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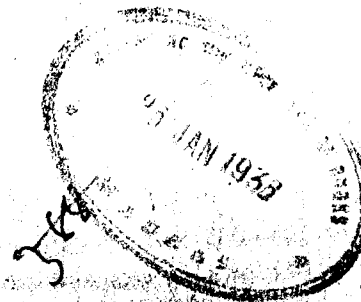
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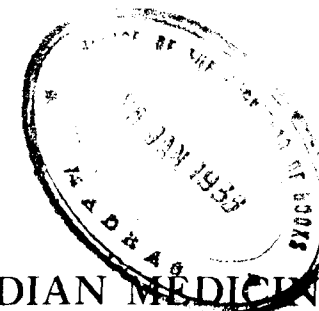
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SYPHILIS AND ITS TREATMENT

A HISTORICAL REVIEW

R. V. RAJAM, M.B., M.S., M.R.C.P. (Edin.)

Venereal Specialist, General Hospital, Madras, and
Lecturer in Venereal Diseases, Madras Medical College.

I have chosen as the subject of my paper A Historical Review of Syphilis and Its Treatment for several reasons. The history and evolution of syphilis is the most dramatic in the history of Medicine. The growth of our knowledge of syphilis is an epitome of the history of the growth of Modern Medicine. Syphilis touches every branch of Medicine. It is peculiarly a human disease, and the most poignant aspect of it is its capacity for hereditary transmission. It is a bi-sexual disease and, hence, one of the most difficult diseases from the social stand-point. And its sudden emergence 450 years ago, its lightning spread, and its devastating character, have inspired poets and dramatists from Shakespeare to Ibsen.

INTRODUCTION OF SYPHILIS INTO THE OLD WORLD

Much ink has been spilt on the controversy regarding the origin of syphilis. The majority view, backed by overwhelming circumstantial and direct evidence, favours the American origin of syphilis. Syphilis first appeared in Spain in 1493, the year of the return of Columbus from his first voyage of discovery to America. The majority of his sailors and crew were infected with syphilis when they landed at Barcelona. As these heroes were received with open arms, especially by the women folk who were very free with their favours, the disease spread very rapidly among the inhabitants there. In 1494, Charles VIII of France collected a great mercenary army for the invasion of Italy. Amongst these were many Spaniards infected with syphilis. The progress of Charles's army through Italy, which offered no

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 resistance was more a triumphant march of debauchery than a serious military campaign. In those days, a moving army was always provided with sexual amenities in the shape of several women who accompanied the army from place to place. In the spring of 1495, Charles and his army captured Naples and prepared for its permanent occupation. Then a new disease of devastating character broke out among his troops which compelled him to evacuate the city. The undisciplined, disease-ridden, and disorganised troops scattered over Europe and returned to their respective countries carrying the new disease with them. Then began the epidemic spread of the disease all over Europe in the space of three or four years. There was no name for the new disease, and each country blamed its immediate neighbour and called it by that country's name. The Italians called it the *French disease*, the French called it the *Neapolitan disease*, the English called it the *French disease*, the Russians called it the *Polish disease*, and the Spaniards called it the *disease of Espanola*. From Europe, the disease was carried as a merchandise to the other two known continents of the Eastern Hemisphere, Africa and Asia.

The evidence for the American origin of syphilis may be summarised as follows :

1. The absence of any certain reference to the existence of syphilis prior to the siege of Naples in 1495 either in the lay or the medical writings of the pre-Columbian period, of classical antiquity or of the middle ages, in contrast with the immense amount of literature bearing on syphilis subsequent to that event.
2. The term 'venereal disease' did not exist either in ancient times or in the middle ages. It was only years after the appearance of syphilis in Europe that the term, *Morbus Venerea*, was first introduced by JACQUES DE BETHENCOURT (in 1527) and the term, *Lues Venerea*, by JEAN FERNEL (in 1548).
3. The documentary evidence of several edicts and orders from the various countries of Europe, chief among which are the Edict of Maximilian, Emperor of Germany, in 1495, the Order of the Borough Council of Aberdeen and that of the Scottish Privy Council in 1497, and the Order of the Parliament of Paris in 1496, banishing all persons suffering from the never-before-seen-and-heard-of-disease.
4. But the most incontrovertible and direct evidence for the American origin of syphilis was unearthed by a Spanish Army Surgeon, MONTEJO Y

ROBLEDO, in 1882. One source was the writings of the Spanish historians, OVIEDO and LAS CASAS, who were sober writers of history and contemporaries of Columbus. Another was the writings of DIAZ DE ISLA, a Spanish physician of note. DIAZ DE ISLA was supposed to have been practising in Barcelona in 1493, at the time when Columbus returned from his first voyage. His original manuscripts are still preserved in the National Library of Madrid. His writings show that he was a very witness to the landing of syphilis in Europe. He had a large practice in syphilis and he called the disease the *Serpentine Malady of the Isle of Espanola*. DIAZ says: "It has pleased divine justice to give and send down upon us unknown afflictions, never seen or recognised, nor found in medical books such as this serpentine disease.....At the time that the Admiral Don Xristomal Colon arrived in Spain, the Catholic Sovereigns were in the city of Barcelona. And when they went to give them an account of their voyage and of what they had discovered, immediately the city began to be infected and the aforesaid disease spread. In the following year of 1494 the most Christian King, Charles of France, who then was reigning, having gathered a great army, passed into Italy, and at the time that he entered the country with his host many Spaniards infected with the disease were in it, and at once the camp began to be infected with the aforesaid malady, and the French, as they did not know what it was, thought it came from the atmosphere of the region. The French called it 'the Disease of Naples.'"

5. Another important evidence is the evidence of bones. The great VIRCHOW, from an examination of a large number of specimens, said in 1896 that no authentic syphilitic bones of Pre-Columbian date had been found in Europe. More recently, ELLIOT SMITH, from a careful examination of nearly thirty thousand bodies of ancient Egyptians, was unable to find even a single bone suggestive of syphilitic disease. On the other hand, WILLIAMS has recorded six most important finds showing syphilis of pre-Columbian date in the Western Hemisphere.

EARLY THEORIES AND OBSERVATIONS

Our present knowledge of syphilis, especially on the clinical side, is a growth of four centuries of observation and description by a succession of brilliant physicians who have immortalised themselves in the onward progress of Medicine. The appearance and spread of syphilis in Europe coincided with the beginning of the Renaissance and it afforded an ideal means for the objective study of disease. The sudden appearance of the disease

at the end of the fifteenth century was a challenge to the scholasticism and arm-chair theorising of Galenical and Arabic medicine. In the early years of the appearance of syphilis, all sorts of phantastic theories were promulgated to account for the disease. One is the famous astrological view of causation: the conjunction of Jupiter and Mars with Saturn in the sign of the Scorpion; and in the allocation of the Zodiac to the various parts of the human body, the Scorpion represents the genital tract. Another theory attributed Syphilis to the rains and inundations of the times. The intercourse of a leper with a prostitute was advocated by PARACELSUS; the poisoning of wells by the Spanish Viceroys of Naples by FALLOPIUS. But the most phantastic belief was that syphilis was caused by cannibalism, and even a person like FRANCIS BACON strongly believed in this theory. Only when the disease assumed pandemic proportions was its sexual origin recognised. Even then, the sexual origin applied only in the case of ordinary mortals. With the clergy, who at that time suffered severely from syphilis and whom it was inconvenient to offend, it was the influence of the stars and the putrid air.

During the first fifty years of its appearance, the manifold clinical manifestations of the disease, the primary lesion, fever, pain, the cutaneous rash, alopecia, mouth and throat affections, affections of the internal organs and of bones and joints, were more or less accurately described. More than forty authors wrote treatises on the subject in the first half of the sixteenth century. All authors dwelt in particular upon the malignant and often fatal course of the infection.

The excessive severity of the infection during the first three or four decades could only be explained on the supposition that it was engrafted on a virgin soil hitherto syphilis-free. The rapid, wide-spread and universal spread of infection in the earlier decades of the sixteenth century was due to two causes—brothels and bath houses. In those days, brothels for every class of society, from the nobleman to the serf, existed in every town. Frequenting of brothels was done in the open, no shame or scandal was attached to it. It was one form of entertaining one's guests, taking them to the 'house of joy', just as we entertain our guests in modern times by taking them to the picture-houses. Public baths were another important source for the spread of infection. These baths, where able-bodied men and women bathed in a state of nature to the accompaniment of music, feasting and wine bibbing, afforded ideal means for sexual and contact infections.

EARLY MEDICAL WRITINGS

Of the several physicians who wrote on syphilis in the sixteenth century, five stand most prominent above the rest. PARACELSUS (1493-1541) suggested the hereditary transmission of the disease and is supposed to have strongly advocated mercury in the treatment of syphilis (1531). FRACASTORO (1484-1553) wrote a poem, *Syphilis sive Morbus Gallicus*, which was published in 1530. He immortalised himself by giving the disease its present name. FALLOPIUS wrote a treatise on syphilis (1555). He distinguished between syphilitic and non-syphilitic condylomata. He was the first to apply mechanical protection against syphilitic infection, the forerunner of the modern condom. He wrongly attributed the tertiary manifestations of syphilis to mercurialism, and he was one of the prominent opponents of mercury. JEAN FERNEL (1506-86), the greatest French physician of the Renaissance, was the first to distinguish gonorrhoea from syphilis. He also made the important discovery that syphilitic infection would not pass through unbroken skin. He traced the course of the infection and showed that chancre is the initial lesion. AMBROISE PARE (1510-90), the greatest of Renaissance surgeons, was the first to describe the indolent nature of the syphilitic bubo and was also the first to suggest syphilis as the cause of aneurysm. He employed the speculum for the examination of vaginal and uterine lesions and made the first detailed communication on hereditary syphilis. It is an interesting fact that eighty years elapsed, before the great outbreak of syphilis at the end of fifteenth century received notice in English medical literature, when WILLIAM CLOWES Surgeon to St. Bartholomew's Hospital, published his treatise on *Lues Venerea* in 1576.

LATER STUDIES

In studying the syphilology of the seventeenth and the first part of the eighteenth century, one notes a tendency to monographic treatment on the individual aspects of the disease. Destructive syphilitic disease of the nose and mouth were described as well as lesions of bones. The recognition of the various manifestations of syphilis of the Central Nervous System like cerebral gumma and syphilitic meningitis, dates from this period. Of great interest are the investigations of LANCISI (1655-1729) upon the connection between aneurysm of the heart and great vessels and syphilis. He wrote a treatise on the subject and was the first to describe cardiac syphilis. The celebrated work of JEAN ASTRUC, *De Morbus Venerii*, published in 1736,

is an epitome of the accumulated knowledge of the period. It includes a discriminating bibliography of all previous writings on syphilis and a critical historical examination into the American origin of the disease. But the greatest contributor of the eighteenth century was MORGAGNI (1682-1772). In his studies of morbid anatomy, he established for all time the occurrence of syphilis in the viscera. He also made contributions to the distinction between syphilis and gonorrhoea by his intimate study of gonorrhoea and its complications. Other contributors to the knowledge of syphilis in the latter part of the eighteenth century were STOLL, VON ROSENSTEIN, FRANCIS BALFOUR, and BENJAMIN BELL. The last two demonstrated experimentally the duality of syphilis and gonorrhoea.

JOHN HUNTER AND AN EXPERIMENTAL ERROR

During this period the famous JOHN HUNTER, the ablest apostle of experimental medicine and the founder of surgical pathology, did a great disservice to the onward progress of syphilology by asserting the identity of syphilis and gonorrhoea. He contended that the virus of gonorrhoea and syphilis was the same; that inoculation of this virus into a secreting surface produced gonorrhoea, into a non-secreting surface produced syphilis. To establish this theory he inoculated a non-secreting surface, his skin, with pus from a case of gonorrhoea with the result that he developed constitutional syphilis. It is plain to us that he must have made the experiment from a case of mixed infection. But to JOHN HUNTER such a possibility was not to be thought of. According to him, the experiment confirmed his view of the unity of syphilis and gonorrhoea. He wrote a treatise on venereal disease in 1786. His narrow interpretation and self-opinionativeness did not take into account the accumulated knowledge of his predecessors. He denied the occurrence of extra-genital infection, of hereditary syphilis, and of syphilis of the internal organs. Unconvinced by the writings of his contemporaries like MORGAGNI and BENJAMIN BELL, JOHN HUNTER stuck to his views, and the world believed him.

PHILIP RICORD AND THE FRENCH SCHOOL

For seventy years, from 1767 to 1837, the teachings of HUNTER on syphilis held sway till a Frenchman, PHILIP RICORD, came on the scene and demolished for all time the former's erroneous ideas as to the identity of syphilis and gonorrhoea. The history of Modern Syphilology begins with PHILIP RICORD, the great experimenter and pioneer. He started the French School of Syphilology which contributed more than any other body to our

present clinical knowledge of syphilis. He performed 2,500 inoculations and conclusively proved the duality of syphilis and gonorrhoea. He denied, however, the specific nature of the gonorrhoeal virus and looked upon the disease merely as a simple catarrhal secretion. He distinguished and described the three stages of syphilis. He held that secondary syphilis is not contagious, an error which was disproved by WALLACE of Dublin in 1835. We are also indebted to RICORD for the important distinction between soft sore and hard sore. He was the first to recognise the excessive rarity of re-infection of syphilis. RICORD is credited with a large number of risky *bons mots* and anecdotes, and Dr. OLIVER WENDELL HOLMES has styled him "the Voltaire of pelvic literature, a skeptic as to the morality of the race in general, who would have submitted Diana to treatment with mineral specifics and ordered a course of blue pills for the vestal virgins".

With the impetus given by RICORD to the study of syphilis, the French School of Syphilology, under FOURNIER and DIDAY, reached its high water-mark during the latter half of the nineteenth century. JEAN ALFRED FOURNIER of the Hôpital St. Louis, Paris, was the greatest figure in the field of syphilology during the latter half of the nineteenth century. To him is due the recognition for the first time of the social problems of the disease, and of the necessity of long-continued treatment and observational control, and he laid down stringent criteria for the marriage of syphilitics. But his greatest contribution to the subject was his demonstration along with ERB of the aetiological relationship of syphilis to paresis and tabes. He did a considerable amount of propaganda, and inspired non-medical writers like Eugene Brieux, Michael Corday and Victor Margueritte to write dramas and novels on the social aspects of the disease. PAUL DIDAY of Lyons was mainly responsible for the study of congenital syphilis and for the recognition of the relationship of syphilis to hereditary dystrophies and deformities.

OTHER STUDIES

Contemporaneous with the clinical study of syphilis by the French School, VIRCHOW, the great German pathologist and the discoverer of cellular pathology, studied and described the pathological aspects of the disease. He recognised the essential vascular pathology of the disease, showed the identity of all syphilitic lesions and emphasised its protean character. He also shed light upon the peculiar periods of latency and recrudescence of syphilis. Other notable contributors to the study of syphilis of the period are JONATHAN HUTCHINSON of England, who was responsible

for the description of the so-called Hutchinsonian triad in congenital syphilis, COLLES of Dublin who enunciated the famous Colles's Law, PROFETA of Italy, ERB of Germany, TAYLOR and MORROW of the United States.

SYPHILIS IN LAY LITERATURE

Apart from the knowledge gained by the study of the aforesaid medical writers on syphilis, much useful and interesting information could be obtained by the study of the non-medical writers of the past four centuries. *Erasmus* and *Rabelais* in the 16th century, *Shakespeare* in the 17th, *Voltaire*, *Casanova*, *Defoe*, *Smollet* in the 18th, *Heinrich Heine*, *Daudet*, *Rudyard Kipling*, *Ibsen*, and *Brieux* in the 19th century, are among the chief lay writers who dealt with aspects of the disease. The destructive nature of tertiary lesions, affection of the larynx, alopecia, and impotence are nowhere more strikingly depicted than in the following denunciation of Timon of Athens in Shakespeare's play --

Consumptions sow
In hollow bones of man; strike their sharp shins,
And mar men's spurring. Crack the lawyer's voice,
That he may never more false title plead,
Nor sound his quilllets shrilly: hoar the flamen
That scolds against the quality of flesh,
And not believes himself: down with the nose,
Down with it flat; take the bridge quite away
Of him that, his particular to foresee,
Smells from the general weal: make curl'd-pate ruffians bald
And let the unscarr'd braggarts of the war
Derive some pain from you: plague all;
That your activity may defeat and quell
The source of all erection.

The subject of syphilis with the terrible mercurial treatment of those days, the illustrious victims of the disease including Royalty, Nobility and High Clergy, and the lucrative nature of a venereal practice formed admirable themes for satire and denunciation to that great French writer, *Voltaire*. In one of his works, he pleads that a *league of nations* should be formed for combating syphilis, an idea which was not realised till 150 years later.

The *Memoirs of Casanova* is another important piece of belletristic literature on venereal diseases. Casanova, the great sexual athlete of the

eighteenth century, himself suffered from gonorrhoea four times, chancroid five times, and syphilis possibly once. In spite of all these attacks, he lived to an advanced age with undiminished mental and physical vigour. There are numerous references to condoms in his *Memoirs* as a prophylactic against the disease. Evidently, mechanical protective devices were in use even in those days, and must have irritated Madame de Stael, the celebrated courtesan of the period, who denounced the condom as "a cuirass against pleasure and a spider's web against danger!" The best-known English novelists of the eighteenth century, *Defoe*, *Fielding*, and *Smollet*, make several allusions to syphilis. Destruction of the nose as the result of wenching is repeatedly held out as a warning to his son by Lord Chesterfield in his *Letters*. A similar warning is given by Steele in the following piece in the *Tatler* of December 7, 1710: "I shall close this paper with an admonition to the young men of this town which I think the more necessary because I see several fresh coloured faces that have made their first appearance in it this winter. I must therefore assure them that the art of making noses is entirely lost, and in the next place not to follow the example of our ordinary town-rakes who live as if there was a Taliacotius to be met with at the corner of every street. The general precept I shall leave with them is to regard every town woman as a particular kind of Siren that has a design upon their noses, and that amidst her flatteries and allurements they will fancy she speaks to them in that humorous phrase of old Plautus, 'Keep your face out of my way or I will bite off your nose.'"

It is only in the literature of the nineteenth century that we find for the first time descriptions of Tabes and General Paralysis. *Heinrich Heine*, the poet, and *Alphonso Daudet*, the novelist, were victims of Tabes and they have left poignant descriptions of their sufferings. Vivid pictures of Tabes may be found in *Rudyard Kipling's* story, 'Love of Women', and *Conan Doyle's* 'The Surgeon Talks'. *Ibsen*, the greatest dramatist of the nineteenth century, gives a most realistic description of the juvenile form of Paresis in the person of Oswald, a character in his drama, 'Ghosts'. To the present century belong the writers Brieux, Michael Corday, Victor Margueritte and Upton Sinclair, all of them propagandist writers against the social menace of syphilis.

It will be seen that before the dawn of the present century clinical syphilology had reached its acme of perfection. In these days of "serological blood-tests and bottle and test-tube medicine, we are apt to forget that the

fathers of modern medicine described, classified, catalogued and comprehended the entire range of the clinical manifestations of syphilis with their unrivalled capacity for observation and record."

THE TWENTIETH CENTURY

The dawn of the present century and the ten years following it constitute the most brilliant epoch in the history of syphilis. In spite of the great advances in clinical syphilology of the nineteenth century, the fundamental problem of syphilis, its organismal cause, remained unsolved at the commencement of this century. During the first decade of the present century, one discovery after another was announced before an astonished world in rapid succession. In 1903 METCHNIKOFF and ROUX demonstrated that syphilis was inoculable in apes. In 1905 SCHAUDINN and HOFMANN discovered and demonstrated the organism of syphilis. In 1907 WASSERMANN, NEISSER and BRUCK applied the Complement Fixation Reaction of BORDET and GENGOU to the diagnosis of syphilis. In 1909 EHRLICH discovered *Salvarsan* for the chemo-therapeutic treatment of syphilis. In 1911 NOGUCHI successfully cultivated the *Spirochaeta pallida* in vitro, and proved the specificity of the organism by inoculating animals and reproducing the disease. All these discoveries were not accidental phenomena, but the culmination of patient, planned, and laborious research.

DISCOVERY OF THE CAUSATIVE ORGANISM

The history of the search for the organism of syphilis is very interesting reading and to those who wish to become familiar with it I would commend the brilliant contribution of METCHNIKOFF to the work, *A System of Syphilis*, Edited by D'Arcy Power and J. Keogh Murphy. In 1837, long before LOUIS PASTEUR announced his bacterial theory of the causation of diseases, DONNE, a French microscopist, is credited with having discovered vibrios in chancre. But his observations did not attract any attention at that time. From 1885 onwards there seemed as if there was a regular race for the discovery and announcement of the cause of syphilis among the bacteriologists of Europe. A number of organisms in succession was announced by different investigators before a credulous bacteriological world only to be relegated to the limbo of oblivion after a few months or years. LESTGARTEN'S *bacillus*, HOCHSINGER'S *streptococcus*, PROFESSOR STAASANOS'S *flagellated organism*, SCHULLE'S *hairy corpuscles*, DR. SIEGEL'S *Cytoryctes lues* were the more important of the various organisms which were announced as the cause

of syphilis. According to METCHNIKOFF, it appears BORDET and GENGOU undoubtedly saw the organism, *Spirochaeta pallida*, in a single specimen in 1903, and intimated the fact to the former when they met at a conference. But the subsequent negative findings discouraged them, and they failed to follow up the investigation. It is a curious and tragic fact that these two brilliant bacteriologists, BORDET and GENGOU, should have twice missed the glory of pre-eminence from failure to follow up their original discoveries.

RECENT EXPERIMENTAL STUDIES

Following up the important discovery of METCHNIKOFF on the inoculability of syphilis in anthropoid apes in 1903, contributions of extraordinary importance have been made within the last half a decade by the brilliant experimental studies of NEISSER, FINGER, UHLENHUTH, BROWN and PEARCE, CHESNEY and KOLLE. The more easily handled rabbits and mice have been used as experimental animals. Knowledge derived from experimental animal syphilis may possibly revolutionize our pathological, immunological, and treatment conceptions of syphilitic infection in man. 1. The capacity of the *Spirochaeta pallida* to penetrate through the unabraded intact mucous membrane of the rabbit; 2. the demonstration by NEISSER that syphilis is a systemic infection long before the appearance of the primary chancre, with organisms obtainable from the bone marrow, spleen and testis within forty-eight hours after inoculation; 3. the inhibitory effect of the local chancre on the progress of the infection elsewhere in the body; 4. the demonstration of the asymptomatic syphilis carrier in the mouse; 5. the possibility of engrafting a second infection, the so-called super-infection, upon a first in rabbits by subcurative treatment with the arsenicals; 6. the effect of trauma on the localisation of syphilitic lesions; and 7. the demonstration that the *Spirochaeta pallida* after passage through the brain of the mouse becomes neurotropic for the rabbit, hitherto a resistant animal so far as neurosyphilis is concerned: these are some of the important findings of experimental animal syphilis.

SEROLOGICAL DIAGNOSIS

No less important than the discovery of the causal organism in syphilis and its inoculability in animals is the discovery of the serological diagnosis of syphilis. Though BORDET and GENGOU discovered the principle of the Complement-Fixation Reaction in 1898, it was WASSERMANN, NEISSER and BRUCK who applied the test in the diagnosis of syphilis in 1906. The origi-

nal *Wassermann Reaction* has been followed by so many modifications and improvements that there are quite a variety of technique in use in the different laboratories of the world.

In addition to the complement fixation test, a bewildering number of *flocculation* and *precipitation* reactions have cropped up within recent years and are vying with each other and with the complement fixation test for supremacy in the sero-diagnosis of syphilis. Under the auspices of the Health Organisation of the League of Nations, two International Serological Conferences were set up, one at Copenhagen in 1928 and the other at Montevideo in 1931, to go into the question of the relative merits of the several serological procedures, and their reports have certainly helped the clinician as well as the serologist in the choice and interpretation of these tests.

Syphilis has been aptly compared to an iceberg: only one-tenth of its volume is visible, nine-tenths are submerged below the threshold of clinical recognition. But for sero-diagnosis, vast fields of syphilis, particularly the osseous and visceral, will go unrecognised. In the field of Surgery it has protected the patient from mis-diagnosis and mutilating operations, and the surgeon from the risk of infection. The physician, often baffled and beaten in the diagnosis of an obscure case, turns with a sigh of relief on the receipt of a positive blood test. The asymptomatic syphilis of women, especially during the reproductive period of their lives, can only be diagnosed by a positive serological test. Sero-diagnosis should be used as a clue and not as a crutch. It is by no means a substitute for painstaking clinical examination and evaluation. Very often a positive reaction acts on the uncritical physician as a red rag to a bull. In this respect, the so-called single plus reported by laboratories and unconfirmed by repetition is the worst offender.

THE TREATMENT OF SYPHILIS

Mercury

The history of the treatment of syphilis during the past four hundred years may be comprised in one word, *mercury*. Mercury, as we all know, is a drug of great antiquity. The oldest record in existence regarding the use of mercury in diseases is the writings of the Chinese Emperor, Ho-ang-ty, in 2637 B. C. The ancient Hindu and Arabic practitioners of medicine used mercury freely for a variety of disorders.

During the middle ages, mercury was being employed in Europe for the treatment of leprosy and other cutaneous diseases. Hence, it is not surprising to find that mercury was tried in syphilis, in which cutaneous lesions were the most obvious manifestations of disease. Mercury has suffered various vicissitudes of fortune during the first 350 years of its use in syphilis. It has always been a storm-centre of therapeutics -- praised as a sovereign remedy in one generation, execrated as noxious poison in another. JEAN DE VIGO and BERENGARIUS DA CORPI were the first to use it in 1497 as an inunction. Both PARACELSUS and FRACASTORO wrote in praise of its effective action. But soon the drug fell into great disrepute because of the heroic doses employed and the tortures to which the patients were subjected in consequence. The rubbings were usually accompanied by other procedures such as fasting, purging, bleeding, and sequestration in a closed over-heated chamber, or 'stove', as it was called. Salivation was considered essential and, according to JEAN ASTRUCK, a good cure required a good salivation of four or five pounds a day. Further, every quack, charlatan, bath attendant, barber, miracle doctor, exploited the poor syphilitic patient, and it is no wonder that a great wave of prejudice against the drug spread all over Europe. It is interesting to note that in the first half of the seventeenth century every teacher in the University of Heidelberg was obliged to take an oath that he would never use mercury. The hatred against the drug was such that learned physicians attributed the tertiary manifestations of syphilis to mercurialism. It is recorded that mercurialism was a house-hold disease in the eighteenth century and the celebrated Dr. Pangloss, in Voltaire's *Candide*, is a classical example of mercurial intoxication.

During the temporary eclipse of mercury from the field of syphilo-therapeutics, guaiacum wood, imported from the West Indies and alleged to have great curative properties, was the rage of the day. It was used as a decoction. The treatment was very arduous. The patient had to be confined in a chamber for a fortnight or more, starved, bled, purged, and given liberal libations of this decoction continuously day and night. This medicament, later recognised as almost useless against the disease, was extolled for a time as a sovereign remedy by high and low to the great advantage of the importers of the wood.

During the eighteenth century, THOMAS DOVER, the father of Dover's powder, in England, and VAN SWETEN in Vienna, tried to introduce mercury

by their enthusiastic writings advocating rationalised methods of administration. But it was only in the nineteenth century, due to the strenuous efforts and teachings of the French School of Syphilologists, particularly those of RICORD and FOURNIER, that mercury regained its permanent place in syphilis therapy. The survival of mercury as a therapeutic agent throughout the history of the race is a tribute to its genuine therapeutic virtues. The introduction of the intramuscular administration of mercury is credited to CHRISTIAN HUNTER, but the method was popularised by SCARENZIO of Pavia in 1864. At the present day, mercury has become the step-child of syphilo-therapeutics, and has subsided into a position of secondary importance, for the general reason that the toxic dose is very close to the therapeutic dose. Within recent years attempts are being made to introduce mercury in intravenous therapy. The latest drug for this is Collosol Mercury Sulphide, which is alleged to be a great advance in mercurial treatment. In spite of its disadvantages, mercury is the one anti-syphilitic drug that is capable of being administered in a variety of ways. Though the organic arsenicals and bismuth have ousted mercury in the routine treatment of syphilis, it has still its place in certain forms like ocular, cardiovascular, and visceral syphilis. Mercury is an ideal method in the follow-up treatment of syphilis after arsenic and bismuth.

Iodine and Its Compounds

The next drug to be used in the treatment of syphilis in chronological order is Iodine. MARTIN of Lubeck is supposed to have been the first to introduce iodine in the form of burnt sponges in the treatment of venereal ulcers in 1851. In 1831 LUGOL described the cure of cases of tertiary syphilis by the administration of iodine alone. But the real credit for the discovery of the value of Iodides in the treatment of syphilis belongs to WALLACE of Dublin in 1835, and he proved its value both experimentally and clinically. It soon obtained a recognised place in the treatment of the disease under the influence of RICORD and his disciples. The action of iodine and iodides is purely non-specific. Till the end of the first decade of the present century, mercury and iodides constituted the mainstay in the treatment of syphilis.

Trivalent Organic Arsenical Compounds

The history of the discovery and development of the organic arsenical compounds is, as STOKES admirably puts it, one of the most fascinating romances in the history of Medicine. It constitutes the most outstanding

therapeutic discovery of the first quarter of the twentieth century. It is to the genius, inspiration, and painstaking and methodical researches of PAUL EHRLICH of Frankfurt that the world owes this famous remedy. He was the founder and the most brilliant exponent of modern chemotherapy. He was a biologist, chemist, and parasitologist in a happy combination. The synthesis of the organic arsenical compounds is a triumph of his constructive thinking, and to this achievement many men contributed. In his early studies on the theory and practice of staining histological specimens EHRLICH observed that tissues differ in their affinity to certain dye-stuffs, being deeply stained by one kind of dye and quite unaffected by another. From this observation arose the brilliant idea of the possibility of producing a substance which will have an affinity only to the body of a micro-organism, leaving the host in which the organism resides quite unaffected. *Atoxyl*, a pentavalent arsenical compound, first elaborated by BECHAMP in 1863, was the substance which excited EHRLICH's interest in organic arsenical compounds. This preparation had been employed by LAVERAN, the great French physician, in experimental trypanosomiasis of mice and reported on favourably. Later, the results were confirmed by SHIGA at the request of EHRLICH. THOMAS and BRENYL of Liverpool also demonstrated *atoxyl* to be trypanosidal. This compound received extended trials in human sleeping sickness, but was abandoned subsequently on account of the frequent occurrence of optic atrophy. SCHAUDINN thought there was an intimate relationship between trypanosomes and spirochaetes, especially in their chemotherapeutic reactions. This observation induced UHLENHUTH to try *atoxyl* for the first time in chicken spirillosis, and later in human syphilis, with beneficial results. But the danger of optic atrophy was always there in the use of this compound. EHRLICH was convinced that *atoxyl* could be investigated as a mother substance for the ultimate development of a suitable compound in the treatment of syphilis. Thereupon, he, working with the chemist BERTHEIM, established its true chemical composition, which provided the key to the future chemistry of the trivalent arsenicals. In the course of his investigations, he demonstrated that *atoxyl* in the test-tube had no effect on trypanosomes, but its trypanosidal effect in the living body was brought about by a change from a *Pentavalent* to a *Trivalent* form. Hence he concluded that to obtain maximum spirillicidal efficiency, a trivalent compound should be elaborated from *atoxyl* which will be least organotropic but markedly parasitotropic. Undaunted by renewed failures, EHRLICH and his co-worker prepared a long series of complex compounds, tested them one by one in a toilsome succession

of experiments on trypanosome-infected mice, till the 606th member of the series marked the culmination of his labours—a most brilliant piece of chemo-therapeutic research. The great stroke of genius in EHRLICH'S work lay in introducing a substance (arsenic) which had a high affinity for the body cell and relatively low affinity for the parasite of syphilis into a molecule in which the relationships were reversed. Though the preparation, to which the name *Salvarsan* was given, saw the light of day in 1907, two years elapsed before it was issued for trial in human syphilis. During this interval, HATA, the Japanese collaborator of EHRLICH, demonstrated its dramatic effect on chicken spirillosis. A series of successful results were obtained in experimental rabbit syphilis. NEISSER, the Breslau Dermatologist, tried the new preparation on anthropoid apes in Java and confirmed the results of HATA. After its potent therapeutic efficacy and its comparative innocuousness were repeatedly demonstrated by two years of endless experiments on animals, the preliminary tests of '606' on man were made under the direction of Professor ALT, two of whose assistants HOPPE and WITTNEBEN, volunteered for the first doses intra-muscularly. No ill-effects ensuing, it was used in the treatment of several syphilitic imbeciles. EHRLICH, on September 20, 1910, announced his discovery before the 82nd meeting of the German Scientists and Physicians at the Albertus University in Königsberg. On December 14, 1910, the drug was placed in the market after the receipt of many further favourable results from the several European clinics to which samples had been sent for clinical trial. The original intramuscular method of administration, which caused pain and necrosis, was abandoned in favour of the intravenous route. By the latter method of administration, an alkalised solution of the drug in large dilution had to be given very slowly.

Like all great discoveries in Medicine, the use of the new drug in syphilis was subjected to adverse criticisms in that the cranial nerve paralyses following the injections of the drug were attributed to its toxic effect. Now we know that these neuro-recidives were the result of imperfect treatment with one or two injections and not due to the toxic effect of the drug.

EHRLICH did not rest on his laurels after the discovery of '606', but went on synthesising other compounds with a view to discover one that would be less toxic than '606'. Another series of more than 200 compounds had to be prepared and discarded before he hit upon the right combination. This, the 914th member of the series, he named *Neo-salvarsan*. This is much less

toxic than *Salvarsan*, forms a neutral solution, and can be given in the concentrated form intravenously by the syringe method. It is nearly equal in therapeutic efficacy to '606.' This is the arsenical compound that is used extensively all over the world at the present time.

The disrupting forces of the Great War and the difficulty of obtaining the drug from Germany at that time served as a stimulus to produce the drugs in the different belligerent countries. At the present moment, most of the great nations of the world are manufacturing their own arsenical compounds, adopting a terminology of their own, and these preparations are claimed to be identical in chemical composition and therapeutic activity with the original German product. The generic international names for these compounds are *Arsenobenol* and *Novarsenobenzol*.

Other contributions of later years in the chemotherapy of syphilis are *Sulpharsenobenzol* for intramuscular use, *Silverarsenobenzol*, and *Bismarsan*, a combination of bismuth and arsenic. After the experience of the past quarter of a century of the therapeutic use of the trivalent arsenical compounds in syphilis, it is recognised on all hands that we have the most potent anti-syphilitic drugs in these compounds.

The Pentavalent Arsenicals

In the synthesis of the organic arsenical compounds, EHRLICH discovered that the valency of the organic arsenic in the molecule made all the difference between a potent spirillicidal action and its opposite. He discarded those compounds as unimportant in which the valency of the arsenic was pentavalent. But within the past decade and half, thanks to the enthusiastic researches of the French and the Americans, some of these pentavalent arsenicals have been attracting interest in the world of syphilo-therapeutics. One of them, *Stovarsol*, the equivalent of the German *Spirocid* and the American *Acetarson*, the 594th compound in the EHRLICH series, was revived by FOURNEAU in 1921. LEVADITI and his associates, after animal and clinical studies, recommended the use of *Stovarsol* by mouth as a prophylactic in syphilis. The interest of the drug lies in the fact that for the first time mouth medication by arsenic has been considered a possibility, and in the future evolution of syphilo-therapeutics this is a consummation devoutly to be wished for. Continental physicians like SPIETHOF and OPPENHEIM have championed the use of this drug even in the curative treatment of syphilis, especially congenital syphilis. At present, the litera-

effect and its greatly lessened toxicity as compared with mercury, bismuth has practically replaced the latter in the treatment of syphilis in the past decade. But, unlike mercury, there is only one route of administration for bismuth, i. e., the intramuscular route. Bismuth by mouth is absolutely without effect and the intravenous route is much too dangerous for general use. At the present time the market is flooded with nearly 250 preparations of bismuth and it is rather embarrassing to the practitioner to choose one from these.

Non-specific Protein and Fever Therapy

The spectacular results achieved in Paresis, an otherwise incurable malady of syphilitic origin, with malarial therapy by WAGNER VON JAUREGG of Vienna in 1917, have stimulated interest in the possibility of non-specific treatment in syphilis. It is interesting to note that HIPPOCRATES and GALEN, BOERHAAVE and SYDENHAM, recognised the fact of the healing influence of febrile diseases on the course of epilepsies and psychoses. WAGNER VON JAUREGG began his experimental studies in 1889 and used a variety of agencies in the treatment of paresis, e. g., *Streptococcus erysipelatis*, Koch's old tuberculin, polyvalent typhoid vaccine, and killed *Staphylococcus* cultures. He finally came to the conclusion that the actual presence of an infectious disease was required for the best therapeutic results. Accordingly, in 1917, he started the inoculation of paretics with benign tertian malaria. In 1922, he reported on 200 cases of General Paralysis, twenty-three per cent of which had gone into such complete remission as to be able to resume their former occupation. Within recent years, other methods of inducing pyrexia, physical, chemical, non-bacterial proteins, and bacterial proteins, are being tried with encouraging results. Apart from its brilliant results in paresis, pyrexial treatment has taken a definite place in the treatment of other forms of syphilis. In meningo-vascular lues, in resistant late skeletal syphilis, in Wassermann-fast infections, and in ocular syphilis which are uninfluenced by ordinary specific treatment, fever treatment has been reported on very favourably. Some enthusiasts even go so far as to recommend a course of fever therapy to every adequately treated syphilitic with a view to the possible prevention of the late degenerative lesions of the central nervous system.

Prophylaxis

No review of the treatment of syphilis will be deemed complete without reference to the history of the prophylaxis of syphilis. The earliest

recorded attempt at prevention of syphilis is credited to FALLOPIUS who devoted a chapter of his book, *De Morbo Gallico*, published in 1555, to this subject. He advocated careful washing of the parts and the wearing of a piece of cloth impregnated with a multitude of substances, and claimed to have used this method in a thousand cases with no resulting infection. DESAULT in 1733 is said to be the first to have advocated mercurial ointment as a prophylactic. In 1771, an English physician, by name WARREN, advised that every man should carry with him a box of mercurial ointment, a bottle of caustic potash and a syringe. In 1772, DE PREVAL of the Faculty of the University of Paris suggested a preparation of his own, containing lime-water, alcohol, and mercury bi-chloride. The invention of the condom is attributed by LANE to one Dr. CONDOME who lived in the first decade of the eighteenth century. Others deny the existence of any such person and claim that the name is derived from the Latin word *condere*, meaning 'to protect.' But the most epoch-making study of the method of prophylaxis is that of METCHNIKOFF and ROUX whose results were published in 1903. They used a 30 per cent calomel ointment in animal experiments and when these proved successful they tested the method on a medical student volunteer, Maissonnoue, with complete success. Other later contributors to the study of prophylaxis are NEISSER, SCHERESCHEWSKY, NICHOLS and WALKER. All these investigators impressed on the time factor in prevention. It should be applied within a very short time after exposure. The brilliant results of prophylaxis carried out in the World War in the different armies, particularly in the American Army, are usually cited as evidence of the effectiveness of calomel prophylaxis in syphilis. In spite of the great improvements in the durability and impermeability of the modern condom, the use of it unaided by other methods is not without risk, and the epigrammatic saying of Madame de Stael still holds good. In addition to the chemical and mechanical methods of prevention, systemic methods of prophylaxis have been engaging the attention of several workers. NEISSER, in 1914, suggested the intravenous injection of arsenobenzol as a preventive against syphilis. Since then, many investigators, notably MAGIAN and FOURNIER in 1919, MICHAEL and GOODMAN in 1920, have reported very favourably on this method. A series of three injections of one of the trivalent arsenical preparations should be given on alternate days, not later than 48 hours after exposure to infection. Another drug suggested for systemic prophylaxis is Stovarsol by mouth. LEVADITI and his associates are ardent advocates of this method. But the majority

of syphilologists do not recommend it for general use. Recent animal experiments tend to show that these prophylactic measures, whether chemical or systemic may just suppress the primary lesion without preventing the systemic infection, and hence there is always the possibility of the infection breaking out sometime later. Periodical clinical and serological examination may be necessary for six months to one year to rule out the infection completely.

CONCLUSION

Here is a disease which has been the bane of centuries and of all the civilized countries of the world whose causal organism and ubiquitous pathology are known, whose epidemiology is not dependent on climatic, seasonal, economic and other external factors, but is regulated largely by the primaeval instinct of sex, whose prophylaxis has been experimentally and clinically demonstrated, and whose curative treatment has been definitely established. The problem of the future eradication of syphilis from the face of the world is an international one and, apart from the sanitary attack on it, requires other measures—educational, sociological and legislative. But the sanitary attack by prevention and early treatment is the strongest link in the chain of fight against the disease. Many of the European countries have reported a steady decline in the incidence of fresh syphilis among their population during the last decade and a half, and this very satisfactory result is attributed mainly to early effective treatment of the infected with the modern drugs, particularly the arsenobenzol compounds. But other factors such as post-war economic depression, the growing economic emancipation of women, and the almost universal use of the condom, have also to be reckoned with as factors in the decline of syphilis in those countries. Coming to our own country, especially our own Province, where do we stand with regard to this social menace? Far from any tendency to any decline in the incidences of syphilis, it is my conviction, though impressionistic (exact figures are difficult to get at), that syphilis is definitely on the increase, particularly in the urban centres of this Presidency. In many ways syphilis in our midst bears a close resemblance to the early outbreak of the disease in Europe during the fifteenth and sixteenth centuries. The excessive severity of the early cutaneous and skeletal manifestations of the disease, the illiteracy, the ignorance, and the apathy of the masses, the army of quacks and others who practice ante-diluvian systems of medicine and who exploit the syphilitic patient, the absence

of any enlightened public opinion on the control of the disease, the absence of any State Control over the importation of anti-syphilitic drugs and particularly of a Drug Act, and the exploitation of the poor syphilitic patient even by the so-called qualified doctors of this country, these are theses are some of the factors which stand in the way of any effective control and treatment of the disease. The modern treatment of syphilis, with its long course of injections, multiple serological tests and clinical evaluation, is a very costly affair for the ordinary syphilitic patient. Only the well-to-do can afford treatment under private auspices. But I am constrained to remark that private treatment of syphilis, as carried out at present in this country, is neither fair to the patient nor to the community. Hence it is that the urgent necessity of socialisation for the diagnosis and treatment of venereal diseases in general, and syphilis in particular, is being increasingly recognised all over the civilised world.

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GLEANINGS FROM MEDICAL LITERATURE

15

FIBROSITIS IN GENERAL PRACTICE

W. H. MAXWELL TELLING

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The term "fibrositis", connoting a definite pathology, has come into general usage only in the last twenty years or so; it refers to pathological changes in white fibrous tissue leading to the production of pain.

When white fibrous tissue undergoes pathological change (acute or chronic inflammation, injury, or chronic strain) it becomes *painful*, and tends to undergo inflammatory proliferation of varying type and degree, forming linear stringy thickenings, thickened plaques or sheets, or fibrous lumps or nodules. The pain is variable: it may be continuous or intermittent, dull and aching or sharp and paroxysmal, sometimes of knife-like intensity, even mimicking true trigeminal neuralgia; with a notable variability under conditions of bodily health and weather.

White fibrous tissue is to a large extent accessible to direct palpation, and when it has undergone pathological changes it is *always more or less tender to pressure or strain* even when it is not actually giving rise to pain apart from pressure or strain. Strain may be caused by any form of pulling and dragging, and the pain is particularly liable to be associated with movement.

The pathology of "toxic" fibrositis consists in a swelling between, and a proliferation of, the tissue fibres, together with changes in the finest vessels and nerve endings. The small blood vessels are distinctly thickened in all their coats, and therefore the affected area is liable to congestion and consequent increased irritation of the inflamed nerve endings. This explains why the pain is frequently worse when the patient is warm in bed, tending to get better after being up for some time.

In the aetiology of the condition three main factors are to be recognized:

1. *Septic and Toxic Influences*.—Influenza is a common and important cause; the widespread pains at the height of the disease and frequently persisting afterwards are due to fibrositis. Gonorrhoea is another well-known cause. True rheumatic infection, particularly in younger subjects, often leads to secondary fibrositis. Many other toxic and infective conditions, ranging from oral sepsis to erythema nodosum, give rise to white fibrous tissue pain. Gout predisposes to it.

2. *Injury*.—In acute injury by contusion or laceration the repair processes give rise to characteristic "fibrositic" pain. Chronic trauma caused by strain furnishes a large group of cases. The strain may be single as from lifting a weight, or repeated and persistent as from the adoption of certain attitudes. Ordinary lumbago is a typical manifestation of the operation of strain.

3. *Climate*.—Fibrositic pain varies with the weather, but with personal differences. Usually the pain is intensified before the advent of rain. Exposure to cold east wind precedes or accompanies an attack.

SPECIAL CLINICAL MANIFESTATIONS

Fibrositic Headache.—This is the commonest cause of chronic continuous or intermittent headache. It has well defined characteristics by which it can be accurately diagnosed. It is recurrent, persists for varying periods, and varies in intensity from time to time. It is often worse in the morning, passing off as the day goes on; frequently it develops towards evening. It is essentially a "nape-of-the-neck" pain, concentrated in the base-occipital area and extending down the muscles at the back of the neck, and thence becoming a generalized headache. The whole fibrous area of the scalp may be tender and painful. If unilateral it may mimic true hemicrania. In the investigation of these cases, when palpation-pressure is applied to the tissues at the base of the skull, its aponeurosis and tendons arising therefrom are found to be tender, sometimes exquisitely tender, even when at the moment there is no headache. The tenderness is of variable extent and distribution. It may extend down the fibro-muscular tissues of the cervical spine and into the muscles of the supra-spinous fossae. Often these areas are obviously thickened or nodular to the skilled touch, and more or less well-defined infiltration can be noted in the suboccipital and other muscles.

Attention to the four cardinal features — persistence, thickening, nape-of-the-neck localization, and tenderness on pressure — will enable the diagnosis to be made with certainty. Proper treatment yields in these cases most marvellous results.

"Trigeminal" Neuralgia.—Many cases of fibrositis closely resemble, and are mistaken for, true trigeminal neuralgia; hence it is imperative to investigate cases with symptoms suggestive of trigeminal neuralgia from the point of view of fibrositic pathology. However severe and paroxysmal the pain may be, if on palpation of the muscles of the jaw and face the characteristic reaction of pain on pressure is obtained, treatment by (skilled) massage should be tried. Experience suggests that there are more cases of fibrositic "trigeminal" neuralgia than of true trigeminal neuralgia.

Chest Cases.—The white fibrous tissue of the ribs and their cartilages and the muscular attachments thereto are prone to localized inflammation, and often quite small areas of fibrotic thickening and tenderness are found. The pain is frequently of a continuous kind, but modified by respiratory movement. In three cases of chest pain, diagnosed definitely as aneurysm, the cause of the pain was a small tender fibrositic spot in or near the aortic area, yielding the characteristic definite and localized pain on palpation, which cleared up with a few days' massage. When the pain occurs in or near the praecordia, a diagnosis of heart disease is often made. Many of these cases are due to strain conditions affecting the pectoral muscles. In women the pain sometimes leads to a suspicion of cancer. Most cases of pleurodynia are really cases of fibrositis.

Abdominal Cases.—The fibrous tissue connected with the abdominal muscle sheaths and attachments is particularly liable to be the seat of fibrositis. If the pain is located in the right lower quadrant appendicitis is likely to be suspected. Sometimes diagnoses of gastric ulcer and cholecystitis are made.

The characteristic pain on pressure, which is such a valuable criterion when palpating over a bony surface, is much less reliable over the abdominal wall. Sometimes a certain diagnosis cannot be made. Fibrositic pain is more superficial because of its parietal origin; whereas pain of visceral origin will be deeper seated. In the examination of the abdominal wall, the "finger-tip" method of palpation is to be preferred to the "flat-hand" method. True fibrositic pain can be readily elicited by the focalized searching-out pressure of the tip of a finger. With practice the pressure-touch can be practically confined to the tissues of the abdominal wall.

In fibrositic abdominal pain the following tendencies are observed: (1) The painful areas tend to be more or less localized; they are frequently multiple and are easily and sharply defined by finger-tip pressure, while they are relatively unaffected by flat-hand pressure. (2) They may occupy positions not usually associated with visceral disease; they are often found on the bony margins where the pain cannot be due to pressure on subjacent diseased viscera. (3) There is great variability in intensity; the pain may be intermittent, and there is a frequent relation to strain or to weather. (4) Careful investigation of the history fails to reveal a syndrome characteristic of visceral disease. The absence of muscular rigidity is specially noteworthy.

Lumbago.—This is either a localized or a diffuse fibrositis; when localized it causes agonizing pain, preventing normal locomotion or bending. Application of correct methods of treatment will almost certainly bring relief.

Sciatica.—Fibrositis is the commonest cause of sciatica. The gluteal muscles are very often affected by a fibrositis in the septal tissue strands. When this fibrositis spreads to the sciatic nerve as it emerges from the pelvis, a secondary perineuritis results. Two signs are usually present: (1) marked and usually maximal pain on deep palpation over the sciatic nerve at its point of emergence; and (2) pressure pain in other areas of the gluteal region. In a fibrositic sciatica these two signs almost invariably go together. Gluteal fibrositis without sciatica is very common; fibrositic sciatica without gluteal fibrositis is extremely rare. It is important to note that most cases of sciatica yield to skilled massage.

Other Situations.—Fibrositis occurs in various other situations. Periarthritic cases are common, and show marked benefit from massage. "Fibrositic heel" deserves recognition; fibrositis may be met with also at the point of the elbow.

TREATMENT

Discovery and treatment of the causal factor is important. Dental sepsis should not be forgotten. Preliminary rest is called for in certain cases. This is indicated especially in the post-influenzal, some of the gonorrhoeal, and the rheumatic cases. Rest is not needed in headache or in many of the chest cases. Lumbagos and sciaticas do not require the amount of rest that is usually enforced.

Drug treatment is often called for to relieve exacerbations of pain. Aspirin is the drug of choice. If the patient tolerates the drug well, it may be given in large doses. The value, and safety, of a 20-grain dose (repeated in half an hour if necessary) has to be known from experience to be appreciated.

Skilled massage is the proper treatment of fibrositis. Unless the technique is correct, the treatment is apt to fail.

K. C. P.

16 THE DIAGNOSIS BETWEEN ACUTE INFLAMMATIONS OF THE BRAIN IN CHILDREN

C. PAGET LAPAGE

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Diagnosis of Intracranial Lesion from other Conditions.

A most important sign of meningitis in infancy is bulging of an open anterior fontanelle or the tensility of a thinly closed one. It is not present unless there is increased intracranial pressure. Head retraction is readily produced by local irritation and may be seen in pneumonia and ear inflammations, or even with gastro-enteritis or pyelitis. But persistent head-retraction, with arms and hands flexed and raised towards the head, should make one suspect meningitis. The "cerebral" cry of a baby is often distinctive; so also a distant "far away" look in the eyes. Kernig's sign is not of great help; it is often indistinguishable from irritable contraction of the hamstrings.

Sudden severe convulsions, without evidence of spasmodophilia, tetany or rickets, are in favour of encephalitis, especially if the convulsions persist, or if localised pareses develop.

Difficulty in diagnosis is often caused by an aural lesion. In an acute naso-pharyngeal infection like influenza, head retraction with a "meningeal" cry, neck retraction and even Kernig's sign and tache cerebrale may develop. The diagnosis is made only on examination of the ears or when a sudden aural discharge appears. An infant with acute otitis often pulls or handles its ears, or throws its head from side to side.

Tache cerebrale is useful as an early sign of meningitis, but it may be present in an acute condition like pneumonia.

The behaviour, mental state, and decubitus are important. In meningitis the child is usually irritable and resents interference, or he may be distressed and bewildered with pain in the head and with uncertain feelings. The development of mental absences, at first very slight, is always a serious sign. Persistent tremor is very suspicious. Flushing and paleness, disturbance of respiration and pulse, and a slight squint should arouse suspicion. The temperature is usually much raised in septic or meningococcal meningitis, and also in encephalitis. In tuberculous meningitis a high and sustained temperature may sometimes be seen, but the illness may be afebrile or nearly so.

Unusual constipation followed by irritability and change of disposition may point to impending tuberculous meningitis. A furred tongue, retracted abdomen and propulsive vomiting may occur. The sudden unexpected and forcible nature of the vomit is characteristic. Squint, even of the faintest degree, if a new development, is always alarming. An examination of the fundi may show neuritis or tubercles on the vessels, but is rarely of help in the early stages. Sometimes an early sign is conjunctival irritation, described as sand in the eyes.

Purpuric rashes point to meningococcal infections, but may cause confusion with Henoch's purpura or measles. Tuberculide rashes are rare. Mumps may cause meningeal symptoms at onset; and so may glandular fever.

The pulse in meningitis tends to be slow, and often shows a regulated irregularity, that is, a series of rapid beats followed by a series of slow beats, ten or more to each cycle. It is a helpful sign in the early diagnosis of increased intracranial pressure.

The pulse-respiration ratio may give some indication. It is altered in pneumonia. In intracranial conditions there is little change; the pulse may be abnormally slow; breathing may be irregular, with deep sighing, or be disturbed in rhythm, fast breathing alternating with slow.

Sometimes the diagnosis from lobar, and especially from apical, pneumonia is very difficult. Rapid breathing, a short frequent cough, a blush in the cheeks, and the working of the alae nasi point to pneumonia. The pulse is quicker in pneumonia than in meningitis, and the temperature is higher. There may be a cerebral onset in pneumonia with mental distress, excitability and head retraction, but the persistent grunting cough and frequent respiration are suggestive. Typhoid fever with a cerebral onset may cause difficulty. Henoch's purpura may also be associated with cerebral signs if it is suppressed, but there is usually abdominal pain, and the appearance of blood in the urine and stools rules out meningitis.

Acute epidemic diarrhoea may be ushered in with head retraction and severe irritation.

Acidosis, by causing irritability, stupor and vomiting, may give rise to symptoms like meningitis. It may be found at the onset of meningeal infections, but if marked and persistent it is much more likely to be due to metabolic or abdominal causes. Uraemia and diabetes may cause stupor or convulsions. The diagnosis of tetanus should be easy, as trismus is so characteristic and dominant, and the cerebral powers are less likely to be impaired.

Differentiation between Acute Intracranial Conditions.

Pathology.—Meningitis is caused by bacteria and encephalitis by virus infection; the bacteria invade the meninges by the blood stream or by contiguous extension, and the viruses reach the brain by the axis cylinders of the nerves.

The tubercle bacillus, meningococcus, pneumococcus, and streptococcus are the most likely infecting bacteria in meningitis. The viruses of poliomyelitis, encephalitis lethargica, influenza, variola, vaccinia, and probably also those of whooping cough, rubella and zoster, are all possible causes of encephalitis. Measles encephalitis is not very rare.

In meningitis there are infecting organisms all round the brain, resulting in inflammation and irritation. The cerebrospinal fluid is increased, and pressure symptoms supervene. In meningitis there is not such essential destruction of nerve cells as in encephalitis. But sense deprivation due to damage to cranial nerves is not rare in meningitis, and paralysis or convulsion may occur both at the onset and in the later stages.

In encephalitis there is destruction of a patch or patches of grey matter. The patches may show vacuolation with inflammation or other changes like "cuffing" round the vessels. There is permanent destruction of nerve cells. There is also surrounding areas of inflamma-

tion in which nerve cells are only pressed upon, and may recover. The cerebrospinal fluid is increased in amount.

Spinal Puncture.—Lumbar or cisternal puncture is the most important means of distinguishing between the different intracranial inflammations. Increased pressure usually means that the fluid spurts or flows out, or comes rapidly in big drops. The amount withdrawable is normally about 7-10 c. c. In inflammation about 25-30 c. c. can be removed.

The cells are in health about 5 per c. cm. Generally, in encephalitis there are tens to hundreds, and in meningitis hundreds to thousands. Normal cerebrospinal fluid reduces Fehling's solution, contains no albumen, and is sterile.

The fluid may be (1) clear, with or without a cobweb film on standing (2) blood-stained; (3) straw-coloured; (4) turbid.

Clear Fluid is greatly in favour of tuberculous meningitis or of encephalitis, but does not exclude meningococcal or septic meningitis. In tuberculous meningitis there is clear fluid with the formation of a coagulum or cobweb film on standing, in which tubercle bacilli may be demonstrated. The bacillus is not often found in the earlier stages. The diagnosis is made on clinical grounds, and from the fact that the cerebrospinal fluid contains lymphocytes, is under high pressure, has reduced chlorides, increased albumen, forms the cobweb film on standing, and has a diminished amount of glucose, but does not lose its power of reducing Fehling's solution. A few polymorphonuclear cells may often be seen. A positive tryptophan or Levinson test is confirmatory.

Clear fluid is also seen in poliomyelitis and in encephalitis lethargica. The cells are lymphocytes, and are not much increased; usually no web is found. Occasionally cases of poliomyelitis may be seen with a much increased lymphocytic cell count, and some may show even a cobweb film. In encephalitis the chlorides are normal and the glucose is not diminished. The albumen content is moderately increased. The differential diagnosis of various forms of encephalitis is made only by evidence regarding exposure to infection, epidemics, and clinical signs.

In acute serous meningitis the fluid may be clear or turbid, and cells may vary, but cultures are sterile and the child recovers. These cases are rare.

Blood-stained and Straw-coloured Fluid.—Blood-stained fluid may, and usually does, result from pricking of a vein with the needle. Very rarely severe inflammations produce haemorrhage. In old haemorrhages, especially that of the new-born, the fluid may be of a brownish-yellow colour. Opalescence may be seen.

Turbid Fluid.—In meningitis, other than tuberculous, there is turbid fluid due to the meningococcus, pneumococcus, streptococcus or other pus-producing organisms. As a rule, in the film. The fluid is usually turbid, but may be clear. The infecting organism can often be demonstrated. The fluid usually does not reduce Fehling's solution; cerebrospinal fluid seems to lose its reducing power when polymorphonuclear cells appear in quantity. The fluid may become clear and then purulent again.

Clinical Distinguishing Features.—The onset may be clearly cerebral, or the case may develop so rapidly that the diagnosis is not long in doubt. This is especially so in pneumococcal or septic meningitis. On the other hand, the onset may be insidious and gastro-intestinal in nature, especially in tuberculous meningitis.

A steady worsening of the patient's condition with a tendency to stupor is in favour of tuberculous meningitis. Slight mental absences are of the gravest significance; so also are squint, teeth-grinding, and other signs of progressive irritation. An encephalitic case does not usually become steadily worse in quite the same way as does a meningitic case. Neuritic pains are in favour of encephalitis; as also is unconsciousness. The sleepy state of encephalitis lethargica is characteristic. In tuberculous meningitis, especially after lumbar puncture, intervals of comparative lucidity may occur, but they are soon replaced by coma.

Pain or tenderness on movement of the limbs in an acute cerebral case is strongly suggestive of poliomyelitis. In many cases of encephalitis, when the attacks are not severe enough to produce stupor, the child, though showing signs of head irritation, is in a state of apprehension, and watches the examiner closely to see whether his limbs are going to be moved.

The stupor of meningitis may be confused with the sleepy state of encephalitis lethargica. A stuporous patient is roused only with difficulty, but a lethargic one answers intelligently when spoken to, though he goes to sleep again immediately.

Paralyses or spasms generally point to encephalitis, but may be seen in tuberculous meningitis when there are nodules on the cortex.

A careful inquiry should be made about epidemics and sources of infection. A history of having been in an epidemic area, or of contact with another case, may be elicited. It is important to remember that infection in a virus disease is often spread by infected persons in the catarrhal stage. Dust has been known to be infective, even the dust of high roads. Cerebrospinal meningitis is often seen apart from any epidemic prevalence.

Tuberculosis among the relatives or attendants in contact with the child may indicate the nature of the meningitis. Tuberculous meningitis can follow infection from the respiratory tract so quickly that it may be sometimes the first evidence of disease. But infection may have taken place some time before, and the clinical examination may show glandular tuberculosis of the bronchial or mesenteric area or lung or intestinal disease.

K. C. P.

17 INDICATIONS FOR THE CLINICAL USE OF PROGESTIN

P. M. F. BISHOP, FRANK COOK, and A. C. HAMPSON.

The Lancet, January 19, 1935, p. 139.

The activity of the ovary is regulated by endocrine factors secreted by the anterior lobe of the pituitary which is responsible for stimulating the development of the Graafian follicle and the secretion of the follicular hormone, *oestrin*, and for inducing rupture of the follicle and the appearance of the corpus luteum. The last not only continues to secrete oestrin, but also

Dysmenorrhœa.—The corpus luteum normally reaches full development on about the 19th day of the menstrual cycle, and from then onwards gradually regresses until it finally ceases to function on the 28th day of the cycle. Should the progestin influence be removed 2 or 3 days before the menstrual flow, the uterine muscle would be released from the inhibitory effect of progestin and might undergo comparatively violent and painful contractions, causing dysmenorrhœa. On this theory, functional dysmenorrhœa may be treated with progestin for a few days before the onset of the menstrual flow—one rabbit unit daily until the period ceases.

Menorrhagia and Metrorrhagia.—When the pituitary fails to stimulate ovulation of the ripe Graafian follicle, a follicle cyst may be formed, with continuous oestrin secretion and exaggerated proliferative type of endometrium. The amount of oestrin secreted by follicular cysts, though high, is subject to fluctuations, and when it ceases uterine haemorrhage occurs in the complete absence of corpus luteum. This may be pure menorrhagia or metrorrhagia. The primary indication in this condition is to stimulate ovulation by the administration of anterior pituitary preparations, supplemented by progestin, particularly during the actual bouts of bleeding. The anterior pituitary factor should be administered continuously by injections of up to 500 rat units three times a week in a course of two months' duration. In the premenstrual phase and during the actual time of the bleeding the anterior pituitary extract should be given daily, together with one rabbit unit of progestin. The course may be repeated after an interval of a month or two.

K. L. N. R.

THE BLEEDING TENDENCY IN JAUNDICE

A. C. IVY, P. F. SHAPIRO, and P. MELNICK.

147298

K. C. P.

ASPIRIN - BAYER

The COUNCIL ON PHARMACY AND CHEMISTRY of The American Medical Association, has issued recently (The Journal of the American Medical Association, March 23, 1935) a report on Aspirin-Bayer from which the following is reproduced for the information of our readers.

"Aspirin-Bayer was omitted from *New and Non-official Remedies* in 1917 because of objectionable lay advertising of the product. The attention of the Council on Pharmacy and Chemistry was again called recently to the present character of the lay advertising promulgated by the manufacturers of Bayer Aspirin. An inquiry was received from the National Better Business Bureau, Inc., asking information as to the validity of the claims for curative value in colds made in this advertising. In the interest of the public, the Council therefore made a new survey of the advertising for Bayer Aspirin and found it more flagrant and insidious than that for which the product was long ago omitted from *New and Non-official Remedies*.

"Bayer Aspirin has been actively promoted from coast to coast in a variety of publications as an utterly harmless sedative for symptomatic mitigation in a variety of conditions, and as a specific remedy for the prevention, abortion or cure of the common cold. Many other questionable statements might have been cited, but a critical discussion of those just quoted should suffice to illustrate their general unreliability. It should first be pointed out that Bayer Aspirin is merely a commercial proprietary name for the U. S. P. acetylsalicylic acid (from which it differs solely by its extensive advertising to the laity). For this reason it is classified in the general group of coal-tar antipyretics, which group, by reason of the similar therapeutic properties of its constituents, is useful in alleviating certain of the symptoms attendant upon the common cold. It has been contended that a threatening cold may be "aborted" by compounds of this group before it has become fully established; but to prove this it would be necessary to compare adequate series of threatening colds, one given the drug and the other not. No report of such a study can be found. Though the fever, headache and malaise may be minimized, there is no reason to believe that the usual course or duration of the common cold is in any way altered by the administration of acetylsalicylic acid of any manufacture. Physicians use these coal-tar antipyretics for the alleviation of symptoms of colds; not in any sense as a cure. Few, if any, competent physicians would subscribe to the claim, express or implied, that Bayer Aspirin, or any chemically identical or similar substance, is a specific remedy for colds and sore throats, or that it will cure disorders:

"The following claims are more explicitly considered:

"Concerning greater solubility: Though it may be true that tablets of Bayer Aspirin disintegrate more quickly in a tumbler of water than do some other brands, there still is no evidence to show it any more rapid in the production of its effect in the patient. Regardless of the consistency of the original preparation, the drug must pass into the intestine before absorption in therapeutic quantity can take place, and the time ordinarily required for passage

from stomach to intestine would probably be ample to allow of the disintegration of practically any preparation of acetylsalicylic acid, so that rapid disintegration of a tablet on contact with water does not appear pharmacologically significant.

"Claim of harmlessness: The claims thus far discussed, though unfounded, do not embody any serious direct menace to individual or public health such as is unquestionably involved in the statements concerning the absolute harmlessness of Bayer Aspirin. Acetylsalicylic acid may be and has been repeatedly shown to be potentially harmful directly or indirectly, when taken indiscriminately. Indirectly, its use may mask symptoms which instead of being those of an approaching cold, a simple headache or a mild lumbago, might represent the prodromal stages of an acute infectious disease, pneumonia, brain tumor, brain abscess, tuberculosis, cancer of the spine, or any number of serious diseases too numerous for specific citation. It is only too obvious that an inestimable amount of harm will be done by treating an early pneumonia with aspirin until too late, or maltreating scarlet fever until the delay has inaugurated a community epidemic. It is quite true that it would be impractical, even if it were desirable, that people should "run to the doctor," every time that they are a little out of sorts, or think that they are. It is the physician's function to instruct his patients as to what they individually may with reasonable safety undertake in the way of self-treatment, adapting the advice to the common sense, intelligence, education and temperament of the individual. It is not safe, either for the individual or for the public, to rely on advertisements for this instruction.

"There is also the possibility of direct harm to the individual from the drug itself. On this score a number of reports of serious reactions appear in the literature. Mann reports a case of myocardial impairment secondary to aspirin poisoning. Kraus as early as 1914 reported a series of cases exhibiting allergic manifestations (urticaria, acute edema, either local or general, erythema and pruritus) following the ingestion of as little as from 5 to 10 grains of acetylsalicylic acid. Rich has reported the production of some gastric irritation. Block has shown the toxic effect in animals to be identical with those of other salicylates, while Hanzlik has demonstrated acetylsalicylic acid to be one and one-fifth times as toxic as sodium salicylate in man. Still reported chronic poisoning with symptoms of conjunctival catarrh and urticaria following a daily dose of 20 grains over a period of six years. The most serious reported reactions in recent years were observed by Lamson and Thomas. They record four cases of severe sensitivity to aspirin contained in a potent asthma powder. One patient died in acute air hunger within half an hour following the self administration of but one half of the recommended dose. The three other cases exhibited a prompt induction, or marked aggravation, of asthmatic symptoms, requiring epinephrine for relief. One of these patients was rendered unconscious by the reaction and required the constant attendance of her physician for several hours thereafter. These authors conclude that "an abnormal response to acetylsalicylic acid is probably more common than to any other drug." The paucity of reports in the literature would not appear to substantiate such a conclusion. It is certain, however, that there are many more such instances which do not find their way into print and that there is always the possibility of injury to the individual. The fact that abnormal response is

uncommon provides no solace for the victim, who has been assured of absolute harmlessness of aspirin of any brand.

"Finally, it should be emphasized that practically all American brands of acetylsalicylic acid are of pharmacopeial standard, to which all legally sold products must conform. The claims that there exist radical differences between Bayer Aspirin and other brands of acetylsalicylic acid manufactured by reputable concerns are unsubstantiated. Actually, the only impurity likely to occur in any reputable brand is salicylic acid (in mere traces only), which is of indential action and of no practical significance whatever as a contaminant.

"The Council has authorized the publication of this report and has confirmed its rejection of Bayer Aspirin for inclusion in *New and Non-official Remedies* because:

1. The unrestrained advertising of the Bayer product has given it an unfair advantage over other brands, the manufacturers of which have adhered to the code which the Council has established in the interest of public health.
2. It is expected that this unfair advantage be reduced in the degree that the misleading advertising of Bayer Aspirin is restricted.
3. The indiscriminate use of Bayer Aspirin, as urged in the advertising, is inimical to public and individual health, both directly and indirectly.
4. Aspirin (acetylsalicylic acid) is potentially a dangerous drug and its unqualified use as a home remedy should be undertaken, originally in any case, under the guidance of the family physician, whose knowledge of the personal characteristics of the individual patient can alone render such use safe and advisable.

JOURNAL OF SOUTH INDIAN MEDICINE

OCTOBER, 1935

MEDICAL QUALIFICATIONS AND RECIPROCITY

Ever since the General Medical Council of Great Britain withdrew its recognition of the medical degrees of Indian Universities the question of reciprocal recognition of medical qualifications of other countries has been engaging the serious attention of the public and the authorities of this country. In practical importance, India is chiefly interested in the various medical qualifications of Great Britain and the Dominions.

When the fiat went out that the General Medical Council would not look at Indian medical degrees, the first impression in this country generally was that serious harm was done to our graduates and that the young men who went over to the British Kingdom for higher studies would be put to endless trouble. It was further felt that a great blow was aimed at the dignity of this country. But there were even then some in this country who realized that this withdrawal of recognition would not affect us much. The SOUTH INDIAN MEDICAL UNION was from the beginning indifferent about this ostentatious parade of ineffectual temper by an institution which should certainly have known better. On the contrary, in its BULLETIN, the UNION welcomed this action as it felt that this country would henceforth be free to develop medical education as it suited her genius and needs. The lead thus given was taken up by many other medical associations and publicists.

When the Bill to create a Medical Council for All-India was under consideration, with all its shortcomings, it was felt that this country was creating a central organization which would help her to develop medical education of a standard comparable to what obtains in some of the recognized centres elsewhere. But unfortunately within the very short period of the existence of the Medical Council of India, the impression has been gaining ground that this Council is more and more concerned

anything substantial by this non-recognition? We are not very much concerned with the needs of our nationals who wish to settle down in Great Britain to practise. If necessary they can take the trouble of getting the necessary certificates in those countries. But the desire among the younger men who wish to proceed for higher studies merits some attention. It is well known, and due publicity was given to this by the authorities of various medical institutions in England, that the withdrawal of recognition by the General Medical Council does not stand in the way of young medical graduates taking the necessary courses for higher studies. It only affects a handful who are keen on getting through a few examinations. It means probably an additional stay in England of six months or probably a year. For the sake of this handful should the country ignore its self-respect? Even this need would disappear if the governments of the provinces would not insist on higher British medical qualifications for certain appointments. It is true that the Indian degrees have been recognized for appointments to the Indian Medical Service and certain other offices. But, in practice, the possession of a British qualification is generally preferred. If the various appointing authorities would insist more and more on the previous work and experience of a candidate rather than on the mere possession of multiple academic qualifications, the urge for going to Great Britain for sitting for examinations would cease and a healthy tendency would grow whereby young graduates would go to foreign countries for genuine augmentation of knowledge and technique.

GOVERNMENT OF MADRAS
LOCAL SELF-GOVERNMENT DEPARTMENT
(Public Health)

Order—No. 2475, P.H., dated 23rd September 1935.

In G.O. No. 2818, P.H., dated 15th December 1933, the Government published for general information the report of the Committee appointed by them in G.O. No. 554, P.H., dated 10th March 1933, to consider the question of the further extension of the scheme for the employment of honorary medical officers in Government medical institutions in the Presidency. The Government have carefully considered the recommendations made by the Committee and proceed to pass the following orders thereon.

1. *Appointment of honorary medical officers in hospitals and dispensaries where the daily average of out-patients exceeds 100.* Honorary medical officers may be generally appointed to hospitals and dispensaries where the daily average attendance of patients exceeds 100 provided that such officers are agreeable to attend the institutions at outpatient hours.

2. *Placing of small hospitals or dispensaries in the entire charge of honorary medical officers.* The Government consider that the time is not yet ripe for placing hospitals and dispensaries in the entire charge of honorary medical officers. They agree with the Committee that the development of this scheme should be gradual and that it should be introduced only as suitable officers become available.

3. *Opening of special departments, e.g., ear, nose, throat, venereal, etc., in all District Headquarter hospitals and the training of honorary medical officers for appointments in such departments.* The question of opening special departments will be considered if and when funds become available. The existing facilities for the training of medical officers in special subjects with a view to their subsequent employment in an honorary capacity will continue to be granted in deserving cases. The Government have no objection to the utilisation of the services of honorary medical officers appointed in special departments for general work subject to conditions which are specified in item 3 in the appendix I to this Order.

4. *Employment of a woman honorary medical officer to work in the out-patient department of the Government General Hospital, Madras.*—

The Surgeon-General is requested to try again to secure the services of a woman honorary medical officer for the out-patient department of the Government General Hospital, Madras.

5. *Appointment of honorary medical officers in the Government Rayapuram Hospital for work in the out-patient department.*—Two honorary medical officers have been appointed.

6. *Appointment of honorary medical officers to teaching posts.*—The Committee consider that an honorary medical officer of a hospital attached to a teaching institution should be considered also for appointment to the academic post in his speciality when such post becomes vacant and that he should be paid for such teaching work if appointed. Separate orders will issue on this recommendation.

7. *Inclusion of the names of honorary medical officers who impart clinical instruction to students, in the roll of the college or school to which the hospital is attached.*—The Government are unable to accept the proposal of the Committee in this regard. They however approve the Surgeon-General's suggestion that when a name is considered appropriate for inclusion in the roll of the teaching staff it should be included under a separate heading entitled 'honorary medical officers employed in teaching work.'

8. *Appointment of honorary officers in any future extension of the staff required in city hospitals.*—The Surgeon-General will bear this suggestion in mind in submitting proposals for increasing the staff of medical officers in city hospitals.

9. *Substitution of an honorary medical officer for a paid medical officer in a special appointment in the Stanley Medical School.*—The Government agree with the Surgeon-General that it is premature to consider the question of throwing open to honorary medical officers any academic post in the Stanley Medical School.

10. *Advertisements inviting applications for honorary appointments.*—The Government accept the Committee's suggestion that honorary appointments should be made only after previous advertisement and that an interval of twenty days should be given between an insertion of the advertisement and the last receipt of applications in the Surgeon-General's office. Applications for appointments in the Government hospitals in the Madras City should be submitted direct to the Surgeon-General; in the case of appointments in the mufassal they should be submitted to the Surgeon-General through the District Medical Officer concerned. The Government consider that it would be sufficient to invite applications by advertisements in the following ways:—

(i) Brief notice, giving one insertion only, in three leading daily papers of Madras City;

(ii) notices on the boards of teaching institutions and their attached hospitals; and

(iii) notices in the *Fort St. George Gazette*, giving full particulars of the appointment.

The Government do not consider that it is necessary to issue periodical advertisements inviting applications by the 1st June and 1st December each year. Honorary appointments will be advertised only when there is need for making such appointments.

11. *Modifications of rule 3 of the rules appended to G.O. No. 1610, P.H., dated 29th July 1932.*—The Government approve the Committee's suggestion that the words 'if so required' may be added in the said rule after the words 'for a period of two years.'

12. *Submission of confidential reports.* Rule 17 of the rules relating to the appointment of honorary medical officers will be amended as shown in appendix I.

13. *Age-limit.*—The Government see no sufficient reason to accept the recommendation of the Committee that the age-limit for employment as an honorary medical officer should be 55 years instead of 60 years.

14. *Termination of the appointments of honorary medical officers.* The Government consider that provision should be made in the rules relating to the appointment of honorary medical officers for the immediate termination of the appointment in certain special cases and for the acceptance of resignations of honorary medical officers without the prescribed notice.

15. With reference to the above orders the rules relating to the appointment of honorary medical officers in Government medical institutions issued with G.O. No. 1610, P.H., dated 29th July 1932, will be amended as shown in Appendix I to this order.

16. The rules relating to the appointment of honorary medical officers in Government medical institutions in the Presidency as revised with reference to the foregoing paragraphs and with reference to G.O. No. 2216, P.H., dated 28th August 1935, are shown in Appendix II.

(By order of the Government, Ministry of Education and Excise)

R. SUBBAYYA,
Joint Secretary to Government.

APPENDIX I.

Amendments to the rules relating to appointment of honorary medical officers appended to G. O. No. 1610, P. H., dated 29th July 1932.

1. In rule 1 of the said rules the following shall be inserted as the third sentence:—
"Honorary medical officers may also be generally appointed to hospitals and dispensaries where the daily average attendance of out-patients exceeds 100 provided that such officers are agreeable to attend the hospital at out-patient hours."
2. In rule 3 of the said rules the words 'if so required' shall be added after the words 'for a period of two years.'
3. The following sentence shall be added at the end of rule 4 of the said rules:—
"The primary duty of these officers will be to attend to the work in the special departments in their charge; but they may, with the approval of the Superintendent of the hospital or the District Medical Officer concerned, undertake general work in the medical institutions to which they are attached."
4. In rule 17 of the said rules, the words 'in the case of mufassal hospitals,' shall be added after the words 'District Medical Officers.'
5. The following rule shall be substituted for the existing rule 20:—
20. *Termination of appointment:*—The appointments will ordinarily be terminable by three months' notice in writing on either side. Honorary medical officers who have executed bonds under rule 3 should however serve the Government for the period prescribed in the bonds. In all cases the Government reserve the right to terminate the appointment or to accept the resignations of honorary medical officers, without any notice, if special reasons exist therefor."

APPENDIX II.

Rules relating to the appointment of honorary medical officers in Government medical institutions in the Madras Presidency.

1. Honorary medical officers will be appointed to all Government hospitals in Madras City and to all Government headquarter hospitals. In the case of medical institutions at divisional centres, the appointment of honorary officers will ordinarily be restricted to those institutions where only one medical officer is employed. Honorary medical officers may also be generally appointed to hospitals and dispensaries where the daily average attendance of out-patients exceeds 100 provided that such officers are agreeable to attend the hospital at out-patient hours. Appointments will be made by the Government on the recommendation of the Surgeon-General.

2. Whenever it is proposed to make an honorary appointment in any hospital, due publicity should be given to such proposal by publication in the notice board of the hospital concerned (and in the office of the District Medical Officer in the case of mufassal hospitals) and otherwise. Applications should at the same time be invited and out of those received the best should be recommended.

3. Medical officers desirous of honorary appointments in special subjects, but who have not had the special training necessary to give them proficiency in that subject will be permitted to undergo training without payment of fees at one of the Government Medical Colleges or hospitals attached to a teaching institution for the period considered necessary by the Surgeon-General provided they execute a bond to serve the Government as honorary medical officers in that speciality for a minimum period of two years if so required on completion of the training. A place to be agreed to beforehand by the applicant and the Surgeon-General. The officers will not be entitled to any travelling allowance for journeys which they may undertake in this connexion.

4. Honorary officers with special qualifications will, as far as possible, be placed in independent charge of special departments, e.g., (i) eye, (ii) ear, nose, and throat, (iii) radiology, (iv) venereal diseases, etc., and given full scope to work up successful clinics. The primary duty of these officers will be to attend to the work in the special department in their charge, but they may, with the approval of the Superintendent of the hospital or the District medical Officer concerned undertake general work in the medical institutions to which they are attached.

5. *Designation.*—Honorary medical officers appointed to hospitals which are attached to teaching institutions and to those which are not so attached will be designated as follows:

1. Clinical assistants.
2. Honorary assistant surgeons or honorary assistant physicians.
3. Honorary physicians or honorary surgeons. Honorary medical officers appointed for a speciality such as ophthalmology, ear, nose and throat work, pathology, radiology, venereology, dermatology, including leprosy work will be appointed to one of the above three grades with further indication as to their speciality.
6. Ordinarily an honorary medical officer will start from the lowest grade and gradually work up; but in exceptional cases and for special reasons the recommending authority may propose deviations from this course. Medical graduates who have served as house surgeons and house physicians and have been successful or may be successful in the competitive examination for Assistant Surgeons held in the year 1929 or subsequently will be permitted to commence service as an honorary assistant surgeon or assistant physician.

7. *Qualifications.*—A. *Hospitals not attached to Teaching Institutions.*—A candidate for appointment as honorary surgeon and honorary physician in a hospital which is not attached to a teaching institution should satisfy one or more of the following requirements:—

- (a) That he has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the service rendered, and has had actual recent practice in performing the service rendered or services of a similar character, or
- (b) that he has had special academic or post-graduate study which comprises the service rendered; and has had actual recent practice as aforesaid, or

(c) that he is generally recognized by other practitioners in the area as having special proficiency and experience in a service which comprises the service rendered.

B. *Hospitals attached to Teaching Institutions.*—A candidate for appointment as clinical assistant in a hospital attached to a teaching institution should hold the degree of M. B. B. S., or its equivalent. A candidate possessing the L. M. P. diploma or an equivalent qualification may however be appointed in exceptional cases as clinical assistant in a hospital attached to a teaching institution for licentiates or in a hospital for special subjects. A candidate for appointment as honorary assistant surgeon or honorary assistant physician should have previous service as a clinical assistant for a minimum period of two years from which one year may be deducted for service as a house surgeon or house physician. A candidate for appointment as honorary physician or surgeon should possess one of the following academic qualifications: M.D., M.S., M.R.C.P., F.R.C.S., F.C.O.G. or one of the special diplomas signifying skill in the speciality of his appointment. Honorary medical officers shall cease to hold office on completion of their sixtieth year of age.

8. *Tenure of appointment.*—The minimum period that an honorary medical officer should spend as clinical assistant is two years and the maximum five years. If he has served as house surgeon or house physician in a hospital approved for the purpose by the Surgeon-General he will be allowed to shorten his period as clinical assistant by a maximum of one year. No period less than six months as a house surgeon or house physician will be counted towards the deduction of the period to be spent as clinical assistant. There will be no time-limit for the tenure of the other two grades of honorary appointments.

9. *Duties.*—Honorary officers should conform to the rules in force in the hospital in which they are working in so far as they relate to the care of patients.

10. Honorary surgeons and physicians will be placed in charge of a specified number of beds for surgical and medical cases respectively and they will be entirely responsible for the treatment and care of the patients in their charge. They should visit the patients in their charge daily or more than once daily should that be necessary except on Sundays and answer all emergent calls relating to these patients on Sundays. In the hospitals which are attached to teaching institutions, the honorary officers will be responsible for imparting clinical instruction to students in connexion with the beds in their charge in accordance with such plans as may be laid down by the professor in charge of the medical or surgical unit or by the Superintendent of the hospital.

11. In the case of large hospitals, the honorary surgeon or physician will be given an assistant to help him, who may also be an honorary worker.

12. Honorary clinical assistants, honorary assistant surgeons and honorary assistant physicians will perform such duties as may be assigned to them. The allocation of their duties either in the in-patient or out-patient department or in both will be made by the Superintendent of the hospital in the case of hospitals in the Madras City and at the district headquarters and by the District Medical Officer in the case of other medical institutions at divisional centres. An appeal shall, however, lie to the Surgeon-General against the allocation so made.

13. *Hours of attendance.*—Honorary medical officers who have charge of hospital beds should attend the hospital daily except on Sundays. Those who have only out-patients in their charge may attend daily but need not attend after previous arrangement with the Superintendent of the hospital and the District Medical Officer more than three days a week. In the case of hospitals attached to teaching institutions the honorary officers should be present at the respective hospitals on such days and at such hours as may be necessary for the proper instruction of the students. In the case of other hospitals honorary medical officers should make their hospital visits during the recognized hospital hours.

14. Honorary clinical assistants, honorary assistant surgeons and honorary assistant physicians should attend the hospital at such hours as may be fixed by the Superintendent of the hospital in consultation with the honorary officer after obtaining the approval of the Surgeon-General.

15. If for any reason the honorary officers are unable to attend during the prescribed hours they should inform the Superintendent or medical officer in charge in time to enable him to arrange for their work.

16. Honorary medical officers will issue the necessary certificates for patients under their treatment but should not except at the special request of the Superintendent or in his absence of the senior medical officer in charge deal with any cases in the in-patient or out-patient department other than those assigned to them or with the other miscellaneous work of the hospitals.

17. *Reports on officers.*—On the 31st January of each year District Medical Officers in the case of mufassal hospitals and Superintendents of Presidency hospitals should submit to the Surgeon-General in the form prescribed by him confidential reports on all honorary officers serving under them.

18. *Leave.*—Honorary medical officers may be granted casual leave up to fifteen days in a year by the Superintendents or medical officers in charge of the hospitals. They may be granted leave of absence other than casual leave by the Surgeon-General if he is satisfied that arrangements can be made for carrying on their duties without extra expenditure to Government. In such cases, the honorary officers will be considered to have a lien on their appointments during the period of leave and they will be allowed to rejoin their appointments on the expiry of the leave. If no such arrangements can be made, the honorary officers should be instructed to resign their appointments and fresh appointments should be made in their place.

19. *Transfer.*—Honorary medical officers in Madras City will be liable to transfer from one institution to another at the discretion of the Government.

20. *Termination of appointment.*—The appointment will ordinarily be terminable by three months' notice in writing on either side. Honorary medical officers who have executed bonds under rule 3 should however serve the Government for the period prescribed in the bonds. In all cases the Government reserve the right to terminate the appointments or to accept the resignations of honorary medical officers, without any notice, if special reasons exist therefor.

21. *Re-employment.*—Honorary officers re-employed after discharge will be re-accepted into their former rank.

G. O. No. 2475, P. H. DATED 23RD SEPTEMBER 1935

22. *General rules.*—Honorary officers will be allowed the use of the respective hospital libraries and in the case of teaching institutions, of the libraries of the college or school attached to them.

23. They must abide by the Government rules in force in regard to the acceptance of fees from patients by the staff of the hospital.

24. The entire management and control of the hospitals and the discipline of the staff are vested in the respective Superintendents or in medical officers in charge. Honorary officers will be expected to observe all rules in force or issued from time to time and to report all instances of neglect or inattention or other breaches of discipline relating to their wards to the Superintendents or medical officers in charge who will deal with them. They may freely consult the Superintendents or medical officers in charge on any points in respect of which they consider the rules to admit of improvement but must abide by any decision the latter may arrive at.

The Superintendents and medical officers in charge of the hospitals should give full scope to the honorary workers and endeavour to make the scheme a success.

MADRAS MEDICAL COUNCIL

NOTICE

It has come to the notice of the Madras Medical Council that proceedings of meetings of some District Medical Associations in the mofussil are published in the lay press. The question whether the publication of such reports in non-professional journals is permissible has been considered by the Council and it has been decided that such publication is, in the opinion of the Council, contrary to the Code of Medical Ethics, excepting in a few cases specially relating to Health Propaganda.

The Madras Medical Council therefore desires the Secretaries of all Associations to be informed that they should label discussions and lectures in their Agenda as not for lay press publication whenever this course is considered desirable from an ethical point of view.

(By Order)

JOHN P. PINTO,

Registrar, Madras Medical Council

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"Examination of carcasses of animals slaughtered in certain places, e.g. Ferozepur and Lahore, has revealed the existence of tuberculous lesions in 10 and 16 per cent. of animals examined--an incidence much higher than what has hitherto been found . . . It is probable that a systematic and a thorough examination will reveal a still higher incidence of infection." ("Soparker," Indian Journal of Medical Research," October, 1929.)

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

Processes such as pasteurization, sterilization and concentration, though a certain degree of safety but have their limitations. In the case of feeding of infants, is concerned, particularly in the case of the disturbing influence on the mineral and vitamin content of milk.

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normal fixation of lime in the bones and teeth by a calcification of soft tissues like the arteries, breast, kidney and liver.

In infant dietary especially, the preference should surely be for natural foods as against synthetic or artificial products and the mass experience of medical officers attached to Infant Welfare Centres and the Infant Departments of our hospitals support the view that milk from pasture fed cows, especially on the luscious grass of English pastures, or its equivalent in powder, powdered by an effective Roller Process as exemplified in the improved Cow and Gate method has sufficient actual potency in Vitamin D to give complete protection against rickets without the introduction of an additional supplement.

If it is considered necessary in special conditions to reinforce milk in vitamin D it is difficult to find any reason to support the use of an artificial product like irradiated ergosterol, admittedly less potent and not so safe as the natural vitamin contained in a tasteless and odourless cod liver oil concentrate. For such a climate as India, sterility to the disease germ of typhoid and gastric enteritis (diarrhoea) is an essential and modern installation for powdering milks, by the Roller Process, achieves this without measurable loss of natural vitamin potency. In some recent bacteriological examinations of milk powders the writer found the export brand of Cow and Gate gave the extraordinary low average count of 89 colonies per m. l. with absence of B. coli and all pathogenic flora.

The Natural Vitamin content was at the same time found to be as high as 250-300 International Vitamin D units, per pint of reconstituted milk. In other words, each pint of reconstituted milk contains the equivalent of a teaspoonful of high grade Cod Liver Oil.



A young boy aged about 12 was brought to me suffering from intense itching of the scalp. The examination of the scalp revealed several patches there, pink in colour, swollen and covered with minute brownish scales. Typical broken hairs were present, which when examined by the pathologist showed mycelium tubes under the microscope. The little patient was unable to sleep at night due to intense itching. He was prescribed Sarcoprol lotion, the proportion being 1 of the solution to 2 of water. The scalp was thoroughly scrubbed with this lotion three or four times a day, particular attention being paid to the pink patches. The result after eight days of this treatment was simply gratifying. The itching was completely relieved and the child commenced to sleep well at night. The patient suffered absolutely no discomfort. The strength of the lotion was then increased, equal quantity of the solution and water being employed. The boy was completely free from this troublesome complaint after 10 days' application of this lotion. The fungus was thoroughly killed by the remarkable penetrative and antiseptic action of Sarcoprol, a concentrated colloidal sulphur preparation with antiseptic and analgesic properties. It has a reinforced and energetic sulphur action. It is clean in application and it rapidly relieves itching. Due to all these properties it had given excellent results in the above case, which was nothing but typical ringworm of the scalp.

From the Diary of a Medical Practitioner.

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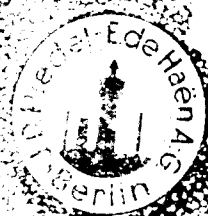
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ASSOCIATION NOTES

xxiii

Lt. Col. T. S. Shastry, I.M.S., delivered an interesting lecture on the diagnosis of "Cancer of Intestines".

Dr. G. Manuel of Tuticorin gave an interesting discourse on "Dietetics" which was followed by discussion by Dr. K. Srinivasaragava Ayyangar, I.M.S., and by Dr. H. Isaac. The lecturer stressed on the value of Dietetic treatment in preference to medical in treating cases of diseases due to Dietetic errors.

The following resolution moved from the chair was passed unanimously:

"Resolved to suggest to the Madras Medical College Centenary Celebration Committee (1) that the celebrations may be done in the Christmas week to enable all those interested in the centenary and living in distant parts of the presidency to take advantage of the Railway concessions and public holidays and also of the other gatherings that are programmed to take place in the Christmas week in Madras this year and (2) that this happy function need not be held on the exact day on which the college was founded but should be held on a day convenient to most of the medical men and women and the general public interested in this rare function."

Vote of thanks to the Tuticorin Medical Union for their splendid hospitality was proposed by the President, and a standing invitation was given to the Tuticorin Medical Union to attend all the meetings of the Tinnevely District Medical Association as our guests at whichever station the Association may hold its meeting. Dr. Acharya proposed hearty thanks to the lay public for their kind response.

Thereafter an excellent Dinner brought the happy gathering to a close late at night.

THE TRICHINOPOLY AND SALEM MEDICAL ASSOCIATIONS.

A Joint Meeting of the above two associations was held at 5 p.m., on Sunday the 22nd September 1935 at the High School premises, Namakkal. Doctors of Namakkal who were 'At Home' made elaborate and neat arrangements for the reception of members. More than 50 doctors attended. 'Tea' was served 5 at p.m. while gramophone music was constantly playing. At 5-30 p.m., Dr. P. A. S. Raghavan, the Secretary of the Trichinopoly District Medical Association, in proposing Lt. Col. Bal, I.M.S., District Medical Officer, Salem, to take the chair, thanked the members of the Salem Medical Association for inviting the Trichy doctors and also thanked the Namakkal

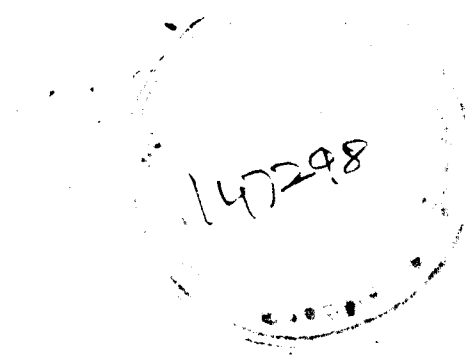
teeth of all-round protests both by the profession and the general public. Speaking on the strength of his position as a Medical Councillor representing the Graduates and as an Independent Medical Practitioner, he observed, there could not be any difference regarding their status as Independent Medical Practitioners whether they be Medical Licentiates or Graduates and as such he found no reason why the All-India Medical Council should exclude this large body of Medical men who formed the bulk of the Medical profession in India. He further encouraged the members that his paper "The Antiseptic" would always be ready to uphold and fight for the cause of the Medical Licentiates. He further exhorted the audience to observe the 20th of September of every year as the Anti-Indian Medical Council Day until such time as the Medical Licentiates are included within the All-India Medical Council.

Dr. P. Ramanujulu Naidu, Vice-President of the Madras Branch of the All-India Medical Licentiates' Association moved the following resolution :

"This meeting of the Madras Branch of the All-India Medical Licentiates' Association resolve to appeal to the Members of the Indian Legislature all over the country to take up this question of inclusion of the Indian Medical Licentiates within the All-India Medical Council in right earnest and thus remedy the wrongs done to the Medical Licentiates as well as to the bulk of the Independent Medical Profession."

Dr. U. D. Gopal Rao, Secretary of the Madras Branch of the All-India Medical Licentiates' Association, seconded the resolution.

With a vote of thanks to the chair and the authorities of the hall, the meeting came to a close.



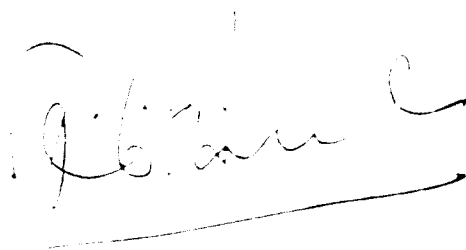
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