

REINFECTION AND CURABILITY IN SYPHILIS

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Reports of reinfection in syphilis have been appearing with increasing frequency during the past year or two. The presentation of such a case before a meeting of dermatologists is certain to precipitate a lively and somewhat acrimonious discussion, which, after ranging far afield, usually ends in an impasse. In the confusion of debated issues, however, a sharp cleavage of opinion becomes clearly discernible: one group, which may be called the conservative, holds fast to orthodox views, while the other, less imbued with respect for authority, appears hospitably inclined toward new conceptions. It may be interesting, and perhaps helpful in clarifying our ideas, to analyze in detail the arguments and the method of reasoning employed by the disputants.

As a rule, the validity of reinfection is vigorously contested by skeptics of the old school, strong in the conviction that syphilis, having once invaded the human body, becomes a permanent possession, and can never be shaken off. Their mode of reasoning, reduced to its simplest terms, assumes the form of the following syllogism:

1. Reinfection is impossible in uncured syphilis.
2. Syphilis is an incurable disease.
3. Therefore, reinfection is impossible in syphilis.

Intrenched behind this deduction, they say to their opponents: first prove that syphilis can be cured, and, until you have done so, cease prating about reinfection. To this challenge the progressives reply by a complete reversal of minor premise and conclusion. Granted, they retort, that reinfection can take place only after syphilis has been cured; but reinfection does occur in syphilis, as our cases show: therefore, syphilis is a curable disease.

CURABILITY AND REINFECTION

The antagonism appears to be irreconcilable. Prove that syphilis can be cured and we shall then accept your cases of reinfection, says one side; accept our cases of reinfection and we shall then have proved that syphilis is curable, is the rejoinder of the other.

Yet, in spite of reversed premises and conclusions, both are found tacitly acknowledging the intimate connection between curability and reinfection. Both accept the contingency of the latter on the former as an article of faith.

And it is here, precisely in this reluctance to divorce the two conceptions, that we must look for the real obstacle to a mutual understanding. Strange as it may seem, unanimity on this point is the subtle cause of the entire controversy, and if it could be shown that reinfection is not necessarily contingent on curability, discord would promptly give place to harmony.

It is therefore necessary to submit the proposition: "reinfection cannot take place in uncured syphilis," to a searching analysis, even though it may seem dangerous heresy to doubt a statement so long regarded as almost axiomatic.

Expressed in clear and concrete terms, the proposition in question means that the presence of the *Spirochaeta pallida* (or its transitional forms) in the human body renders the latter unconditionally and absolutely immune against a new invasion by the *Spirochaeta pallida*. Confronted by a thesis so startling and categorical, one naturally expects to find it fortified by every possible proof, and placed beyond the reach of doubt or criticism. As a matter of fact, however, a closer examination of the evidence fails to substantiate such an expectation, and even emboldens one to put the following query: When, where, and by whom has it been indisputably proved that the *Spirochaeta pallida* or its transitional forms must be completely eradicated from the system, before a new invasion by the *Spirochaeta pallida* can occur?

Having squarely faced the issue, we are soon compelled to admit that this "law" derives its alleged validity mainly from assertions made by the great authorities of the past and handed down to us by tradition, assertions which, despite their venerable age, cannot usurp the place of logical argument. In fact, it is difficult to see how adequate proof could have been adduced during the clinical era of syphilology, before the discovery of the *Spirochaeta pallida*, when the only criterion of cure was the absence of clinical manifestations. In our own time, made a little less ignorant by the spirochete and by the Wassermann test, syphilographers nevertheless also have failed to prove that reinfection cannot occur unless syphilis has been cured, or, in other words, that the presence of the parasite renders the host absolutely immune.

The truth or falsity of this allegation could be demonstrated by rigidly conducted experimental inoculations with the *Spirochaeta pallida*, made on persons known to be harboring the parasite.

If long series of such inoculations, carried out under scientific conditions in various stages of the disease, and with various strains of the *Spirochaeta pallida*, were to produce unequivocal results, then, and only then, could we take a definite stand in the controversy. Have such experiments been made on an adequate scale? The answer

can hardly remain in doubt. To be sure, it has been found that auto-inoculation with the virus of the hard chancre is successful during the first week or two, but this knowledge has little value, beyond indicating the approximate time when immunity becomes established. Again, during the florid period of syphilis, when the system is flooded with parasites, the existence of a strong immunity need scarcely be questioned, though even here inoculations with different strains of *Spirochaeta pallida* might be productive of interesting results.

But it is in the later stages of syphilis, after the conflagration has been reduced to smoldering embers, that we may expect to find a gradual weakening of immunity, and a corresponding susceptibility to a new inoculation. It would be most interesting and instructive, for example, to inoculate cases of general paresis with the specific virus. In this disease, living spirochetes have been found in the brain tissues, but it is quite conceivable that they no longer confer an immunity sufficiently strong to resist a new invasion through the skin or mucous membranes.

Of course, the practical difficulties in the path of such researches on the human subject are well-nigh insurmountable, and we are reduced to the necessity of waiting until the patient takes the matter out of our hands and makes a successful test on his own account. Still, there is an alternative, and that is animal experimentation. Recent studies on animals make the existence of different strains of *Spirochaeta pallida* highly probable, and attempts have been made to classify them, distinguishing a dermatropic variety from a neurotropic, the former showing an affinity for the skin and causing the cutaneous manifestations of syphilis, while the latter, by its selective action on the central nervous system, induces paresis and locomotor ataxia.

Furthermore, it has been found that animals experimentally infected with one variety may be successfully inoculated with the other, developing a new primary chancre. Thus the belief is already beginning to emerge that a new invasion by the *Spirochaeta pallida* is sometimes possible before the old has been completely extirpated. Perhaps the term "superinfection" would be more acceptable to purists when referring to these cases, though reinfection can be defended on etymologic grounds.

Side by side with these results of animal experiments, we encounter in recent literature occasional mention of an attenuated immunity that might make reinoculation successful in the human patient. Thus, while much work remains to be done before the final verdict can be pronounced, it is already becoming more and more evident that the ancient ties that bound together the conceptions of curability and reinfection have at last been effectually loosened, if not entirely severed.

Reinfection is a question of immunity, not of cure. In the future book on immunity, syphilis will be found to occupy a chapter, and reinfection a paragraph. Theoretically, it is quite conceivable that the patient may be cured, that is, completely purged of the *Spirochaeta pallida* or its transitional forms, and yet left in the possession of an absolute and life-long immunity, which would imply the impossibility of reinfection. On the other hand, syphilis might be conceived as an incurable disease, conferring an immunity that gradually declines as the date of the primary infection recedes, until a point is reached at which a fresh inoculation may be successful.

Bearing all this in mind, it will be advantageous henceforth to dissociate the two conceptions of curability and reinfection, and to consider them as separate problems. The answer to the one need not of itself furnish a solution to the other, but each will require its own structure of logical proof.

The first question, that of curability in syphilis, will have to be settled on the strength of clinical, serologic and pathologic evidence. The old syphilographers had to depend almost exclusively on clinical observation. Impressed by the treacherous and protean manifestations of late syphilis, occurring long after infection even in well-treated cases, these authorities show a distinct leaning toward a pessimistic view. Their unfavorable clinical experience hardened into a settled belief that "once a syphilitic, always a syphilitic," and this conception has been transmitted to many of their modern descendants, who consider syphilis an ineradicable disease. In addition to clinical evidence, they can point to such pathologic findings as those of Warthin, who in postmortem examinations demonstrated the presence of living spirochetes in the tissues taken from syphilitic persons who were apparently cured, i. e., gave neither clinical nor serologic evidence of syphilis.

This discovery emphasizes the extraordinary difficulties confronting those who cherish the belief that syphilis is curable and seek for something more tangible in the way of proof than mere conjecture. Indeed, how can one obtain the assurance that a given patient no longer harbors the *Spirochaeta pallida*? Since no reliance can be placed on the absence of clinical phenomena, and since the Wassermann test is not sufficiently delicate and trustworthy, we are left without an absolute criterion of cure and reduced to waiting until future research shall have supplied us with an infallible method of detecting the presence of the *Spirochaeta pallida* in the human body. In the meantime, believers in curability are at the mercy of pessimists, who, refusing to surrender the old dogma of incurability, shift the burden of proof to the side of the optimists.

It is precisely this feeling of helplessness that drives the latter to offer their cases of reinfection as proof of curability—an entirely illogical proceeding, as we have seen. Reinfection does not imply the absence of living spirochetes in the host, but only indicates that the immunity left in the wake of the preceding attack has lost some or all of its original virtue.

Thus the question “Is syphilis curable?” will have to be relegated to the innumerable other problems awaiting future revelations. This is unfortunate, as it deprives the patient of a much-needed solace, and, moreover, leaves the field to the pessimist, who adds to the actual terrors of the disease those of despondency and mental distress.

PRESENT STATUS OF REINFECTION IN SYPHILIS

Let us turn now to the present status of the vexing problem of reinfection in syphilis. Here we find ourselves treading firmer ground. Having emancipated our mind from the old dogma which made reinfection dependent on curability, we are enabled to take an unbiased view of the evidence presented in favor of reinfection. In judging a given case, more weight should be placed on the clinical phenomena than on the intricacies of dialectics and the uncertainties of repeated Wassermann tests. If a patient who had once been infected with syphilis comes to us with a suspicious lesion on the genitals appearing several days or weeks after exposure to infection; if the related inguinal glands become enlarged, hard and painless; if, in due time, secondary manifestations make their appearance, what diagnosis, other than a new syphilitic infection, can be made, even without the finding of the spirochete and a positive Wassermann reaction?

If, in addition, the *Spirochaeta pallida* has been found in the initial lesion, and if, furthermore, the Wassermann reaction, having been negative before the appearance of the new chancre and for some time afterward, now turns to positive, the evidence in favor of reinfection becomes so overwhelming that only one steeped in prejudice and sophistry will remain unconverted.

Caution is necessary in accepting the patient's statement that he has already been the victim of syphilis, and in differentiating the new initial lesion from chancre redux or a gumma; but these and other similar sources of error can usually be eliminated.

It is at this juncture that we again meet the pessimist, who, driven to the wall, takes refuge in the ancient legend, “Once syphilis—always syphilis,” and closes his eyes to facts.

It then becomes our duty to inform him that he is laboring under a false conception, or else that he belongs to the category of those perverse persons who have been characterized nineteen centuries ago as having eyes yet seeing not.

The majority of open minded observers have by this time taken their stand in the controversy, and I am on the side of those who regard reinfection as definitely proved.

SUMMARY

In conclusion, our analysis may be summarized as follows:

1. The question, "Is syphilis curable?" cannot be answered definitely in the light of our present knowledge.
2. The occurrence of reinfection in syphilis may be accepted as an established fact.
3. Reinfection, however, is by no means evidence of curability.

These two conceptions do not stand and fall together, as many believe; they are not contingent on each other, and should be dissociated in the interest of clear thinking and unbiased judgment.