THE MODERN DIAGNOSIS AND TREATMENT OF SYPHILIS.[1]

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Syphilis has been chosen as the subject of this evening's lecture for several reasons: it is the most interesting disease which the dermatologist has to discuss, it is the most important with which he has to deal, and its errors of diagnosis, particularly those of omission, are so serious that they may confound the doctor and condemn the patient.

Universal in its incidence, it is no respecter of persons. It may attack both sexes and all ages. Neither the old nor the young is exempt, and it may even kill the unborn child.

Throughout the ages syphilis has pursued its devastating course, unhampered and unchecked, and it has baffled the best brains of the civilized world for more than four out of the four and a half centuries of its known existence. Even now with the "much" we know there is the "more" to be learnt.

Equally wide with its geographical distribution are its curious habits of trespassing into the domain of other subjects. It is the arch poacher of the various specialities. It crops up, unannounced and unwelcomed, in the realms of medicine, surgery, midwifery and gynæcology, and most of the other specialist subjects.

It is therefore not overstating the case to say that in many respects syphilis is different from most of the other diseases with which our profession has to deal.

Not only is it a different disease, but it is also a very treacherous disease. It is treacherous because :—

(1) The patient with syphilis is usually quite fit and does not feel ill. He does not therefore consult a doctor, at any rate in the early and contagious stages.

(2) It is treacherous because there is practically no pain. Nearly all its manifestations are quite painless. After all, what is pain? It is Nature's danger signal which tells us that something is wrong. It is the red lamp on the railway warning us of the danger ahead. In nearly all other diseases this danger signal operates and the patient consults his doctor. In syphilis Nature does not help but lets us down.

(3) It is also treacherous because of its imitative faculty ; it may imitate almost any disease under the sun. The primary sore may resemble soft

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chancre, the secondary rashes many of the skin diseases and the exanthemata, and in the tertiary stage the gummata many varieties of tumour. To add to our confusion it may, in the tertiary stage, even imitate itself in the primary stage, in the form of a chancriform gumma.

(4) It is further treacherous, because once the disease has apparently finished it may leave in its wake two other conditions, tabes and general paralysis of the insane, both of which have until recently been always regarded as fatal.

Robert McKenna, in his "Diseases of the Skin," gives the best summary I have seen. He says, "The disease may affect all the organs and tissues of the body, and may declare itself by recurrences or reminders over a long period of years. One of the three chief killing diseases, syphilis is the great simulator and the great deceiver. Its cutaneous manifestations may closely resemble perfectly innocent affections of the skin; and its long periods of quiescence, during which there is no outward evidence of the plague within the body, give to the sufferer an unwarranted sense of security, deceiving him into the belief that he is cured, the while the spironema, at work in some vital organ like the brain, is compassing his premature death."

Such a disease, with its curious characteristics, is therefore worthy of our closest study.

It is not my intention to inflict on a medical audience a detailed discussion of facts with which they are familiar, so I propose to consider only the important signs and symptoms which have a bearing on the differential diagnosis and then to discuss the treatment. It can in no way be a complete survey.

The Incubation Period and the Course of the Disease.

First let us consider the incubation period and then the course of the disease. The older textbooks gave the incubation period as eighteen to twenty-five days with an average of twenty-one. This may hold good for many cases at the present time, but one must recognize that in quite a large number of cases the incubation may be thirty days, in others still longer. During the last year two cases were admitted to the Connaught Hospital from India where the incubation period was fifty-six and sixty-four days respectively.

Here, however, a word of warning should be uttered, for it is often a matter of difficulty to obtain an accurate history from our patients; they may be careless, stupid, or intentionally dishonest, and it is not too much to say that all venereal cases should be regarded as potential liars. Again, a recent exposure may be quite frankly admitted, but modesty may prevent the disclosure of multiple exposures. The chief moral to draw is of course never to place reliance on a negative history.

Well, we will assume that our case was exposed to infection twenty-one days previously. He reports sick with a sore on the penis and the primary

stage comes under review. Here we may meet our first snag. He may have done one of two things, perhaps in perfectly good faith, which may hamper us in dealing with the case. Firstly, he may have delayed reporting for several days because the sore was painless; it did not hurt him so he did not bother about it. Or, secondly, he tried to treat it himself with some antiseptic, thereby killing the spironemes, and so invalidating the use of the dark-ground microscope.

The correct procedure of course is for him to report at once. Failure to report sick with venereal disease is included in failure to comply with Standing Orders and is covered by Section XI of the Army Act. If a case cannot be dealt with at once it should be treated by saline dressings and in no other way.

The sore then constitutes our first cardinal sign. It may be on the glans, the coronal sulcus, the shaft of the penis, the pubic region or in some extra-genital area. The commonest of extra-genital are the lips, the tongue, the throat, the fingers, the breast and the eye. A slowly healing ulcer, especially if it be painless in any of these places, should always be suspect. Whitlows on the fingers have been frequently found to be syphilitic. Doctors, nurses and orderlies are the most likely people to have these and great care should always be exercised.

Again, a common occurrence in certain parts of the country, viz., the mining districts, is a chancre of the eye. A miner gets a bit of coal grit into his eye, his friend comes along with a saliva-moistened handkerchief, removes the grit and successfully inoculates the spironemes into the abraded area of the cornea. Such cases in these districts were at one time as common as they were tragic.

To return to the typical case. The sore develops slowly and surely and gradually becomes harder. This quality of hardness has always been held to limit the disease for the time being to the actual sore, the fibrous tissue of the sore acting as a rampart to protect the body from invasion by the spironemes. That this is so is nowadays rather doubted, for the organisms have been recovered from the nearest lymph-glands in the rabbit within half an hour of their inoculation, and in the guinea-pig within five minutes [1].

The inguinal glands next take upon themselves the defence of the body and enlarge to form the typical shotty glands. These are painless and hard. If they did their work efficiently they would limit the disease to the genitals and syphilis would be a comparatively simple and safe disease. Unfortunately they do not. They allow the organisms to leak through, invade the body generally and so lead up in a period of approximately six weeks to the secondary stage.

Now, what is happening during this interval? We have always been taught that the inguinal glands are the main defence of the body and that for six weeks at any rate the disease is held in check; that no spironemes can leak through and our patient is safe. Again, another of our preconceived ideas has to vanish in the light of fuller knowledge.

Many people consider that very early after the commencement of the sore the condition becomes generalized, and this is borne out by certain tests on the cerebrospinal fluid which show within a few days of the appearance of the primary sore the same results as are seen years afterwards in tabes.

One moral at any rate is pointed by this, and that is the absolute necessity for immediate diagnosis and treatment. I consider that syphilis ranks with appendicitis and malaria as a disease which must be dealt with at once.

The secondary stage comes on at about six weeks and one of the many types of rash will then commence. They are first seen on the upper part of the chest; they spread downwards, involve the abdomen, the back and the limbs. The distribution is nearly always symmetrical. Starting as macules, they become papules and much later on pustules. The epitrochlear, the axillary, and the cervical glands enlarge, the throat becomes congested, and ulcers appear on the fauces, the soft palate and the tongue. The temperature rises very frequently and finally condylomata occur around the anus. This, then, is the course of the secondary stage in a typical case. Less commonly iritis may occur.

The classification into secondary and tertiary stages is rather vague, but at a period of anything from a few months to a few years the tertiary stage commences. It should be regarded as a process of merging, of contraction from a generalized to a localized condition. The rash recedes, becomes rounded, forms part of a circle, and finally contracts down to a gumma of the skin.

Within the body the generalized condition also becomes localized; gummata may form in any part of the body, the heart is frequently involved, aneurysm may develop, or an abscess of the brain. In any of these vital organs the disease may of course prove rapidly fatal. Less dramatic results may, however, be observed; the arteries may be left permanently thickened, a cerebral vessel may be occluded and a permanent paralysis occur. Perhaps minor and less important structures may be involved in processes which may in no way reveal themselves nor incommode the patient.

It is perhaps worth mentioning that during the whole of this stage, which may go on for many years, the sufferer is quite harmless to the community. He may not be able to propagate healthy children, but he is certainly non-contagious and non-infective to the rest of the community.

Now that concludes the three classical stages of syphilis, and if we were dealing with any ordinary disease that would be the end of the chapter, but, unfortunately, with the insidiousness and treachery we have learnt to associate with this condition, we have to consider two further manifestations of the *Spironema pallidum*. A certain number of cases develop parasyphilis, which is divided into tabes and G.P.I. How many is not definitely known. What particular case will develop parasyphilis is also unknown. This much, however, is known: the most likely case is the one with the small painless chancre, often perhaps unnoticed by the patient,

the one which may miss the secondary and tertiary stages altogether. And so you have cases of tabes and G.P.I. who never knew that they had had syphilis.

Time is too short to say anything in detail of these two very interesting diseases, but certain points should be emphasized: they are caused by syphilis alone; they are of course really a late stage; they were until recently invariably regarded as fatal and, even with the modern malaria therapy, the greatest claim made is an amelioration of symptoms in about a third of the cases over a period of about ten years.

The interval between the original sore and the commencement of parasyphilis is an extremely variable one, ten to fourteen years, with an average of twelve, is the nearest estimate. Cases occur, however, as early as five and as late as thirty years afterwards.

It is interesting to note that syphilis, just like gonorrhœa, tends to settle down in overworked and damaged tissue, and so the manual labourer and the native of the East tend to get tabes, while the educated person, often the most brilliant and distinguished, develops G.P.I. In this connection it may be recalled that the soldiers who contracted syphilis in the third Burmese War of '85, in a country where tabes prevailed exclusively, developed in very many instances the G.P.I. which their superior civilization favours.

Differential Diagnosis in the Various Stages.

The next thing to consider is the differential diagnosis in the various stages. As a cardinal rule it should be laid down that no case should be diagnosed as syphilis without either a dark-ground examination and/or a positive Wassermann test. Courts of law recognize no others, and a clinical diagnosis is always to be avoided.

Primary Stage.

First the sore. The classical condition with which it may be confused is of course soft chancre. All sores should, in the first place, be regarded provisionally as syphilis, and it is our business to prove that they are not. Soft chancre is diagnosed solely by the exclusion of syphilis.

We can usually obtain a fairly good idea as to what particular sore we are dealing with by its clinical appearance, and I should therefore like to go into this in some detail. Placing them in parallel columns, we find the differences shown in Table I.

Table I.

Syphilis	Soft chancre
Usually single	Usually multiple
Painless	**Painful**
Non-inflammatory	**Very inflammatory**
Regular, circular or ovoid edges	**Irregular**
Hard in later stages	Not hard, but may be later
Edge slopes gradually to base	Undermined edge
Gain of tissue	Loss of tissue
Induration spreads beyond margin	Limited to sore
Rolling or flicking	No rolling or flicking
Bell-clapper penis	No bell clapper.
D.G. and W.T. positive	Negative

Notes on Table I.

Although in syphilis there is usually a single sore and in soft chancre multiple ones, it is quite common to see multiple hard sores and a single soft sore. In Constantinople I saw a syphilis case with six primary chancres on the shaft of the penis and the single soft chancre was quite a common phenomenon.

The signs in clarendon type indicate in my opinion the most important differences. Flicking or rolling: imagine a hard sore like a button introduced under the mucous membrane of the coronal sulcus. The foreskin is gradually withdrawn and at a certain stage the button-like mass suddenly flicks over.

The bell-clapper condition is one of non-inflammatory œdema of the lower two-thirds of the penis. It almost invariably indicates a concealed chancre under a tight foreskin. It is seen in syphilis only.

There are therefore some very striking differences and we can usually make up our minds, at least provisionally.

Soft chancre is quite a simple disease. But a great drawback is the great length of time required to heal the sore, particularly in the tropics. Buboes are a troublesome complication. A man is not really much the worse off for having had this disease.

Balanitis.—A partial or general inflammation of the glans and coronal sulcus. There is no actual sore or ulcer. Other tissues are very bright in colour, very red and painful.

Warts.—Not usually confused with a chancre, but may be so in the mind of the syphilophobe. They are very hard, raised, multiple and discrete; they are due to lack of cleanliness.

Scabies.—This may require more care to diagnose. An isolated papule may resemble an early sore, but it is more raised, more inflammatory, and there are almost always other signs of the condition present, particularly scratching. The itching may be intense.

It is worth mentioning perhaps that scabies is the common cause of multiple chancres. The itch burrows prove excellent hiding places for the spironemes.

A case was seen recently in the Detention Barracks. There were several scabies papules on the shaft of the penis and mixed up with these were three circular areas of a dull bluish red colour with perfectly intact skin. The patient said they had been boils. They were sufficiently suggestive of recently healed hard chancres to warrant a blood test, which proved to be positive. I am quite certain this case would never have been diagnosed but for the fortunate co-existence of scabies. This man undoubtedly owed his comparatively early diagnosis to his "crime" and lack of cleanliness.

Herpes genitalis.—There is a group of minute painful vesicles on the glans or in the coronal sulcus. The picture is quite a distinct one and is only confused in the lay mind.

Dhobie itch.—An isolated patch of tinea on the shaft of the penis may cause some doubt. It is circular with a raised margin and other patches of tinea circinata are usually present.

Yaws.—One of the most interesting diseases in Dermatology, this condition is perhaps the most difficult to diagnose. In fact, it is almost impossible at times to make a diagnosis. Yaws is conveyed by contact; it has three stages; primary, secondary and tertiary; it has a spironeme indistinguishable from the *Spironema pallidum.* The Wassermann test is positive and the treatment is by arsenic and bismuth, just as in syphilis. It has these differences, however: a permanent cure is effected by about six injections; it is not congenital; and it does not involve the central nervous system. Its chief diagnostic feature is geographical, for it is almost entirely a tropical disease and limited to certain parts of the tropics, e.g., Malaya, the Far East and the West Coast.

Secondary Stage.

Here we are confronted with many varieties of disease all of which more or less closely resemble syphilis, and people are often at their wits' ends to know which is which and what is what. In the short time available it is only possible to refer to the more important of these.

Let us take the rashes, the most baffling and bewildering of signs.

I propose to divide them into the usnal dermatological groups: macules, papules, vesicles and pustules. The first question which the dermatologist asks himself when confronted with a rash is—into which of these groups can the rash be placed?

Before considering these in detail let us get a clear picture in our minds as to the appearance of the typical syphilis rash. The roseolar macular is the earliest and most common. It may become papular and pustular later on, but we will consider the roseolar macular as the typical syphilitic rash. It commences as a faint blush of an indistinct mottled character, very pale, very inconspicuous. It is *in* the skin and not *on* the skin. Nearly all other rashes are *on* the skin. It gradually becomes more obvious, but it is always dull. Many adjectives have been applied, but the textbook description of raw ham is not very good. Our best adjectives are dull, sleepy, quiescent; and our best colour picture, pale brownish red. Nearly all other rashes are by contrast very active looking, very bright, and very obvious. Put in another way: one can easily overlook a syphilis rash in a poor light; any other rash is never overlooked.

Macules (Rashes Flush with the Surface).

Drugs.—Drug rashes are fairly common and denote an idiosyncrasy. The chief are those associated with the administration of cubebs, copaiba, quinine, belladonna, turpentine and the salicylates. In the old days copaiba

used to be given for gonorrhœa. Once this rash developed, the patient, already under treatment for one variety of V.D., was then firmly convinced that he had another as well.

Now all these rashes are of a fairly bright colour, much more so than that of syphilis, they mostly itch and there is usually a history which helps. A salicylic rash from aspirin is not uncommon and a case occurred in the Cambridge Hospital last year.

Pityriasis rosea.—A somewhat uncommon skin disease, but one which resembles the roseolar macular rash of syphilis very closely. Diagnosis may be difficult. There is a herald patch on the front or the back of the chest and the rash spreads from this. There are fine branny scales and a good deal of itching. The colour is a rather bright pink. The general condition is quite good; the course is usually one of six weeks and it does not relapse. A Wassermann test is of course taken in cases of doubt.

The following circumstances illustrate the value of an immediate diagnosis. A lady suffering from pityriasis rubra was on her way from the North of India to Australia, and was anxious about the action of the immigration officials. A certificate as to the true nature of the rash enabled her to land without any question of syphilis being raised.

Seborrhœa corporis.—This is an extremely common skin disease with a rash in the "V" position in front and on the back of the chest. Two valuable points: the macules are always very pale and are covered with a faint, greasy scale. The picture, when once fixed in one's mind, can never be mistaken for anything else. There is practically always dandruff. Seborrhœic dermatitis is a similar condition only more generalized and more raised.

The Exanthemata.—Here we are of course only considering the macules. The infectious fevers most likely to be confused with syphilis are measles, German measles, scarlet fever and very early small-pox. In most of these conditions there is fever before or during the eruption, sharp fever, higher than in syphilis, a history of some kind, the presence of an epidemic, a really acute condition. All these rashes are very obvious, very red and inflamed and very active, and the patient usually gives a history of one, or perhaps two, days duration and sudden ill-health.

These are, of course, merely generalized observations, and each infectious disease has usually some particular sign or symptom which enables a diagnosis to be made. One further point I should like to make is that a temperature does not exclude syphilis, for nearly every case of secondary syphilis runs a temperature at some time or other. The reason for this not being generally known is that some of the older textbooks state that there is no temperature, and so it is never taken.

Papules (OR RAISED RASHES).

Psoriasis.—A fairly common disease somewhat resembling certain forms of syphilis. There are many points of difference. The chief are given in Table II.

TABLE II.

Psoriasis		Syphilis
Extensor (backs of elbows, fronts of knees)	..	Flexor
Bright red	..	Dull red
Scales; dry, silvery, bleeding on removal ..	..	Greasy, dirty, no bleeding
No other signs of syphilis	..	Other signs present
Itching..	..	No itching
Very chronic	..	About eight weeks
Dark-ground and Wassermann tests negative	..	Positive
Not affected by antisyphilitic treatment ..	..	Clears very rapidly

Dhobie itch.—The typical situation does not usually cause any doubt, but tinea circinata of the trunk or limbs may do so. Here the ringed outline and the raised margin give the diagnosis.

Scabies.—Bright red, intensely irritating papules, with scratch marks, present a perfectly clear picture.

Papillomata.—These in the region of the anus are common, and are apt to cause very great doubt as to whether they are due to syphilis. Mistakes are frequent. Soon after my arrival in a certain foreign station, I had to deal with a case where the growth around the anus was as large as a small cauliflower, and I found it had already been diagnosed as syphilis. A spironeme was said to have been found in a stained specimen. This method of looking for the organism is never very good, and mistakes are quite common. I went to the particular civil laboratory where the examination had been made, and asked to see the specimen. I am quite sure that the object thought to be a spironeme was a twig or fibre or a bit of dirt. They were not in any way surprised when the Wassermann test had been negative, but they were really shaken to the core when six injections of arsenic failed to reduce the mass. I had no course but to change the diagnosis of the case, which was ultimately dealt with surgically and without relapse.

Piles.—Piles are without doubt the most frequent source of diagnostic error. One sees quite a number of these cases and the results are often disastrous. The difference between the two conditions is quite simple. The condyloma is always a moist flat-topped papule, almost always symmetrically distributed on the two cheeks of the buttocks, and usually foul in appearance and odour. The pile by contrast is round topped, dry, somewhat compressible and varying in size from time to time and of very long duration. Further, condylomata are quite painless whereas piles may be very painful. One further point in syphilis of the anal region: the outer third of the inguinal glands is frequently enlarged, an anatomical fact not always appreciated.

It is worth mentioning that condylomata are exceedingly contagious and contain so many spironemes that the dark-ground examination is very easy indeed. Further, condylomata are perhaps the most frequent source of innocent infections from latrine seats, towels, clothes, etc. They may also occur under the breasts in women where the moist heat is favourable for their growth.

Vesicles.

To continue our logical classification of these lesions we have to consider the vesicle, but this form of rash does not really occur in syphilis as the papule proceeds straight to the pustular stage. Some people have thought, quite erroneously of course, that syphilis may show a vesicular form and a case which I saw in a certain station abroad exemplifies this. The common diseases are of course chicken-pox and early small-pox.

On entering the ward to see this particular case I was greeted with all the paraphernalia of an infectious hospital, gowns, masks, etc. On examining the patient one found that he was covered from head to foot with a pustular rash (rupia), had a general adenitis, and a severe laryngitis with partial loss of voice; he had run a continuous temperature of 101° to 102° F. for six weeks and had lost one stone in weight. He had been diagnosed chicken-pox, but it had recently been changed to small-pox. Would I kindly confirm?

Blood for a Wassermann test was taken that day and was reported on the next. It was found to be strongly positive and the patient was transferred to our special hospital. He was given treatment at once and his temperature dropped to normal within twenty-four hours. He improved rapidly, gaining ten pounds in a fortnight and was discharged to duty on the sixteenth day.

This case illustrates several things: (1) The importance of accurate clinical guidance, i.e. to know when to take a blood test. (2) To keep syphilis constantly in mind, especially in a chronic condition. (3) The recognition of continued pyrexia in secondary syphilis. (4) The rapid improvement once the appropriate treatment has been given.

Herpes zoster.—This is a vesicular condition which might be confused with syphilis. The typical group of vesicles on a painful and inflamed base usually preceded by definite pain on the nerve track presents a perfectly clear picture.

Herpes labialis and facialis.—The condition known as a "cold on the lip" by the lay person resembles the primary stage of syphilis more than the secondary, and is often confused with it. That is to say the extragenital sore may easily be regarded by both doctor and patient as merely a cold on the lip. The painfulness of the one and the painlessness of the other usually afford valuable evidence.

Pustules.

Pustular syphilis or rupia may be confused with two common conditions.

Impetigo contagiosa, which is of sudden origin and limited to the face, neck and scalp.

Acne vulgaris, which is exceedingly chronic, limited to the face and back, and is so well known that it can be dismissed without comment.

(To be continued.)