

wore when she met him English boots, corsets, and a silk dress. When old enough, it became desirable for family reasons that he should be married, but he found himself impotent except under the above-named conditions; the woman at the time of connection must be dressed, must be of a blonde complexion, must wear English boots, corsets, and a silk dress, in which case his powers were as great as could be desired. Under the pretence of giving him a powerful medicine, Roubaud administered a "placebo," which cured him.¹ This story is here told to show how much a man's powers are influenced by his mental condition, and to enforce the importance of paying attention to the *morale* as well as the *physique* in the treatment of disorders of the genital functions.

¹ This story reminds one of another concerning a sailor who was so accustomed to passing his water over a railing into the sea, that, when on shore, he could only relieve his bladder by piddling into a well.

PART II.

THE CHANCROID AND ITS COMPLICATIONS.

CHAPTER I.

THE CHANCROID, OR SIMPLE CHANCRE

I ADOPT the name of "chancroid" to designate the "contagious and local ulcer of the genitals," the history of which has been given in the Introduction of the present work.

Among the most important names which have been given it, especially in modern times, are the "simple," "soft," "non-infecting," or "non-indurated chancre" by various authors; the "chancrelle" by Diday; and the "chancre" by Hebra, Zeissl, Reder, and others of the modern German school. Hence the student will observe, when reading German authors, that "a chancre" spoken of, means what we here call "chancroid." What we here call a "true chancre" is designated by the Germans as "the initial lesion of syphilis," as it truly is. The nomenclature followed in this work is, however, the one usually adopted in this country.

Most modern French authors designate this disease as the "simple chancre," in contradistinction to the "syphilitic chancre," the initial lesion of syphilis; and, unless the term "chancroid," now so commonly recognized, be adopted, this name appears to be the most acceptable. Lancereaux calls it "*false or local syphilis*." Its secretion may be taken up by the lymphatics and conveyed to the nearest ganglion, there to set up inflammation and the formation of matter possessing the same power of reproduction as the secretion of the sore itself; but its farther progress is arrested within the ganglion; it never gains access to, nor contaminates the general circulation; and, since its influence is thus confined to the neighborhood of the point of implantation of the virus, it must be regarded as a local disease.

THE CHANCROIDAL POISON.—In the Introduction to the present work, reasons have been set forth to show that the chancroid is not dependent upon a *specific virus*, in the same sense that we attach to the word "virus" when speaking of syphilis or variola. That it possesses a contagious element or poison is unquestionable, but we believe that this poison, under certain conditions and especially when

the products of simple inflammation have undergone decomposition and are inoculated upon persons in a debilitated state, is capable of being generated *de novo*, and may then be transmitted to other individuals.¹ That such an occurrence is frequent in sexual intercourse we do not claim, and we expect to find a chancreoid in that person of the opposite sex with whom a patient applying to us with a chancreoid has had intercourse; but that it may and does take place, however rarely, the experiments already detailed appear to leave no doubt. Moreover, this supposition—if any one prefers to call it so—better explains the different degrees of severity in venereal ulcers, the apparent union of a chancreoid and chancre ("mixed chancre"), and other facts of clinical observation, than can be done in any other manner we know of. It also explains why the chancreoid has been known among all nations and at all times of which we have any record, since wherever there have been inflammatory products to be inoculated, there the chancreoid could originate and be perpetuated.

The only vehicle of this poison is the secretion of the ulcer itself and that of a virulent bubo or virulent lymphitis attendant upon it. We may go further and assert that the poison does not exist in the more fluid portion of the secretion, but in the contained pus-globules, since, as proved by Rollet's experiments, if chancreoid pus be freed from its globules by filtration, the remaining fluid is innocuous. This will explain, on anatomical grounds, why the chancreoid always remains local in its action and never affects the general system, because pus-globules, as such, are probably incapable of entering the general circulation, and can only be absorbed after undergoing disintegration. We shall see, further on, the difference between this poison and that of syphilis, which latter is found in many of the fluids, independently of the presence of pus, and contaminates the general economy.

An important characteristic of the chancreoid poison is the facility with which it may be reinoculated upon the person from whom it was taken, or upon almost every other person. This rule, however, is not so invariable as Ricord and others assert, and is subject to exceptions which have been brought to light chiefly by Prof. Boeck and other advocates of "syphilization."

In the first place, the susceptibility varies somewhat in different persons, as it does in different parts of the body in the same person. It is not true, as Ricord once stated, that "all persons are equal before the point of the lancet."

Again, the susceptibility to inoculation may be impaired, or even lost temporarily, during the occurrence of any acute febrile attack or great depression of the vital powers. Thus, in several of our former cases of "syphilization" at Charity Hospital, an intercurrent attack of diarrhœa, of a severe cold, and in one instance, of variola, rendered attempts at inoculation fruitless, until the attack had passed off.

¹ "It is easy," says Dr. Sanderson (Lectures on Septicæmia), "to prepare a putrid infusion of muscle possessing such toxic properties that less than half a grain of it introduced into the blood of a dog, will produce death."

Farther, if a series of successive inoculations be made, the resulting sores will gradually become smaller and smaller until they become so minute as not to afford sufficient matter for reinoculation, or they fail altogether. In such cases, matter may still for a time be inoculated upon other parts of the body, but ultimately the patient acquires an immunity against the action of the poison. The same effect is observed after the repeated application of any irritant, as croton oil, cantharides, or tartar emetic, to the surface of the body, and in both cases, there is reason to believe that the immunity is only of temporary duration. (See Treatment of Syphilis by Repeated Inoculations.)

Neither the microscope nor chemical analysis reveals to us the intimate nature of chancreoid pus, or any points of difference between it and pus from ordinary inflammation. Several enthusiasts, at different times, have imagined that they had discovered a parasite, upon which the virulence of the secretion depends; thus, M. Donné regards the essential principle as the *vibrio lineola*, M. Didier ascribes it to certain animalcula, and Professor Salisbury, of Cleveland, Ohio, who, by the way, recognizes no distinction between the chancreoid and syphilitic virus, has advanced the theory of a vegetable parasite, which he calls *crypta syphilitica*. The little value to be attached to these views is well shown in a paper by Professor Wood, published in the *American Journal of the Medical Sciences* for October, 1868, and repeated microscopical examinations made by myself, assisted by able microscopists, at Blackwell's Island, have failed to show any foundation for Professor Salisbury's statement. Recent investigators have discovered a bacillus in chancreoid pus, which will be spoken of later on.

When kept from contact with the air at a moderate temperature, the chancreoid poison is said to preserve its power of contagion for a considerable length of time. Ricord states that he has inoculated it with success after preserving it in glass tubes hermetically sealed for seventeen days. Sperino relates an instance of its preservation, which, however, one cannot help doubting. A lancet which had been employed in artificial inoculation had been laid aside for seven months, when it was observed that a small quantity of dried pus had been left upon its point. The instrument was moistened, and three punctures made with it gave rise to as many chancreoids. If exposed to a high degree of temperature, or if mixed with alcohol, an acid, or alkali, the chancreoid poison becomes innocuous. If frozen and then thawed, it may still be inoculated. Dilution with from six to ten times its quantity of water does not destroy its potency; but it is said that if two inoculations be made, one with diluted and the other with pure matter, the ulcer produced by the former will be smaller, although just as persistent as the one from the latter.¹ M. Puchè even states that he has produced chancreoids

¹ Reder, Pathologie und Therapie der venerischen Krankheiten, Wien, 1863, p. 142.

by inoculation with a drop of pus diluted with half a tumblerful of water. Mixture with any of the normal secretions of the body, or with vaccine, gonorrhoeal, or syphilitic matter, does not impair its power; it may thus be transmitted in the process of vaccination, and its communication in common with the syphilitic virus give rise to the double inoculation, improperly called a "mixed chancre."

On the other hand, the late Professor Boeck¹ emphatically denied the ready preservation of chancroidal matter, and stated that when dried it almost always lost its virulent power, which could only be preserved, and even then merely for a few days, by keeping it fluid and hermetically sealed from contact with the air. Some experiments which I made during Professor Boeck's visit to New York seemed to confirm this statement. I allowed chancroidal matter to dry on slips of glass, and after the lapse of twenty-four hours moistened it and inoculated it, but without success in a single instance.

The question whether the chancroid is capable of transmission to the lower animals, has attracted the attention of various observers. Hunter experimented upon dogs and asses, and arrived at the conclusion that they were not susceptible to the action of the matter which he employed, and which must have been in some instances at least, chancroidal. M. Ricord, in his notes to Hunter, also says: "I have taken pus in every possible condition, and attempted to inoculate with it dogs, cats, rabbits, guinea-pigs, and pigeons; and, in no case, in spite of the variety of my experiments, has it been possible to communicate the disease." More recently, however, successful inoculations of chancroidal matter have been performed upon a number of the lower animals, by MM. Auzias-Turenne Diday, Robert de Welz, and by M. Basset, and the secretion of the sores thus produced has been again inoculated upon other animals and upon man. Thus M. Diday inoculated himself upon the skin of the penis with the secretion of a chancroid which he had succeeded in developing upon the ear of a cat; the inoculation was followed by a chancroid which took on phagedenic action, and was attended by a bubo in the groin that suppurated and lasted for about six months.

It has been objected to these experiments, especially by M. Cullerier, that the matter was simply deposited in a wound made in the integument of the animal, and was thence removed and successfully inoculated, without really taking effect at the first point of its insertion. M. Cullerier says: "I shall not believe in a true inoculation until a suppurating sore has been produced which can be repeatedly washed, so as to be freed from the pus which produced it, and which yet can be subsequently reinoculated either upon the animal itself or upon man." We are assured, however, that these precautions were taken in the case of M. Diday and his cat, and also in the successful inoculations of M. Basset, performed in 1860; and we, therefore, have

¹ Boeck (Erfahrungen über Syphilis, 1875) gives a large number of experiments relative to the preservation and inoculation of the secretion of venereal sores, but his results are to a certain extent vitiated by the fact that he makes no distinction between the chancroid and the true chancre.

reason to believe that the lower animals are susceptible to the action of the chancroidal poison, though probably to a less degree than man. Inoculations with the true syphilitic virus have, on the contrary, invariably failed.

To those who are inclined to repeat the experiment of the inoculation of the secretion of a chancroid upon the lower animals, I would say, that success is not likely to be attained, unless a wound be made in the integument, or, better still, a portion of the derma be removed, and a pledget of lint soaked in the virus be bound upon the part for twenty-four to forty-eight hours.

An eminent syphilographer of Turin, M. Ricordi, has (1868) reported a series of inoculations upon rabbits with the secretions both from the chancroid and the true chancre, the result being the same as above mentioned, viz., success with the former and failure with the latter.¹ In one experiment with chancroidal matter, a bubo was produced the pus of which was inoculated with success upon a second rabbit. This occurrence of a virulent bubo in the lower animals has not been before observed.

Contagion.—Contagion is said to be *direct* or *mediate*: "direct" when the matter is transferred immediately from one person to another in the act of coitus or other intimate mode of contact; "mediate" when some foreign substance, itself unaffected by the virus, serves as a vehicle for its transmission. An attempt has been made by certain authors to assign different laws for each of these two modes of contagion. It has been said that the act of coitus involved a physiological process, or a state of erethism, which rendered the conditions and the effect of contagion distinct from those which obtain when the virus is communicated by an inert and senseless body, as, for instance, the point of a lancet. Such a distinction is wholly unphilosophical and groundless, and deserves to be ranked with the stories of Munchausen.

In whichever mode communicated, certain conditions are requisite for the poison to take effect. Its application to the sound external integument, hardened by exposure and friction, is as innocuous as would be the deposit of vaccine virus upon the skin without previous puncture. The surgeon frequently soils his fingers with the secretion of chancroids, and this with impunity so long as their surface is intact.

Unless it gains access beneath the epidermis or epithelium, its effect is null; but as soon as this is accomplished, like a seed it begins to germinate, and by its own increase and multiplication, and by the ulceration of the surrounding tissues, a chancroid is developed. Hence one favorable condition for contagion to take place is the presence of an abrasion, as is frequently occasioned by violence during coitus, and through which the virus may penetrate. But no matter how the solution of continuity has been produced, nor how large or minute its size—it may be a rent or tear, or the superficial ulceration underlying a herpetic vesicle; it may be a chancre, the initial lesion of

¹ Ann. univ. di med., Milano.

syphilis, or a secondary symptom like a mucous patch—it affords a door of entrance sufficient for successful inoculation.

But the question naturally arises whether this law is absolute. Is it reasonable to suppose that in all of the numerous cases of simple chancre, some solution of continuity must have existed, without which contagion could not have taken place? Is it not possible that in some instances, at least, the virus may have permeated the external layer of the skin or mucous membrane, without any denudation of the epidermic or epithelial layers? I am not disposed to answer this question positively in the negative; it is one which physiologists are better entitled to solve; yet several considerations would lead me to believe that there is no necessity of explaining on the theory of endosmosis, certain cases of contagion in which no solution of continuity can be discovered. The epithelial layer of the mucous membranes is much thinner and much more readily removed than the epidermis of the external integument. Continued moisture, as is seen in cases of an elongated prepuce, is alone sufficient to produce a superficially excoriated surface; the effect is hastened if the moisture be combined with purulent matter, with the natural sebaceous secretion of the part, or with filth. The door of entrance may be merely microscopic, not visible to the naked eye; if it is only large enough to admit a single pus-globule, it will serve the purpose of contagion. It would, therefore, seem sufficient to suppose, with Ricord, in cases of inoculation without apparent solution of continuity, that the virulent pus has at first acted like a common irritant, until the surface had become denuded at some minute point, which would enable it to exercise its power. If it has gained entrance within the open mouth of a follicle, the same effect will be accomplished the more readily.

Instances of mediate contagion with the chancroidal are less common than with the syphilitic virus. Patients occasionally transfer the matter from one part of the body to another upon their fingers. A boy at present under my care with chancroids on the penis, has produced a similar ulcer on his leg by scratching a pimple in that situation. After the operation for phimosis in our venereal hospitals, the wound is not unfrequently inoculated by the use of cutting instruments, serres-fines, sponges or towels, smeared with chancroidal pus. Fournier states that one of his patients contracted a chancroid upon his finger by washing his hands in water which had been used a few moments before by a friend for the purpose of cleansing his penis which was affected with chancroids. The seats of water-closets may unquestionably serve as the medium of contagion, although not to the extent that is alleged by patients, the frequency of whose assertion to this effect has led to the remark that “only clergymen contract venereal diseases in that way.” I have seen a chancroid of the brow, in which the contagious pus was transferred from the penis to a lacerated wound by the patient’s fingers.

It has occasionally been noticed that a man would contract a chancroid from a woman, who, upon examination, was found to have nothing the matter with her, but who was discovered to have had

intercourse a short time previously with some man who had this disease; and the question has arisen whether chancroidal pus might not be deposited by one man in the vagina, to be picked up by another without the woman herself being affected; her genital organs thus serving merely as the medium of contagion. Thus Ricord reports a case in which a married pair invited a friend, an officer, to dinner. Everything went on in an unexceptionable manner till near the close of the repast, when it was discovered that there was no cheese in the house, and the husband went out to purchase some. The officer took advantage of his absence and abused the rights of hospitality. A few days after the husband broke out with a chancroid, and applied to Ricord for advice. Ricord examined the wife and found her free from disease, but obtained a confession of her exposure with the officer, who happened at the same time to be under Ricord’s treatment for chancroids.

To test the possibility of such an occurrence, M. Cullerier instituted the following experiment:

Louise Vaudet entered the Lourcine Hospital October 10, 1848, to be treated for an ulcer of grayish aspect and with sharply cut edges in each groin, which had already persisted without treatment for a month. There was considerable surrounding inflammation, which was subdued by rest and poultices, when the genital organs and anus were carefully examined and found to be free from ulceration. The vagina was reddened and smeared with an abundant muco-purulent secretion, but its mucous surface was intact and the os uteri healthy. The inguinal ulcers were dressed with charpie moistened in aromatic wine, and vaginal injections of a solution of alum ordered; under which treatment the sores and vaginitis rapidly improved.

November 25, after finding on a second examination that the mucous membrane of the vulva and vagina was, as before, intact, and after inoculating without success the vaginal secretion, M. Cullerier collected upon a spatula a considerable quantity of pus from the ulcers in the groins and deposited it in the vagina. The patient was then directed to walk about under surveillance lest she should touch the parts, and at the end of thirty-five minutes was again placed upon the bed, and some of the fluid found in the vagina was inoculated upon her thigh. The vagina and vulva were then freely washed with water, dried, and washed a second time with a solution of alum. Two days after, the inoculation had produced the characteristic pustule of a chancroid, which was left another twenty-four hours to confirm the diagnosis, and then destroyed with Vienna paste. Repeated subsequent examination showed that no ulceration had been caused in the vagina, which was not even more inflamed than before. In two months the patient left the hospital cured of both her vaginitis and inguinal ulcers.

In a second case in which this experiment was performed, the pus