Clinical Lecture

ON

SYPHILITIC INOCULATION.

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GENTLEMEN,—If there is one pathological fact that has been more frequently reiterated of late years than another, it is that a primary syphilitic sore may be distinguished from every other affection by its secretion, when inoculated, invariably producing the characteristic syphilitic pustule. Although syphilitic inoculation was practised by Hunter and other accurate observers, it remained for Ricord to draw well-digested conclusions from the facts which this mode of investigation presented for our interpretation. By patient experiment and vigorous reasoning, Ricord established the truth, which has now been confirmed throughout Europe, from Italy to Norway—namely, that certain forms of syphilitic sores will produce, when inoculated, their like, which, in their turn, will again furnish a secretion capable of being again inoculated with similar results. It would be difficult to overrate the importance of this discovery, so analogous to that of the small-pox inoculation; but practical men have nevertheless been unable to see in the experiments in question a conclusive representation of that which they daily observe in practice. That certain forms of primary syphilitic disease will produce the characteristic pustule when inoculated, all must allow; but it does not follow, on the one hand, that all primary syphilitic sores are alike capable of being inoculated; nor, on the other, that when inoculated, they will necessarily yield the same result. Under these circumstances, and without proof as to these two last-mentioned particulars, to say that a sore is syphilitic because it produces a characteristic pustule when inoculated, and that it produces a characteristic pustule because it is syphilitic, is manifestly to reason in a vicious circle. The propositions themselves are undoubtedly true, but they cannot, without further proof, be received as excluding other modes of syphilitic infection and other forms of primary syphilis.

We are led then to ask, in the first place, whether there is no form of primary syphilis except that which commences as a pustule? This question is important, since surgeons engaged in practice very seldom have an opportunity of observing the primary syphilitic pustule, and still less frequently have they an opportunity of tracing any secondary symptoms consequent upon it. Now, during the years 1855 and 1856, we examined at this hospital the secretion from a large number of primary syphilitic sores, and amongst them were ninety-five cases presenting all the ordinary characters of the primary infecting sores. The secretion from these ninety-five cases consisted of epithelial *débris* floating in a serous fluid, or of globules of various shapes and sizes, which did not, upon the addition of acetic acid, yield the well-defined nuclei characteristic of pus. In a very considerable number of cases, the secretion appeared to consist of nothing but epithelial *débris* and serous fluid, and in some the primary affection yielded no secretion at all.

What reason, then, have we to believe that these primary sores commenced as pustules, or that, unless artificially irritated, they would produce pus at all? and, secondly, what evidence have we that every syphilitic sore produces a secretion capable of being inoculated in the same manner? It is to this last point that I wish particularly to devote this lecture.

When the secretion is taken from a chancre during its period of progress, or when stationary, and properly inoculated, the following results may, according to M. Ricord, be invariably observed:—During the first twenty-four hours the inoculated point becomes red; from the fourth to the fifth day the secretion becomes purulent, and a pustule, with a depression in its centre, resembling those of small-pox, is fully formed. (*Traité Pratique*, p. 89.)—The inoculation never fails when properly performed: “L'inoculation n'échoue jamais quand on prend le pus dans les conditions voulues, et qu'on l'applique bien.” (p. 94.)—The appearance produced is said to be regular, characteristic, and uniform. (p. 135.)—It is useless to multiply quotations upon this point, the facts concerning which have been so generally received and so often republished.

In the year 1856, I published an account of some cases in which, notwithstanding the assertions so unreservedly made, and so generally received, I had not been able to produce any effect by ordinary inoculation. The experiments were tried in this hospital, care being taken to select instances in which the sores had not begun to heal; and amongst the cases were the following:—

Thomas C—, aged sixteen, was admitted on the 27th of November, with an indurated sore, extending half-way round the margin of the prepuce, causing phymosis. This had commenced a fortnight previously. The secretion from the sore was carefully inoculated on the patient's thigh in several points. The inoculations were followed by no result, and the patient was soon afterwards affected with secondary syphilis.

James G—, aged twenty-five years, had a large indurated sore near the orifice of the prepuce, which had appeared as a pimple four weeks previously. The secretion was carefully inoculated in several points, but without result. Constitutional syphilis followed.

Matilda P— presented a well-marked indurated sore on the left external labium, which she stated had existed one week only. The secretion, which consisted of a thin serous fluid, was carefully inoculated. No result followed the inoculation.

Julia B—, aged twenty-one, had a red, glazed sore on the external labium, surrounded by distinct specific induration. The disease had commenced three weeks previously as a pimple. The secretion from the surface of the sore was inoculated without result.

Since the period above referred to, we have inoculated the secretion from a considerable number of sores presenting the characters of the specific adhesive inflammation; and, as a rule, no result has been obtained where no artificial irritation had been applied. The secretion, in these cases, has consisted chiefly of epithelial *débris* floating in serum, more or less turbid. The character of the secretion of these sores may readily be altered by anything that is brought in contact with them. The application of caustic, or a thick scab which confines the secretion, or a piece of linen which sticks to the sore, will produce a temporary discharge more or less puriform; but dress the part with wet lint for a day or two, and the natural character of the discharge will again be evident.

As a rule, then, I say—at least that has been our experience at this hospital—that this kind of primary sore is not, under ordinary circumstances, capable of being inoculated with the lancet; and we, therefore, cannot but come to the conclusion, that those who have maintained that all primary syphilitic sores can be alike inoculated, have generalized too hastily.

But a much more important question remains—namely, does it follow that because these sores are not capable of being inoculated by the lancet, in their ordinary condition, that therefore they cannot be communicated at all? And, if capable of being inoculated, under certain circumstances, are the results produced identical with those produced by the inoculation of the secretion from suppurating sores?

In order to determine these questions, I would request your particular attention to some cases now in the hospital, and particularly to that of a boy named A—. The details of this case, and the results of the inoculations performed, I will immediately mention; but before doing so, I would draw your attention to the fact, that, in practice, we continually meet with cases which, in their early stages, are similar to the one I am about to describe, and which, with or without treatment, become covered by epithelium, and in which, although the specific induration remains, yet the surface affords no fluid secretion whatever. Inoculation, in the ordinary way, at this period of the disease, would be entirely out of the question. But if a person in the condition I have mentioned gets married, his wife will have a very good chance, even before her pregnancy, of becoming infected with syphilis. Some very distinct cases, where this has happened, have fallen under my own observation. How, then, is the disease communicated in these instances? We have here a rather numerous class of cases in which the sores have become covered over with cuticle, which yield no pus or fluid secretion of any kind, and yet which are capable of communicating infection from one individual to another. How, I ask, does the inoculation take place from a sore affected only with the specific adhesive inflammation, either before or after that sore has apparently healed? Some light will, I think, be thrown upon these questions by the careful con-

sideration of the facts presented to our notice in the boy A—, at present in the hospital.

This lad had had gonorrhoea six months before his present attack, but otherwise he had never had any venereal symptoms. His present disease was of about a fortnight's duration. He first perceived a superficial sore behind the corona glandis, which healed in a few days. Two or three days after the first appearance of this sore, a little pimple appeared on the outer skin of the prepuce. This was squeezed, and discharged a watery fluid. A sore then formed, which continued to increase. He applied to me on the 26th of July, with a well-marked Hunterian chancre. This was of a circular form, surrounded by well-marked and accurately-defined induration, and discharged a white turbid secretion. This fluid was placed under the microscope, having previously been mixed with a little acetic acid. It contained no pus-globules. The glands in the groin were enlarged and indurated, but not inflamed.

July 27th.—The secretion from the sore was inoculated in several points on the patient's thigh.

29th.—The boy was admitted into the Lock Hospital. The inoculations had been followed by no result. The secretion from the sore was again examined, and found to contain no pus.

31st.—The sore, which continued to increase in size, had been dressed with linen and cold water since the last report. The linen appeared to have irritated the sore in some degree, and numerous globules now appeared in the secretion; but upon the addition of acetic acid, the distinct outline of the pus nuclei were not visible. Several fresh inoculations were made. The sore was dressed with wet lint.

Aug. 3rd.—None of the inoculations had succeeded. The secretion from the surface of the sore, placed under the microscope, and treated with acetic acid, did not appear to contain any pus. The sore was ordered to be dressed with blistering plaster. The glands at the back of the neck were now enlarged, and the skin presented for the first time the appearance of a syphilitic eruption.

5th.—None of the former inoculations had been followed by any effect. The application of the blistering plaster had produced a superficial slough on the surface of the sore, and blistered the surrounding skin. Some distinct pus-globules were now visible in the secretion from beneath the slough. This secretion was inoculated upon the thigh in several points.

7th.—The sore now again secreted no pus. Fresh inoculations were performed.

10th.—The sore was dressed twice yesterday with the sabine ointment, and it now yields a copious secretion of pus. This was inoculated in several points in a fresh place upon the thigh.

12th.—The inoculations last made had succeeded. The primary sore still yielded a copious secretion of pus.

14th.—The sore had been dressed with lint, kept wet with water, since the last report, and now no pus could be detected in the secretion.

The inoculations, both of the 5th and of the 10th, had now succeeded. They presented the appearance of circular red patches, with some elevation and thickening of the cuticle. In one place there was the appearance of a broken vesicle, from which a serous secretion exuded. This secretion from the inoculation was inoculated on the thigh.

17th.—The inoculation from the inoculation had succeeded. It presented the appearance of a red circular patch, from which the cuticle was abraded, with slight thickening of the skin. It had not at all assumed the appearance of a pustule, nor was anything like pus secreted from its surface. A single pustule, surrounded with very little inflammation, had formed in one of the points first inoculated. The eruption on the surface of the skin was fading. All the inoculations in this case were made with a lancet used for no other purpose, kept carefully wiped, and wrapped in paper.

19th.—The inoculations appeared as separate red patches on the skin, which in these situations was slightly raised and thickened, but no induration extended into its substance. The solitary pustule which had appeared had dried up. The original sore was healing, but being dressed with the sabine ointment, it afforded a purulent secretion, which was inoculated upon a patient who never had had constitutional syphilis, but who was apparently suffering from organic disease of the liver.

21st.—The inoculations presented the same appearances as before; they appeared covered in certain parts with thin scales; they were tender to the touch, with slight thickening on the surface, which did not extend into the substance of the cutis. The inoculations nowhere presented any appearance of ulceration. The inoculation performed on the 19th had produced a

small, dark-brown, circular patch, in which the skin was slightly elevated. The secretion from the original sore was now again inoculated on a second female already affected with constitutional syphilis.

24th.—One of the inoculations on the boy has a slight tendency to ulcerate. The others are desquamating and losing their colour.

The single inoculation on the first woman unaffected with syphilis has assumed the form of a small red pimple. The redness gradually fades into the colour of the surrounding skin. The cuticle at the inoculated part is thickened and elevated.

The inoculation on the second woman already affected with constitutional syphilis is less marked. There is only a slight redness and elevation at the inoculated part.

The particulars of these two last cases we will follow out on a future occasion. From the facts which have already been brought under notice, the following very important points are proved:—

I. That some primary syphilitic sores cannot readily be inoculated in the ordinary way, either during their period of progress or afterwards.

II. That the sores which are not capable of being thus inoculated, as far as we have hitherto seen, are those affected with specific adhesive inflammation, and which do not, except under conditions of artificial irritation, secrete pus.

III. That these sores, although not capable of being inoculated in the ordinary way, will nevertheless, when irritated, furnish a secretion which is capable of being inoculated.

IV. That the inoculations thus produced do not give rise, as a rule, to either suppuration or ulceration, but to some adhesive form of inflammation.

The inoculations to which I have now directed your attention, and the results of which may be seen in two other patients now in the hospital, besides those to whom I have above referred, have all assumed a remarkably uniform character. There are many points of the greatest interest connected with this new form of artificial inoculation, which I hope to enter upon at length in one of the courses of lectures which will shortly be given at this hospital.

ISCHYL, ITS WATERS AND BATHS, AND THE WAY TO IT.

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A SHORT residence at Ischyl, and a quiet, health-seeking journey in the Tyrol, last September, have left in my mind pleasant recollections, which may not be without interest to those who contemplate some future pilgrimage on the same errand and in the same direction.

Ischyl is one of the most favourite watering-places of eastern Europe. It is a large village, or small town, situated in the centre of the Saltz-kammergut, or Austrian Switzerland, a continuation of the Swiss and Tyrolese alpine ranges. It is fifteen hundred feet above the sea-level, in an open space, or valley, formed by the confluence of several rivers which escape from the mountain gorges that surround it. The largest of these rivers is the far-famed Traun, but they are all mere mountain streams. Although surrounded by ridges many thousand feet high, some of which contain large glaciers and are tipped with eternal snow, Ischyl is open to the light and sun in every direction, owing to the gradual subsidence of the mountains as the rivers which occupy their valleys approach Ischyl. Thus no part of the town is overshadowed by the pine-clad heights which meet the eye in every direction.

In the immediate vicinity of Ischyl there is much lovely scenery, the beauty of which is enhanced by many small lakes, which occupy the head or centre of the valleys, or lie at their feet, formed by the mountain streams as they emerge on the plain-land below. The natural beauties which surround the town have probably contributed as much as, or even more than, its mineral waters, to its present celebrity. They have probably been the great inducement which has led the Emperor of Austria recently to build a highland retreat in its precincts, in imitation of our own sovereign.

The mineral waters found at Ischyl are merely artificial brine springs, or waters saturated with rock salt. The moun-