications not injurious to the mucosa are helpful by vasoconstriction and by promoting drainage from the nasal sinuses.

(Abstracted from the *American Journal of the Medl. Sciences*, Oct. 1947.)

TREATMENT OF CONVULSIONS.

A. LEVINSON; *Md. Cl. N. Am.*; 30: 173; 1947.

Immediate Treatment: No matter what the cause, the convulsion must be stopped (unless the patient is an epileptic). For this purpose the most effective drugs are:—

1. Chloroform (by inhalation): Drop on gauze or on mask loosely applied, until convulsions subside.
2. Ether (by inhalation): Effect is not so rapid as after chloroform.
3. Vinethene (by inhalation): Effect is not as lasting as after chloroform.
4. Sodium Phenobarbital (intramuscularly or intravenously): 0.04 grain per pound body weight, or 1 to 1½ grains to patients under two years, 1½ to 3 grains to patients two to six years old.
5. Sodium Amytal (intramuscularly or intravenously): 0.04 grain per pound body weight. It may also be given by starting with 7½ grains in a syringe and injecting very slowly until patient falls asleep.

No morphine should be given. No mouth gag should be used. No mustard bath or any other bath.

Postconvulsive State: The patient should not be disturbed.

Treatment of Successive Convulsions: If convulsions repeat themselves a sedative should be used to prevent recurrence. The following drugs are most useful for this purpose:—

1. Nembutal: 1/10 grain per pound body weight rectally, but no more than 6 grains at one time.
2. Seconal: 1/10 grain per pound body weight rectally, but no more than 6 grains at one time.

3. Chloral hydrate: 0.4 grain per pound body weight; 2 to 3 grains in newborn; 10 to 15 grains in children two to six years old. Chloral hydrate should be dissolved in one to two ounces of water (not in starch water) and given rectally.

4. Oxygen: This is given when cyanosis persists after convulsions.

5. Glucose: Three hundred c.c. of 10 per cent solution in water or saline intravenously.

6. Calcium gluconate or lactate: Three hundred c.c. of 5 per cent solution.

Spinal Puncture (Diagnostic): This is best done after the patient has passed the postconvulsive state; but may be done during post-convulsive state if immediate diagnosis must be made. In repeated convulsions, spinal puncture is also useful in treatment. In the latter case a small amount of fluid should be removed.

USE AND ABUSE OF FORCEPS.

J. W. HARRIS; *Postgrad. Med.*; 2: 81; 1947.

The most disastrous errors are introduction of the blades through an incompletely dilated cervix and application to the head otherwise than laterally. Prophylactic use should be classed as meddlesome midwifery. The author deplors the great number of instrumental deliveries made because of excessive anesthesia or the physician's haste to terminate labor. The only reason for forceps is to spare mother, child, or both, the effects of protracted labor.

The instrument should either provide axis traction or have shanks long enough to permit simulated axis traction applied manually. Some of the forceps designed to rotate the posteriorly arrested occiput have real merit, but usually manual rotation is preferable.

The following conditions must be fulfilled before instrumental delivery can be undertaken. The membranes must be ruptured and the cervix fully dilated. No serious disproportion should exist between maternal pelvis and the fetal head; compression may cause severe intracranial damage. Except in breech deliveries the head must present. Accurate knowledge of cranial position is essential; only the sides of the head can be safely grasped. Before application of the forceps, the head should be well engaged in the pelvis. The higher the position, the less accurate the maneuver, the longer the time of traction, and the greater the trauma.

The head is not ordinarily impeded above the level of the ischial spines unless the pelvis is contracted or some hindrance exists that should have been corrected long before. When the cord is prolapsed with the head high, the child should be delivered by version and extraction. A fetal heart rate of 100 or less between

contractions usually means fetal anoxia. The cause may be prolonged pressure of the head on the pelvic floor but is usually excessive anesthesia. Unless the cord is compressed, pure oxygen given to the mother between contractions ordinarily overcomes the deficit and permits normal delivery. Although the majority of breech deliveries can be completed by the Mauriceau maneuver, forceps should be used if delivery of the after-coming head is difficult. When the patient has severe diabetes, a damaged myocardium, or a uterus weakened by cesarean section, forceps should be used as soon as the head reaches the pelvic floor.

Medical Notes & News.

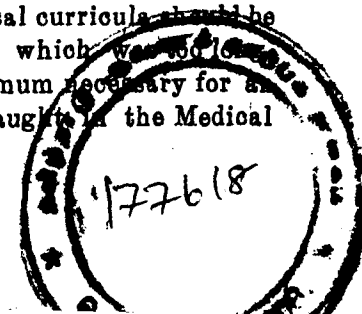
RECRUITMENT TO MEDICAL SERVICES.

MAYOR DEPRECATES COMMUNAL BASIS.

Addressing the Trichy Medical Association on March 6th 1948. Dr. U. Krishna Rao, Mayor of Madras, appealed to various medical associations to merge with the Indian Medical Association and to speak with one voice with regard to the various problems facing medical profession today. He said that both the Central Government and the Provincial Governments owing to unforeseen developments in the country following the advent of Freedom, could not pay their attention to nation-building activities. He expressed the hope that now that more or less normal conditions had been restored, the recommendations of the Bhore Committee would be implemented and the legitimate grievances of medical profession attended to.

Referring to recruitment of medical services, Dr. U. Krishna Rao felt that the best men should be selected by open competition and promotions should be according to seniority and efficiency. He deprecated the present policy of granting admission to Medical Colleges on a communal basis. He said that on account of this policy, thousands of deserving students were refused admission. As a compromise he felt that at least thirty per cent should be reserved for deserving candidates, five per cent for the sons and daughters of medical men and the rest on a communal basis. The Mayor added that salaried medical practitioners should be prevented from having private practice.

In order to meet the growing demand for what he called good doctors he suggested that the present medical curricula should be changed. He felt that the present course which was too long should be reduced and only the absolute minimum necessary for an efficient ordinary practitioner should be taught in the Medical Colleges.



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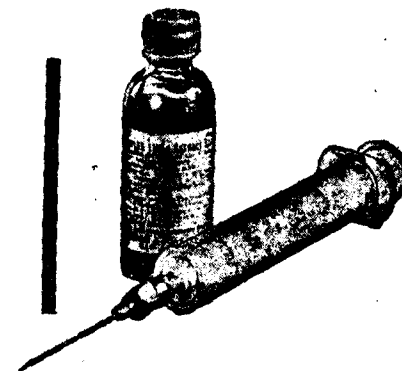
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(1) Spies, T. D. and Butt, H. R., chapter in
"Diseases of Metabolism", edited by G. G. Duncan

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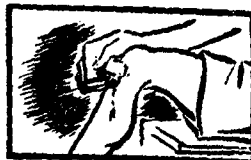


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Printed by Mr. S. Sundaresan, L.P.T., for the C.O.P. Works, Ltd., 1/17, Mount Rd., Madras.