PART III.

SYPHILIS.

CHAPTER I.

INTRODUCTORY REMARKS.

Syphilis is one of the class of diseases called "infectious," the characteristics of which are the following:

1. The presence of a morbid poison or virus, which transmits the disease from one individual to another.
2. The immunity which one attack generally confers against a second.
3. A "period of incubation," during which the virus is latent and gives no external manifestation of its presence in the system.
4. A degree of order and regularity in the evolution of the symptoms.

There are two forms of syphilis, the acquired and the hereditary. Both are the result of the same morbid influence or virus, but their course, lesions, and symptoms vary in so many particulars that they require a separate description.

Acquired syphilis is the disease communicated by an infected person to one free from syphilis, and always manifests itself first at the point of inoculation, by an initial lesion or chancre. Acquired syphilis without a chancre, or, as some French writers have called it, "syphilis d'emblée," is a myth.

Hereditary syphilis is syphilis inherited from either parent, infection of the ovum having taken place at the time of conception. In this form of syphilis, the initial lesion or chancre is wanting.

Syphilitic Virus.

The existence of a syphilitic virus has sometimes been called in question,[1] but at the present day is established beyond a doubt. The daily experience of every surgeon demonstrates that in syphilis there

[1] Chiefly by the following authors: Bru, Méthode nouvelle de traiter les maladies vénériennes par les gâteaux toniques mercuriels, t. i., chap. 3, p. 45, Paris, 1789; Caron, Nouvelle doctrine des maladies vénériennes, Paris, 1811, p. 33; Richond des Brus, De la non-existence du virus vénérien, Paris, 1826, t. i., p. 67; Jourdan, Traité complet des maladies vénériennes, t. i., p. 888.

exists a contagious element, by means of which the disease is communicated; and though this morbid poison has never been detected by the senses, the microscope, or chemical analysis, its presence is fully proved by its effects. Various theories have been offered to explain its nature, but they have all been either fanciful or untenable, and their authors have almost invariably confounded the syphilitic with the chancroidal virus. Thus the essential element of this disease has always remained concealed, and probably will so remain, until our knowledge in general of the principle of life and the nature of disease is very much greater than now.

The severity of the symptoms produced by syphilis on its first appearance in the latter part of the fifteenth century, compared with its greater benignity at the present day, affords some ground for believing that its virus is slowly but gradually losing in intensity in the same manner as the vaccine virus becomes weaker after many successive removes from the cow. This fact was noticed by Astruc in the middle of the last century, who says: "Whatever might formerly be the power and efficacy of the venereal disease when it was new and in vigor, while the undivided poison violently effervesced, there is nothing like it, I imagine, to be feared from it now, as it is weakened, become old, and its force almost quite spent." Another explanation advanced by some writers is, that the syphilitic virus retains its power, but that a preservative influence is transmitted to posterity by those who have the disease, which like some vegetables, gradually exhausts the soil from which it springs of the materials necessary to its support. Admitting the fact, the first mentioned theory is probably the correct one.

Syphilis commonly Occurs but Once in the same Person.

It is true of all diseases which are both contagious and constitutional, that a person who has once had them is indisposed to contract them again. Smallpox, scarlet fever, measles, the hooping-cough, and the vaccine disease, all follow this law; and in the rare exceptions which sometimes occur, the symptoms are generally so modified as still to evince the protecting influence of the first attack. The applicability of this law to syphilis was first announced by Ricord in 1839, and in spite of frequent denials, may now be regarded as unquestionable. The immunity conferred by an attack of syphilis is as great as that resulting from an attack of any of the other infectious diseases just mentioned.

Without due care, however, it is an easy matter to be deceived on this point. After syphilitic infection, but few persons escape with only one outbreak of general lesions; however thorough their treatment may have been, one or more relapses usually occur, and if one of these has been preceded by a newly caught venereal ulcer, the secondary symptoms which follow are frequently ascribed to its

[1] English translation of Astruc, London, 1754, p. 102.

influence, especially if the ulcer happened to be situated upon the remaining induration of the first, and thus simulated a chancre. Fortunately, we are able in most instances to recognize a recent attack of syphilis by the following signs, and in their absence to ascribe the lesions to an old infection:

1. By the induration of the preceding chancre and neighboring lymphatic ganglia.

2. By the time elapsing between the appearance of the suspicious ulcer and that of the general symptoms: the interval, in the absence of treatment, and when the latter are dependent upon the same infection as the former, being very uniformly about six weeks, and rarely exceeding three months.

3. By the character of the lesions, whether belonging to an early or late stage of syphilis.

4. In some cases, by the influence of treatment; the early lesions of general syphilis yielding most readily to mercury; the latter to iodide of potassium.

But are there no exceptions to the law of the "unicity of syphilis," such as undoubtedly exist in respect to other infectious diseases? Numerous instances are recorded in which small-pox, scarlet fever, the measles, and hooping-cough have occurred twice in the same person. A single vaccination does not always protect one through life from variola. A second inoculation with the vaccine virus performed in adult life will often succeed nearly if not quite as well as the first vaccination performed in childhood. In the case of a second infection from any of the diseases mentioned, the severity of the attack will, as a general but not an invariable rule, be in inverse ratio to the length of time which has elapsed since the previous infection. In other words, the protecting influence of the virus appears to gradually diminish and finally disappear. One attack confers complete immunity for a time; then comes a period in which inoculation (as of the variolous or vaccine poisons) will produce a local effect without general reaction, and finally a third period in which constitutional manifestations of greater or less intensity are possible.

As early as 1845, Ricord himself expressed the belief that similar exceptions to the law of the unicity of syphilis would also be found to exist; he trusted it was so, since it would prove the effect of syphilis was not necessarily life-long; at the same time he confessed he had never as yet met with an unquestionable instance.

Since then attention has been directed anew to this subject. Quite a number of cases of repeated syphilitic infection in the same person have been reported by various observers, and Ricord himself has met with two which he regards as conclusive. A valuable contribution to our knowledge of syphilitic reinfection has appeared from the pen of Diday,[1] who believes that he has met with over twenty cases. (?) The conclusions at which he has arrived are the following:

[1] De la réinfection syphilitique, de ses degrés et de ses modes divers, Arch. gén. de méd., juillet et août, 1863.

1. As a general rule, the syphilitic, like other kinds of virus, does not exercise the same action twice in succession upon the same individual.

2. When applied (under such conditions as to permit absorption) to a syphilitic subject, this virus produces no effect; applied to a subject who has had, but who no longer has syphilis, it produces a modified form of syphilis.

3. The more feeble the first attack, and the longer the time that has since elapsed, the more energetic will be the action of the virus and the more severe will be the second attack of syphilis; and *vice versâ*.

4. Experience shows that the only persons upon whom a second introduction of the syphilitic virus produces a pathological effect are those who are cured of their first attack, or who at least have no other symptoms than those which cannot be transmitted either by generation or by contact (tertiary lesions).

5. The effects of the second introduction of the virus, under the conditions just mentioned, have presented in twenty-five cases which have been observed, the following varieties:

A. In fourteen, there has been an ulcer presenting all the characteristics of an indurated chancre, *except concomitant induration of the ganglia*, and this ulcer has not been followed by general symptoms. Thus the absence of glandular induration may enable the surgeon to recognize in advance those indurated chancres which will not be followed by general lesions.

B. In nine cases, there was an indurated chancre followed by general symptoms, which were less intense than those of the first attack.

C. In two cases, there was an indurated chancre followed by general symptoms of greater intensity than in the first attack.

6. If we compare the intervals of time elapsing between the two attacks in these different series of cases, we find that the shorter the interval the more feeble was the effect of the second infection; the interval being at a minimum when the second attack produced only a chancre, and at a maximum when the general symptoms of the second attack were more intense than those of the first.

It is asserted by Diday that the twenty cases above referred to were observed by him in his private practice within a period of six years, and he therefore infers that instances of syphilitic reinoculation are more frequent than has generally been admitted, although they are rare when compared with the whole number of cases of syphilis that occur. This surgeon draws the following conclusions from a consideration of this subject:

The reinfection of a man who has had syphilis proves that he was cured of it at the time of the second infection.

The possibility of reinfection proves that syphilis can be radically cured—a fact denied by many authors, who admit only a cure of syphilitic manifestations, and who maintain that the constitutional

poisoning (or *diathesis*, as they erroneously call *syphilitic intoxication*) is perpetual.

The average time necessary for a radical cure may be deduced from the cases above referred to, and which give a minimum of twenty-two months.

In any case of reinfection from syphilis, the surgeon should always wait for general lesions to appear before giving mercury, since in the majority of cases the effect is limited to the production of a chancre, and specific treatment is not required.

Since the publication of Diday's paper numerous authors have reported cases of syphilitic reinfection, to the number in all of above sixty; but fully one-half of these are not instances of a second attack of syphilis at all. The error several authors have fallen into is in regarding relapsing indurations as primary chancres. They thus mistake a manifestation of an old contagion as an evidence of a new one. Before we can admit a second attack of syphilis, we must have an undisputed history of the first infection: we must have proof beyond doubt of a second chancre, which is followed by *well-marked enlargement of the inguinal ganglia*, and later on *by secondary manifestations of an undoubtedly syphilitic nature*. Without this succession of lesions similar to those of the first attack, we cannot admit the claims of any case of syphilitic reinfection. I have seen and treated three well-marked cases of reinfection with syphilis.

Syphilis possesses a Period of Incubation.

By a period of incubation we understand the lapse of time following the introduction of a morbid poison into the system, and preceding the earliest manifestation of its presence. Thus a person is exposed to small-pox, the measles, or scarlatina, and, when contagion takes place, breaks out with the symptoms of the disease only after an interval, which, with slight variation, is constant in each of the affections mentioned, and during which he enjoys his usual state of health. That, in the case of syphilis, such a period elapses between the act of contagion and the appearance of its initial lesion, will be shown in the next chapter. But syphilis also has a second period of incubation, between the appearance of the chancre and the development of its general manifestations, and of this we shall speak presently.

The Order of Evolution of Syphilitic Symptoms, and the Classification founded thereon.

The classification of syphilitic manifestations in common use is founded chiefly upon the order of their evolution, and embraces "primary," "secondary," and "tertiary symptoms." Primary symptoms should include the initial lesion which appears at the point where the virus enters the economy, and the induration of the neighboring lymphatic ganglia. Next follows, after a period of in-

cubation, another set of symptoms, called "general," because they are developed at points distant from the seat of initial lesion, to which they stand in no necessary anatomical relation.

Ricord's classification of general symptoms into *secondary* and *tertiary*, which is generally adopted at the present day, is founded upon Hunter's division of the tissues affected by syphilis into "parts first in order, and parts second in order." Both systems are based upon the conformity of nature to laws which are more or less fixed as well in disease as in health, and upon the anatomical structure of the parts affected. An important distinction, also, which Ricord claims to exist between the two divisions in this classification, is a difference in the effect of remedies; secondary symptoms being more susceptible to mercury, and tertiary to iodine and its compounds.

Ricord's classification may best be given in his own words: "Secondary symptoms are the consequence of the absorption of the virus, and are transmissible by hereditary descent, without being inoculable. Tertiary symptoms are not only not inoculable, but cannot be transmitted by hereditary descent under their peculiar type, although, in consequence of a kind of degeneration or modification of the syphilitic virus, they are probably one of the most fruitful sources of scrofula.

"Secondary symptoms rarely occur before the third week following the appearance of primary symptoms, and more rarely still after the sixth month; whilst tertiary symptoms scarcely ever appear before the sixth month, and may not until after several years.

"To secondary symptoms are referred certain affections of the skin (syphilitic eruptions) and of some parts of the mucous membranes (mucous patches, condylomata, and superficial ulcerations) and their dependencies (alopecia and onyxis); also some peculiar pathological affections of the eyes (iritis), lymphatic ganglia (engorgement of the glands in various parts of the body, especially the neck), etc. Tertiary symptoms consist of certain changes which take place in the subcutaneous or submucous cellular tissue (gummy tumors), in the testicles (orchitis), in the fibrous and osseous tissues (periostitis, ostitis, caries, etc.), and in the deeper organs.

"Proper treatment of the primary symptom may prevent the development of secondary symptoms. Very often this treatment cures the primary and arrests only the secondary symptoms; in this way may be explained, for example, the late appearance of diseases of the periosteum and bones, without the secondary link, in persons who have taken mercury. When once the primary ulcer is healed, it cannot be reproduced except by a new contagion; while secondary and tertiary symptoms may appear repeatedly, and at various intervals, within periods which cannot be limited. An apparent inversion in the succession of secondary and tertiary symptoms is observed only in persons who have undergone treatment. After the appearance of constitutional symptoms, the *syphilitic diathesis* may cease spontaneously or in consequence of appropriate treatment, and yet the symptoms persist under the influence of purely local causes, as is observed especially in many cases of diseased bones."[1]

In another place Ricord says of tertiary symptoms: "They not only differ from primary and secondary symptoms in affecting the deeper tissues, but also in the fact that in them syphilis loses, in part, its peculiar type. Though the skin is often affected at this period with the most severe tubercular eruptions, yet the subcutaneous and submucous cellular tissues, and the fibrous and osseous systems are far more frequently involved. But, in addition to these parts, where the tardy effects of constitutional syphilis are so common and clearly admitted by all good observers, we may well inquire whether there be any privileged tissues of the body which are invariably exempt from its effects. We would inquire, also, if syphilitic infection, though it may not produce all the evils with which it is reproached, be not in a multitude of cases the cause of the evolution, or 'putting into action'—to use an expression of Hunter's—of diseases which have previously existed in a latent state, and of which it is thus only the exciting cause? Observation replies in the affirmative to these questions, and also teaches us that tertiary symptoms may continue under the influence of the virulent cause, or persist as local effects after this cause has been destroyed or neutralized by treatment; it shows, in a multitude of cases, that the syphilitic virus, after having been the cause of other diseases, may cease to exist or persist as a complication; and these are circumstances which, though real, are unfortunately not always easily appreciated.

"Tertiary symptoms rarely occur before the sixth month following the appearance of the primary ulcer, and the latter seldom remains at the time of their development; but they are frequently attended by some secondary symptom. They never furnish inoculable secretions, nor transmit characteristic constitutional syphilis from parent to child; their only hereditary influence being the frequent transmission of a taint as injurious and almost as fearful, viz., a scrofulous diathesis."

Ricord's classification may, I think, be resolved into two parts. The first is the chronological system, which, originating with Fernel and Hunter, has been freed from many errors by Ricord, and greatly perfected by this surgeon's keen powers of observation, and which is both natural and eminently practical. The second part consists of various additions relative to the inoculability of the different orders of symptoms, their transmission by hereditary descent, and the effect of treatment; some of which are open to criticism. I shall speak of each in turn.

The general symptoms of syphilis are not drawn at haphazard, but make their appearance with a great degree of order and regularity. This fact is most apparent in those lesions which follow immediately upon the period of incubation, and which vary but little in different subjects. Allow any patient with a chancre to go without treatment,

[1] Notes to Hunter, p. 396.

and it may be predicted with almost absolute certainty, that within three months he or she will be attacked by the following category of symptoms with but little variation, viz., general lassitude, accompanied by headache and fleeting pains in various parts of the body; alopecia; an eruption of blotches or papules upon the skin; pustules upon the hairy scalp; engorgement of the post-cervical glands; and whitish patches, which may become ulcerated, upon the mucous membrane of the mouth, anus, or vulva.

Subsequent to the first outbreak of general syphilis, the same uniformity does not prevail; and certain symptoms are absent in one case and present in another, or they appear to be modified by the constitution of the patient, the hygienic conditions in which he is placed, his habits, and especially by treatment. But if we take a number of cases, some of which supply what is wanting in others, we find that we can, as it were, make up a complete series, in which the symptoms progress by a regular gradation, and may be divided into two classes, distinguishable by the time of their appearance, their character, and their seat. Those of the first class follow immediately upon the earliest general symptoms before mentioned, with which they are evidently identical in character. Those of the second class never occur until after a certain interval which experience enables us to determine with great precision. Again, the order of the two classes is never reversed. For instance, a patient who has been suffering with symptoms belonging to the second, as deep tubercles of the cellular tissue or caries of the bones, is never known to exhibit the premonitory fever, exanthematous eruption, and other early symptoms of the first. The disease progresses with greater rapidity in some cases than in others, yet owing to the general uniformity referred to, simple inspection of a patient will enable any one familiar with its natural course to arrive at an approximate conclusion as to the length of time that has elapsed since contagion, and also as to the character of the preceding symptoms, unless these have been altogether suppressed by treatment.

Apparent exceptions to the regular succession of the general symptoms of syphilis are met with, and may readily deceive an inexperienced observer. One of the most frequent of these is due to treatment. It often happens that a patient had a chancre many years ago, and perhaps early secondary symptoms, for one or both of which he took mercurials; a long period has since passed without further general manifestations; but his system has continued under the influence of syphilis, which finally becomes active again and gives rise to tertiary lesions. Evidently the exemption from late secondary symptoms may be ascribed to mercury.

Again, the date of the first appearance of any lesion determines its position in the syphilitic scale; while its persistency may be due to many causes, too numerous to mention. It is a very common occurrence for a chancre to remain until secondary symptoms break out; but we do not therefore conclude that both belong to the same order.

In the same way, secondary are often present long after tertiary manifestations have supervened. In Ricord's admirable remarks already quoted, allusion has been made to the fact that syphilis may give rise to symptoms, which are continued by various causes and especially by a strumous diathesis, long after the exciting cause had been subdued. Moreover, many syphilitic lesions, and particularly eruptions upon the skin and mucous membranes, may, either with or without treatment, disappear, and again return within a limited period with the same characters as at first. This tendency, however, ceases with time; and relapses after a considerable interval are in all cases rare. For instance, syphilitic erythema, which usually appears about the sixth week after the development of the chancre, may perhaps return as late as the eighth or ninth month, but never several years after the chancre.

Finally, the same name is, in several instances, applied to symptoms which are in reality distinct, and which are widely separated upon the syphilitic scale. Thus there is a form of alopecia which is one of the earliest general symptoms, and in which the hair is freely shed from the scalp and eyebrows, but may grow again, since the hair-bulbs are not seriously affected; and there is another and rarer form, observed only in the later stages of syphilis, in which the whole integumental surface becomes permanently bald. Two forms of iritis, ecthyma, etc., are also observed at distinct periods; but these constitute no exception to the law of succession of syphilitic manifestations.

We thus see that a simple chronological division of constitutional symptoms may be maintained; but there are several objections to the additions made to this system by Ricord, as I shall proceed to show.

In the first place, Ricord's statement that "secondary symptoms are not capable of inoculation," is true in the guarded sense in which it was intended, viz., that they are not inoculable upon persons bearing them; but the inference which was also designed to be conveyed, that they differ in this respect from a chancre, is not true, as Ricord himself has since acknowledged. Both are contagious and inoculable upon persons free from syphilitic taint, but neither are auto-inoculable.

Again, Ricord's statements relative to tertiary symptoms cannot at the present day be implicitly received. This author maintains that tertiary lesions are not inoculable and cannot be transmitted by hereditary descent under their peculiar type, and hence that the virus in this stage must be entirely changed from its original character. The first of the above assertions is doubtful, the second incorrect. The inoculability of tertiary symptoms has never been tested upon persons free from syphilitic taint, and its possibility, therefore, may yet be demonstrated, as that of secondary symptoms has been. Their transmission by hereditary descent in a few instances, still preserving their peculiar type, is a known fact. The most frequent instance of this is the occurrence of syphilitic hepatitis and deep tubercles of the subcutaneous cellular