CUTANEOUS LESIONS OF ACQUIRED SYPHILIS.

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Although there is no department of medicine, which is not to some extent, at any rate, interested in syphilis, the dermatologist at least can claim that 99 per cent. of the patients affected by this protean malady exhibit cutaneous lesions, and in the vast majority of cases it is owing to the appearance of these that medical help is solicited by the sufferer.

For convenience of description it has always been customary to classify the cutaneous lesions of syphilis into three main groups corresponding to the epoch of the illness in which they make their appearance, viz., **primary**, **secondary**, and **tertiary**. There are enormous differences between the various cutaneous manifestations of the disease, but there are also one or two features which are common to them all. The first is the tendency of the lesions to become indurated. This is particularly noticeable in the primary and the tertiary stages. In the secondary period, which is usually distinguished by a general efflorescence consisting for the most part of a macular rash, it is often impossible to be positive of the induration of any individual macule, although in severe cases when the macules thicken into papules and even into nodules, the characteristic hardness then becomes obvious. Another general feature is the colour of the lesions which are characteristically of a coppery tint, and still another is the absence of all subjective symptoms such as pain and irritation in the sites affected. Apart from these features there is no disease the lesions of which are more truly polymorphic than those of syphilis.

To proceed now to a more detailed description of the successive stages of manifestation, the typical primary lesion, as every student knows, is the celebrated Hunterian chancre usually occurring somewhere on the external genitalia, but exceptionally in other positions, e.g. on the lip, or when contracted by attendants on the sick, in the course of their professional duties, on the finger.

The incubation period of the primary lesion varies from ten to ninety days, with an average of about twenty-one. It exhibits to a very intense degree the induration which has already been mentioned as characteristic of the disease. Round or oval in shape, the surface is slightly eroded, exuding a little clear serum. In the majority of cases it is accompanied by a discrete and painless enlargement of the neighbouring lymph glands, which is usually labelled with the adjective "shotty." They never suppurate. Untreated, it heals slowly within about two months, leaving behind an atrophic scar which gradually loses its induration.

Extragenital chancres are worthy of a special mention, the commonest site of these being upon the lips. Here œdema, painlessness and induration are characteristics which should at once arouse suspicion. On the fingers, however, the usual clinical characteristics of primary syphilis are often absent, and the lesion frequently passes as septic finger or whitlow, and curiously enough, chancres in this region especially about the nails, in contrast to what is found in other regions, are often excruciatingly painful. Among medical workers any lesion about the fingers which is at all chronic should be instantly suspected to be of syphilitic origin.

Although it is the general rule that primary lesions in the sexual area exhibit the characteristics indicated above, the syphilitic virus may find its portal of

entry without producing its characteristic reaction, and consequently all genital lesions in male or female are suspicious, and syphilis can only be satisfactorily excluded by repeated examination of the exudation from these lesions for the presence of the spirochæta pallida by the dark ground method. In fact the final diagnosis of primary syphilis is really a matter for the laboratory rather than for the clinic. The chief possibilities in making the diagnosis of a chronic lesion in the neighbourhood of the genital organs are the following:—

First, and most important, a *primary chancre*, distinguished by the characters enumerated above, and accompanied by a Wassermann reaction at first negative, and later becoming positive.

(2) *A tertiary syphilitic lesion*, usually distinguished by destructive ulceration which may be of long duration without any local glandular enlargement.

(3) *Chancroid, usually multiple purulent lesions* accompanied by suppurating glands. This is the condition above all likely to form a portal of entry for the syphilitic virus without the development of a typical chancre, and in all such cases the Wassermann reaction must be determined at fortnightly intervals for three months before syphilis can be excluded.

(4) *Herpes genitalis*, marked by repeated attacks, multiple lesions with considerable itching and burning, no involvement of glands.

(5) *Scabies*, the lesions of which in this region usually consist of sausage-shaped papules which are really burrows surrounded with more inflammatory exudations than in other regions. Lesions will also be found elsewhere.

(6) *Venereal warts*. Usually malodorous papillomatous structures.

(7) *Carcinoma*. This may simulate chancre very exactly and the enlargement of glands although somewhat later in appearing, corresponds with the indolent bubo of primary syphilis. The diagnosis is to be settled by biopsy, which should not be postponed.

Secondary Syphilis.

The skin lesions of secondary syphilis are, generally speaking, those of a constitutional exanthema, the units of which exhibit the characteristics already mentioned as typical of this disease. Within these limits the most amazingly varied rashes may be found. Nevertheless the clinical diagnosis of secondary syphilis is not really difficult, and while we readily admit that in all suspicious cases the Wassermann reaction of the blood should be determined, in almost every instance this should be done not to make the diagnosis but merely to confirm the conclusion arrived at from a clinical examination of the patient.

In general, the secondary syphilitic rashes vary according to the severity of the attack. The mildest form of rash is the macula which often is so mild that the induration characteristic of all syphilitic skin regions cannot be determined. In slightly more severe cases some of the macules become papules, and as the severity further increases, nodules are seen, which in turn become ulcerated. The constitutional symptoms of the disease vary very much in proportion with the severity of the cutaneous rash. In large numbers of cases the patient asserts that he or she feels perfectly well, but in others there are the usual symptoms of a generalized infection which include malaise, generalized aching of bones, headache, loss of weight, and mild fever. In practically every case there is a general

enlargement of the lymphatic glands which may consequently be detected by the finger in situations where they cannot commonly be felt. Occipital glands and the epitrochlear gland should always be palpated. The subjective symptoms are usually more marked in women than in men. From these general considerations we may now proceed to the description of the chief types of cutaneous secondary syphilis.

(1) **Macular rash.** This, the commonest of all, is frequently called *roseola*. In this the lesions are discrete and very fairly uniform in size, best seen on the flanks and inner surface of the upper arms. It is usually confined to those parts which are covered by clothes, consequently the face is rarely affected. It must be remembered that there are many cases of syphilis in which the lesions are fugitive and inconspicuous and a macular rash may easily escape notice. The patient should be examined by daylight, not by artificial light, for in the latter, many lesions are invisible. Just as this is the mildest form of cutaneous rash so the lesions on the mucous membranes are likely to be simple erosions rather than anything more severe. One feature about this rash is that the lesions are usually all very nearly the same size. Even when, owing to increased induration the macules become papules, their area is hardly altered, and this leads us by a natural transition to the *maculo-papular syphilide*, the next most severe type. As the name implies the lesions here are tougher and harder than in the former type, are raised slightly above the surface, and are frequently slightly scaly. It affects all the same areas as the macular rash, and in addition spreads to other regions, e.g. up on to the face, especially to the forehead (*corona veneris*), and down the limbs on to the palms and soles. It also affects the scalp, where it is not usually observed as such, but its presence becomes manifested by the development of patchy alopecia, producing a certain moth-eaten effect. From the maculo-papular rash we proceed to the more startling but rarer forms of secondary syphilide which have given the disease its reputation for polymorphism. These forms are much rarer than they were, owing to the modern advances in the diagnosis and treatment of the disease. Their characteristics are due to the patterns in which their constituent papules are arranged, and they frequently suggest other diseases from which it is particularly important that they should be diagnosed. Owing to this mimicry of other conditions, syphilis has been described as a great imitator. I have now prepared the ground for mentioning some of these special types:—

(2) **Papular rashes.** The papules may not only be arranged in different patterns, but may also be of different shapes themselves. We distinguish large, flat, lenticular, psoriasiform and squamous varieties. In the scalp the lesions are frequently crusted, the induration is very marked, mucous lesions are frequent and severe, and in the perineal regions often assume the form of condylomata. This type of eruption is frequently difficult to diagnose from mere clinical examination. The psoriasiform syphilide is particularly liable to be confused either with lichen planus or psoriasis. In the tropics it may be necessary to exclude leprosy.

(3) There is a great tendency in syphilis for the lesions to take on a **circinate or annular form**, especially on the face, back of the neck, and scrotum. Circles or segments of circles may be observed. This variety of syphilide is frequently mistaken for *tinea circinata*.

(4) The papules may be closely associated with hair follicles and the rash is consequently described as **folliculo-papular**. There are usually distinct small groups of lesions with normal skin between. I understand that this is the commonest form of secondary syphilide found among negroes.

(5) The papules may be pustular, that is to say, the tops of the papules slough off, form crusts, and exude a little pus. This form of rash is usually widely distributed, affects the face where it gives rise to an appearance strongly resembling bad acne vulgaris, and is hence sometimes described as an **acneiform syphilide**. Constitutional symptoms are often severe.

(6) Most severe of all is the **rupial eruption** which is now quite rare. It consists of scattered punched-out ulcers which may be seen on almost any part of the surface, but which affect mostly the scalp, face, and lower legs. They are frequently covered by heaped up crusts, classically described as "oyster shell." This form of secondary syphilis is always found in weakly and ill-nourished individuals in whom reaction is deficient, so much so, that occasionally the Wassermann reaction of the blood is negative.

Pigmentation in Secondary Syphilis.

All the secondary syphilides are liable to leave residual pigmentation which may last any time up to five or six months, and is deeper on the lower limbs than elsewhere. Sometimes papular lesions themselves are also pigmented, and as might be expected, individuals of dark complexion exhibit pigmentary lesions more often than blondes, but the most interesting of the pigmentary manifestations is the *pigmentary macular rash*, the typical distribution of which is round the neck and shoulders, usually accentuated towards the back. It is affectionately known as the "collar of Venus." It produces a rather beautiful dappled effect and when fully developed is quite characteristic, and can hardly be mistaken for anything else, although it is sometimes confused with innocent vitiligo or leucoderma. In the latter, however, there is a very sharp line of demarcation between the pigmented and depigmented areas whereas in the syphilide there is a gradual transition from the one to the other. A good deal of argument has been expended on the question as to whether the original papules are formed in the pigmented or depigmented portions of the network, and on the whole it seems more likely that the pale areas are the sites of the actual papules. It is a rather chronic manifestation and takes several months to fade.

The mucous lesions of secondary syphilis are highly important, and it should always be remembered that the only visible lesions of secondary syphilis may be confined to the mucous membranes and that the skin may entirely escape. Mucous lesions follow much the same general classification as the cutaneous. There may be:—

- (1) The simple redness of the posterior pharynx, sometimes called syphilitic angina.
- (2) Simple erosions, i.e. merely loss of the superficial layer of the epithelium so that the surface of the mucosa looks rough and granular.
- (3) Papulous erosions, i.e. mucous patches.
- (4) Hypertrophic lesions, the moist papule and in the perineal area the condyloma, and
- (5) Ulcerations.

Numbers 1 and 2 correspond to the macular syphilides of the skin; 3, to the maculo papular; 4 and 5, to the papular, nodular, pustular, and rupial forms of cutaneous syphilis. Roughly these manifestations are arranged in an ascending order of severity.

The diagnosis of the cutaneous eruptions of secondary syphilis is of course a matter of the highest importance, and perhaps on account of this there is a great tendency on the part of the general practitioner to escape his responsibilities by throwing the onus of proof on to the pathologist. Instead of making up his mind from clinical examination he draws a few centimetres of blood, and sends it off by post to the nearest clinical laboratory. Those of us who were educated in the harder school of pre-Wassermann times had to make up our minds without these modern aids, and as a matter of fact careful clinical observation leaves very few cases in doubt. The right attitude to take is to make a clinical diagnosis and then test its accuracy, with the help of the pathologist. It is important to follow certain general rules. (1) The patient should be examined naked. (2) The whole cutaneous surface must be inspected and the mucous membranes of the various orifices must not be forgotten. (3) The examination must be made by daylight. If this is impossible one of the electric lights which is supposed to imitate daylight should be used. A yellow light makes many lesions invisible.

The following are the chief widely spread eruptions which may possibly be confused with secondary syphilitic rashes:—the acute exanthemata, drug rashes, pityriasis rosea, seborrhœic dermatitis, eczema, psoriasis, and lichen planus. Of all these perhaps the most important is pityriasis rosea, a fugitive and innocent eruption in itself but one which is perhaps more likely to be mistaken for a secondary syphilide than any other, because of its similarity in distribution to a macular rash and to the fact that in certain cases its lesions resemble papules. It should not, however, present much difficulty in diagnosis if the following points are borne in mind:—

- (1) The entire absence of induration in the lesions.
- (2) The irregular way in which they are spaced over the surface of the trunk and the proximal portions of the limbs.
- (3) The colour, which is much pinker than that of a syphilide.
- (4) The absence of any constitutional signs or mucous lesions.
- (5) The frequent but not invariable history of a "herald patch."

If all these points have been considered the Wassermann reaction may be appealed to, to confirm the clinical diagnosis.

The diagnosis between syphilis and lichen planus is usually greatly helped by the severe pruritus associated with the latter, the angular shape of its papules and their tendency to mass together to form linear lesions and plaques, and the mucous lesions which if present consist of white linear network on the buccal surfaces of the cheeks, without any tendency to ulceration, and which are quite different from the mucous lesions of syphilis. Psoriasis is distinguished by its typical and profuse scaliness, by its tendency to affect the extensor surfaces and the scalp, by the absence of induration, at all events when the scales have been removed, and frequently by the history of the case.

The form of psoriasis which is most likely to be mistaken for syphilis is an acute outbreak of guttate lesions such as sometimes occurs as the first sign of the disease. In such a case in addition to the above rules the absence of mucous lesions is a great help in excluding syphilis. It is not often that the exanthemata can be mistaken for secondary syphilis, but I have known a profuse roseola to be mistaken for measles until the discovery of a healing primary chancre on the lip,

and the presence of enlarged glands, settled the diagnosis, and as regards drug eruptions a copaiba rash may sometimes imitate a roseola, and it must be borne in mind that copaiba is administered (or rather perhaps *used* to be administered) for gonorrhœa, and therefore the development of such a rash might easily suggest that the patient had acquired a double infection. A patchy eczema has been known to be diagnosed as syphilis, but there is really not much excuse for this as the patches of eczema are mostly found on the limbs rather than on the trunk and they are always associated with pruritus, there are usually out-lying follicular papules and the edges of the patches are usually irregular and ill-defined. Seborrhœic dermatitis (Duhring), should also present no difficulty. The scurfiness of the scalp, the localisation of the lesions to the mid-axial lines and the folds of the axilla and groin, and the absence of induration should suffice to distinguish it.

Tertiary syphilides may make their appearance at almost any time after the first few months of the disease. In severe and untreated (or inadequately treated) cases, severe secondary lesions gradually merge into severe tertiary. But more commonly there is a latent period which may be anything from a few months to forty years, during which there is nothing to be seen. The tertiary manifestations of syphilis differ very considerably from those of the secondary stage. They still exhibit the general characteristics of induration and coppery tint, but they display no tendency to symmetrical distribution, and they are far more prone to ulceration. Frequently there is a single lesion only, or at least a single group of lesions. They may be situated anywhere on the cutaneous surface, and the differential diagnosis presents a problem which varies to some extent according to the situation. Two characteristics are very helpful in identifying late syphilides:—

- (1) Their arciform or circinate configuration, and
- (2) The sharp margins of the lesions.

This applies not only to the nodule or gumma, but also to the tertiary ulcer which, we may remind readers, has earned it the description "punched out." Tertiary syphilides as a rule leave scars, always if ulceration has taken place, and sometimes even after nodules. The characteristic scar is papery, and very often there is peripheral pigmentation around it.

Special types of tertiary syphilide:—

(1) *The Gumma*. This is the classical lesion of tertiary syphilis, and consists of a dense subcutaneous infiltration which softens and breaks down, leaving the typical punched out ulceration. It is found most often on the legs below the knee, and on the scalp.

(2) *Nodular syphilides*. This may take the form either of a single isolated nodule or more commonly of a series of smaller nodules with or without superficial ulceration and crusting, but almost invariably with the typical arciform or circinate configuration. These may be found anywhere on the cutaneous surface, and are the commonest of all tertiary cutaneous syphilides. They are often extremely indolent and chronic, and may remain, spreading very slowly, or even stationary, for many years. When treated, they disappear completely and may leave no scar behind them.

(3) *Psoriasiform and squamous syphilides*. These are specially prone to involve the palms and soles, and their clinical differentiation may be difficult from psoriasis, but as a rule only one limb is involved, and the indurated circinate

border ought to put the clinician on the right track. Late syphilitic ulceration often affects the skin where the bones are close to the surface, i.e. on the chin, and on the skull. Here it is always associated with gummatous periostitis of the underlying bones. On the other hand, nodes may be formed on the bones without the skin being affected. One of the most disfiguring effects of tertiary syphilis is the destructive syphilide of the nose, associated with necrosis of the nasal bones, which, if not quickly arrested, leads to total disappearance of the nose.

The late syphilides of the mucous membranes always take an ulcerated form. In the mouth, the soft palate and posterior fauces are often attacked. Leucoplakia, a greyish or silverish patch, which occurs most often on the borders of the tongue, and at the angle of the lips, is often found in syphilitic patients, but is really caused by some form of chronic irritation such as tobacco or jagged teeth. It is important because it is a pre-cancerous lesion, and it is not affected by anti-syphilitic treatment. Nodular lesions of the face have to be distinguished from leprosy. The chief clinical mark of leprosy to look for is induration of the peripheral nerves, and alopecia of the eyebrows and scalp is common.

In the genital regions, gummatous ulceration of the penis is not uncommon, but gumma of the vulva is rare.

Differential diagnosis of late syphilis varies very much according to the site of the lesion under inspection. Perhaps it will be useful to run over the surface of the body, and discuss each in turn. Starting with the scalp and face, on the scalp tertiary syphilis, if ulceration has taken place may have to be distinguished from *epithelioma*. Here the chief points of differentiation are, in syphilis the punched-out characteristic of the lesions, circinate configuration associated with periostitis, while in epithelioma there is a heaped-up edge with induration and a tendency, at all events in the later stages, to glandular involvement. On the face a nodular syphilide may be mistaken for a rodent ulcer or for lupus vulgaris. Here again the circinate character is of great help, and it should also be remembered that a tertiary syphilide, although comparatively slow growing, is certainly much more rapid in development than a rodent ulcer. It should not often be difficult to differentiate between syphilis and lupus vulgaris for lupus almost always begins during the first twenty years of life. In it the ulceration is much more superficial than in syphilis but the apple-jelly nodules of lupus seem more deeply seated in the skin and smaller than the nodules of the syphilide. There are however, rare cases of senile lupus where the diagnosis is more difficult, but the same points of clinical differentiation still remain to guide one. Sometimes a biopsy is necessary. On the skin of the trunk and the proximal portions of the limbs a superficial tertiary syphilide may be mistaken for psoriasis or a patch of chronic eczema. The presence of induration and the discrete nodular formation, and the absence of subjective symptoms are the chief points in favour of syphilis. Psoriasis is to be distinguished by the abundance of the scales and the absence of induration when these are removed. Psoriasis, however, does sometimes take on circinate form. Chronic patches of eczema and lichenification are to be easily distinguished by the almost invariably associated pruritus, and often by the irregular edge, with outlying follicular papules. In the genital regions we have again to distinguish syphilis from epithelioma, and especially in the female, from granuloma inguinale and lymphogranuloma venerea. These conditions produce ulceration, which is clinically almost indistinguishable from gummatous ulceration, but they are uninfluenced by antisiphilitic treatment, and of course show a negative Wassermann reaction.

On the legs it is often difficult to diagnose tertiary syphilitic ulceration from the ulceration associated with varicose veins or "white leg," a disease more aptly described by Dickson Wright as gravitational ulceration, a very much better name, as it emphasizes the importance of gravity and the maintenance of the upright position in causing this condition. There is no doubt that many bad cases of gravitational ulceration do resemble very closely the ulceration produced by tertiary syphilis. The lesions are deep and punched out, and they occur on the inner side of the leg, over and behind the tibia. Many writers in discussing these lesions and calling them syphilitic, have drawn attention to the fact that they very rarely show a positive Wassermann reaction, nor do they react to antisyphilitic treatment. It is of course known that a certain proportion of tertiary syphilitic cases do show a negative Wassermann reaction, but in nothing like the proportion shown by these ulcerated legs. I think it is more reasonable to take the evidence afforded by the combination of a negative Wassermann, and the lack of response to antisyphilitic treatment, as proof that syphilis has nothing to do with them. Moreover, many of them although uninfluenced by antisyphilitic remedies improve very quickly, and often recover under the elastic bandage treatment introduced by Dickson Wright, for gravitational ulcers. Personally, I think that ulceration of the inner sides of the legs is in the vast majority of cases due to the effects of gravitation. There is much more reason to suppose that syphilis is the cause of the ulceration when the lesions are situated on the outside, in the fleshy part of the leg. This was a point I remember often emphasized by my old teacher, Mr. Lockwood, although in his time the Wassermann reaction was unknown.

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