quent evidences of syphilitic infection. By reason of their inactivity, they are less likely to destroy any of the germs of syphilis which may come in contact with their surface.

The frequent association of chancroid with syphilis will never lead to mistaken identity, if it is constantly borne in mind, that syphilis is always, in all its manifestations, a process of growth, of proliferation. The most scientific and critical examination of the products of syphilis, from the *initial lesion* to the *gummy tumor*, has never been able to detect any abnormal material. Nothing but excessive accumulations of tissue-building cells. Chancroid, on the other hand, from its inception to its cicatrization, is a process of necrosis—literally, *death* of tissue. So that *syphilis* and *chancroid* are always, and only, in relation to each other, as *life* to *death* —each the highest type of its own peculiar action.

LESSON XXV.

NATURE OF CHANCROID.

Evidence that it is non-specific. New foci of contagion essential to long continued reproduction. Difference between contagious ulcerations produced by various irritants and by contact with pre-existing chancroid only one of degree and not of kind. Changes in simple purulent lesions through non-specific causes may engraft a contagious property upon them which is practically identical with that of lineal chancroid. Cases in illustration.

Before proceeding farther it is essential that the nature of chancroid should be fully appreciated.

If it is a specific disease, that is to say, only capable of being set up through contact with the secretion of a previously existing chancroid, then acquirement of chancroid is proof indisputable of criminal venereal contact, either by the subject of it, or of the one from whom it was mediately or immediately contracted. It will at once be seen, that this is a point which may become of great importance in its medico-legal relations. It will then be worth our while to pass in review some of the known facts bearing upon this matter.

First let us determine exactly what is understood by the term *chancroid*. We may accept the usual definition, namely, that sores promptly following venereal contact, (from 24 hours to 8 or 10 days,) possessing the destructive and contagious property, are called *chancroid*, and are claimed, by certain authorities, to be due, in every instance, to a specific virus.

Fournier says this in the most emphatic way, thus: "If all the patients in the world with chancroid, would avoid contact with others, until their malady got well, the disease would cease from off the earth." This is quoted in a recent work on syphilis, etc., by Drs. Van Buren and Keyes, and emphasized by a positive statement that chancroid arises only from chancroid.*

* "Genito-Urinary Diseases with Syphilis." New York, D. Appleton & Co. Page 477.

It is known and accepted that chancroids vary in activity, from those which are highly contagious and rapidly destructive, to those which are feebly destructive and are inoculated with difficulty. This is a well-known clinical fact, and has been repeatedly proven in the experiments with artificial inoculations by Böck and others.* "A certain pus is employed ('chancroidal') and re-inoculated until it will no longer produce a pustule; *then fresher pus from some younger chancroid*, until it also fails." †

If this decadence takes place in the artificial inoculation, it is not reasonable to suppose that the same result would be reached by repeated inoculations through venereal contact. Hence the chancroid, by the continued re-inoculations of venereal contact, would grow less and less virulent, as communicated from person to person, until it finally died out.

Unless therefore new foci of contagion were created, *or new virulence added*, chancroid would long ago have *ceased from off the earth.* We must then take one of these two positions in regard to it; either some added virulence must be accepted as arising from circumstances connected with the venereal contact (since it has been conclusively shown that by simple re-inoculation chancroid speedily loses its contagious and destructive properties), or that from circumstances connected with venereal contact, new chancroids are originated. It is not necessary that we should be able to explain the exact combinations which increase the virulence of a declining chancroid, or which give rise to it *de novo*, in order to prove that certain possible conditions really do intensify and even originate chancroidal action or virus. If there is a difference between the behavior of the chancroidal virus, when inoculated by means of a lancet, and when inoculated through venereal contact, that difference can only be referred to the circumstances attendant upon the venereal act. How then do the circumstances differ in an artificial and in a venereal inoculation? In the first we have the virus inserted free from local or general circulatory excitement. In the second both are distinctly present. Under circumstances of equal cleanliness and equally free from undue tendency to purulence, the result might not be markedly different. But to the latter mode of inoculation, viz., that by venereal contact, we may have in addition, various potent influences, as such increased irritation from irritant leucorrhœal menstrual and preputial secretions, filth, excessive venereal indulgence. Each one of these added conditions is well known to be capable of initiating local inflammation, and of increasing inflammatory processes already instituted. It can even be shown that a combination of these conditions may originate a lesion which distinctly exhibits loss of tissue, and the secretion of which is capable of setting up a similar lesion on an opposing surface, therefore possessing the contagious property. If this can be proven, it seems to be clear that the difference between a lesion thus produced and the typical so-called *specific* chancroid is simply one of degree, and it may be logically claimed that circumstances which have been shown capable of setting up such a lesion and which are shown to add to the virulence of a declining typical chancroid, may, under favoring conditions, produce an actively destructive, promptly contagious lesion, that is to say, a typical chancroid.

Now it is a well-recognized clinical fact that certain conditions predispose to purulence. A lowered state of health, free from any disease, was shown in Dr. Wiggleworth's case, not alone to favor simple suppuration, but to be capable of producing pus of a distinctly contagious character.*

Persons affected with Syphilitic disease,* Scrofula, Scorbutus, chronic Splenitis, etc., are also predisposed to purulence; this can also be said of the subjects of every species of dyscrasia. Local conditions may also increase the suppurative tendency. Redundant preputial tissues, producing undue heat, moisture and friction,

* Bumstead on Venereal Diseases, 3d ed, page 217 et seq.
† Van Buren and Keyes, p. 470.

* Lesson 1. Page 6.

favor purulence; also, dependent position. Prof. Böck's experiments in inoculations of chancroid, showed that the higher upon the body inoculations were made, the less tendency to excessive suppuration and also to phagedena.

Again, it is a well-established fact that changes occasionally take place in purulent secretions, through which new qualities and powers are developed. Benign or 'laudable' pus may thus acquire a highly irritant property, as shown in the following case:

CASE I.—A gentleman presented to me some time since complaining of an inflamed condition of the glans penis and prepuce, which inflammation, as he said, followed every connection with his wife. On examination the preputial tissues were found to be redundant and the mucous membrane of the glans, as well as of its preputial reflection, was intensely congested and bathed in a muco-purulent secretion; this condition appearing at once after connection, increased, the parts becoming moist and painful and continuing more or less so for several days. The wife was said to be afflicted with a profuse purulent vaginal discharge. It was also stated by the patient that connection with his mistress was not followed by any such trouble.

Again in certain cases, instead of a diffused inflammation, we may find more strictly localized inflammatory lesions from a similar cause, as will be shown in the following case:

CASE II.—Mr. H. consulted me about five years since on account of a pustular eruption on the preputial mucous membrane near its attachment at the fossa-glandis. His first trouble had appeared about six months previously as a single pustule in the fossa on the right side. This was shown to a surgeon, who notwithstanding the patient's assurance that he had no connection except with his wife, promptly pronounced it a chancroid and cauterized it with nitric acid. Within a day or two several small vesicles appeared in the vicinity, when the surgeon came to the conclusion that the primary lesion was of the same character, and that all were herpetic. The vesicles also became pustular and healed under a

simple astringent dressing. There was a history of several subsequent similar attacks. In view of these facts the half dozen lesions presenting on his first visit to me (previously alluded to), although distinctly ulcerative, with inflamed border, and varying in size from a small split pea to a grape-seed, were considered of herpetic origin. The correctness of this view was confirmed by their rapid healing under simple astringent applications. A mild tannic acid lotion was prescribed as a prophylactic; which, however, did not prevent recurrence of the trouble within a week. This yielded like the previous, and a lead lotion was used with the apparent effect of preventing further trouble for nearly a month, when the patient, went off on a fishing excursion. On his return, some ten days after, he presented not only pustules on the site of the previous ones, but several on the glans penis *exactly corresponding to the locality of pustules on the preputial mucous membrane when drawn forward on the glans.* In addition there was a somewhat painful enlargement of the inguinal glands of the right side, attributed by the patient, to taking cold after resting the butt of his bass-rod, for several hours, in the groin of that side. The pustules healed somewhat tardily under repeated applications of nitrate of silver, but the glands went on to suppuration and the formation of deep sinuses. All healed, however, in a couple of months, when, three days after connection with his wife, another crop of pustules was discovered.

It was then suspected that the difficulty was the result of the connection, and upon a careful retrospect, the patient came to the conclusion that several, if not all of his previous attacks, had followed similar connection after about the same inferval.

On inquiry, the wife was found to have been, for the previous six months, under treatment for an obstinate uterine catarrh by a distinguished gynecologist, who fully confirmed my opinion, that contact with the acrid leucorrhœal discharge, had occasioned the husband's trouble. Her final recovery and his subsequent immunity from the so-called herpetic trouble fully supported this

conclusion. Both the gentleman and his wife were wholly free from suspicion of any illicit contact.

Another instance of ulcerated and contagious lesions from non-specific causes, will be recognized in the following case:

Case III.—Mr. S., aged twenty-seven, had been married about two years when, after the birth of a second child, his wife suffered from a leucorrhœa which continued more or less troublesome for several months. In seeking my professional aid for himself, he stated that during this time he was subject to occasional attacks of herpes preputialis, and that whenever any abrasions occurred during connection, they were sure to be followed by points of ulceration, which only healed after several days' treatment by bathing and simple cerate. On examination, several sharply cut ulcers, from one to two lines in diameter, were seen on the preputial reflection and in the fossa glandis. There were also two on the glans penis, more recent and smaller, which matched exactly upon similar lesions on the preputial reflection, when the prepuce was drawn forward. The current attack was said not to differ essentially from those to which he was accustomed, except in that it was associated with enlargement of glands in both inguinal regions. One point, especially in the right groin, was inflamed, sensitive to touch and fluctuating. This was opened, and discharged a small quantity of laudable pus. The ulcerations healed under the influence of cleanliness and simple applications; the patient necessarily keeping at his business as book-keeper in a large wholesale establishment; but the glandular abscess, the only one occurring, lasted for a full month before healing was complete. The patient's general health was fair. No scrofulous or syphilitic antecedents. The only apparent cause predisposing to ulcerative trouble was a very moist and redundant prepuce, which was subsequently removed. Since the circumcision, now four years, there has been no reported recurrence of the herpetic trouble.

Again it would seem that ulcerations may occur, under certain circumstances, as a result of contact with vitiated normal secretions, as shown in the following:

Case IV.—A gentleman who had been under my professional care for several years previous, and had no occasion to misrepresent his case, sent for me. He stated that he had a gonorrhœa acquired from an illicit connection with the wife of an intimate friend, thirteen days previous. On the completion of the act, the lady discovered that she was menstruating, and so remarked, with many expressions of regret. Some four days after, a little soreness was felt in the urethra, near the orifice, and in a day or two more, a whitish discharge appeared. He consulted a medical friend at his club, who after hearing of the exposure, pronounced the trouble gonorrhœal and treated him with capsules and injections. After ten days of this, getting neither better nor worse of the discharge, a tenderness and swelling of a right inguinal gland occurred. Through his wife's solicitation he sent for me; on examination I found a very scanty purulent discharge from the meatus urinarius, on opening which, a sharp-cut ulceration was seen just within the orifice, and about the size of a grain of rice; there was no urethral tenderness beyond this point. The gonorrhœal remedies were discontinued, and the lesion thoroughly cauterized with solid nitrate of silver. An inflamed gland in the right inguinal region, size of a walnut, was also present, no fluctuation; this was painted with iodine. Suppuration occurred after several days, and the abscess was freely opened, discharging apparently healthy pus. Auto-inoculation of this pus failed to produce any result. The urethral ulcer resisted repeated cauterizations for about a fortnight, and then healed. At about this time the wife began to suffer from painful urination, and an examination revealed a superficial ulcer of mucous membrane, the size of a three-cent piece, just below and infringing upon the meatus urinarius, secreting pus freely. The husband acknowledged to an attempt at connection on the evening following the illicit intercourse, but stated, that with this exception, it was the only one, except with the friend's wife, that he had for a full month. In addition, the lady had a swollen and inflamed inguinal gland in the right groin. The lesion at the meatus

urinarius was touched with pure carbolic acid, previously to which, however, the purulent secretion from it was inoculated on the thigh of the husband. The results of this inoculation were negative. Notwithstanding repeated applications of the carbolic acid, the ulceration in the wife progressed in depth and extent during the following ten days, until it invaded the urethral canal a full quarter of an inch; then an application of pure nitric acid was made. During this time, several more unsuccessful inoculations were made upon the husband. Much urinary distress occurred, and notwithstanding the application of the nitric acid, the ulceration progressed along the urethra, which in the meantime was treated by suppositories of iodoform and cocoa butter. The lady was in delicate health but without any recognized constitutional dyscrasia. Tonics were administered, but the suffering increased and the ulceration was advancing into the deeper part of the urethra. During all this time, the lady with whom the husband had the illicit intercourse and her husband had been calling almost daily, on visits of courtesy and condolence, and were both apparently free from any trouble. A distinguished surgeon, an authority on genito-urinary diseases, was then called in consultation. To my great surprise he stated it as his opinion that the ulceration in the wife's case was non-specific, and only a coincidence; not at all the result of contamination from the husband, but from other and accidental causes, and advised continuation of application of the iodoform: if this failed to benefit, a change of air, a sea voyage. No improvement taking place in a week, the parties made a sea voyage of but five days, and, without other treatment, recovery practically took place within a fortnight.

LESSON XXVI.

DOES DIAGNOSIS OF CHANCROID REST UPON CHARACTER OF LESION OR ON ITS SOURCE.—ANALYSIS OF CASE IN POINT.

Inoculability not a sure test as to origin of lesion. Clinical case in illustration of the fact that the elements of destructiveness and contagiousness do not depend upon a specific virus. Mode of development of chancroid. Varieties of chancroid. Modifications from syphilitic influence.

In the previous lesson, the diagnosis of simple origin, of the apparent chancroid, was made, in the last case presented.

It is, however, very evident that if no lesion is to be accepted as a chancroid, unless proved to have arisen from contact with a lineal * chancroid, the specific nature of chancroid may be accepted as demonstrated. The diagnosis, then, in any instance, will not rest upon the character of the lesion, but upon its source. Thus in the case cited, according to this ruling we have not a chancroid. A suppurating sore occurs in a lady who never before had an ulcerative lesion of any sort; it makes its appearance on the urethral orifice a few days after contact with her husband, who has a sore on his urethral orifice, which appeared a few days after a contact with another woman, and was followed by a suppurating bubo. It looks like a typical chancroid; it behaves like it, in its destructive tendency, in its advance and its retrograde under treatment, and its final cicatrization after about two months' duration, under improved hygienic conditions, and yet it is not accepted as chancroid, and why? First, because it is clearly not the product of a lineal chancroid. This is, of course, sufficient for those who thoroughly accept the specific nature of the disease; but there are others, who decide this lineal matter by the inoculability or non-inoculability of

* *i.e.* Descended in unbroken line from the first chancroid as claimed by those who assert its specific origin.

its secretion. With them the production of true chancroid, by inoculation of a given secretion, proves that secretion to have come from a chancroid. Assertions to this effect, would appear to be the result of experience among the class most prone to suffer from the results of venereal dissipation, where probabilities are all in favor of chancroid having been acquired from contact with chancroid, and among whom the contagious element of the chancroid is kept by various influences up to a high point of activity.

There can be, however, no question that chancroid, proven of direct lineal descent from a typical chancroid, may be met, which is inoculated with difficulty and which is but feebly destructive; that in point of fact, chancroid descended from typical chancroid is seen of every grade of destructive and contagious power. Experiments have proved that the true chancroidal virus gradually loses its power by repeated inoculation, and also that various conditions of health may prevent the success of inoculations with fresh virus and under circumstances otherwise favorable. "Susceptibility to inoculation is impaired, or even lost, temporarily, during the occurrence of any febrile attack or great depression of the vital powers." *

Susceptibility is also *increased* by constitutional dyscrasia, of *various* kinds: thus the syphilitic dyscrasia, it is well known, predisposes to purulence. Typical chancroids, destructive and inoculable in generations, have been repeatedly proven to result from the inoculation of pus from an irritated syphilitic chancre, also from the purulent secretion of secondary syphilitic lesions, and also from scabies and acne. Baumler, a recent German authority, says: "According to its source and mode of its origin, as well as the *susceptibility of the individual affected*, will the pus poison and evince this (chancroidal) property, *in greater or less degree. Whence the pus derives this property, in what it consists, and why all pus does not possess it alike, are questions yet to be solved.*" †

Inoculability, then, is not a *reliable* test as to the origin of a sore.

* Bumstead, p. 317.
† Zeimssen, Vol. III., Am. Ed., pages 94 and 95.

Again, inoculation of a leucorrhœal secretion, especially from a cervicitis, or a metritis, has been claimed capable in certain instances of producing inoculable sores. This is further proven by the following extract from a distinguished authority:

* "In March, 1840, a woman from the neighborhood of Arles, aged 22, and remarkably beautiful in form and appearance, was thoroughly examined, as was supposed, by Prof. Lallemand, and no symptom of venereal disease was discovered. This examination was made at the request of an officer, who complained that she had infected him. Several similar complaints being subsequently made by others, she was sent to the police station, where she was again examined by M. Delmar, in the presence of a considerable number of students. *The neck of the uterus still appeared healthy*, but on pressing it with the speculum it discharged a muco-purulent fluid, which was inoculated, in four places, upon the patient's thigh, *with the effect of producing four well-marked chancroids.*"

In this connection it will be interesting to recall the cases in the previous lesson, where ulcerated lesions on the penis resulted upon contact with virtuous women, who suffered only with sub-acute metritis.

How do these women differ from the beautiful woman of Arles, as to the character of these uterine secretions? Contact with them produces sores proven to have a contagious property. Must we then say that they are subjects of chancroid in the interior of the cervix, or uterus? The woman of Arles communicated *chancroid*, because she had a uterine leucorrhœa, and because she was a prostitute, not because she had a chancroid. The most rigorous and repeated examinations failed to find any chancroid upon her, and yet she was *the source of chancroid to others.*

The man, whose urethral sore communicated a similar sore to his wife's urethra, had not chancroid, because his sore was acquired from contact with menstrual fluid under circumstances of unusual excitement, from a lady of supposed virtue, and not from a prostitute.

The foregoing cases and remarks are chiefly intended

* Bumstead, p. 359. 3d Ed.

as a preface to the final and important statement, viz., that the elements of destructiveness and contagiousness in a venereal lesion are not, in my opinion, dependent upon a *specific* virus, but are engendered by various causes and conditions, and that, clinically, we shall have to deal with venereal lesions in every degree of activity, which activity will be found to depend as frequently upon the constitution and circumstances of the patient, as upon the variety and origin of the sore from which the chancroid was derived. We may then say that *Chancroid*

1st. Begins as a destructive process, either upon a pre-existing lesion, or upon sound tissue. It is usually set up by contact with the purulent secretion of a *similar* destructive process, *which had a similar origin, or which may have been developed from a suppurative process of a lower grade.*

2d. The destructive process thus initiated (either upon sound tissue or upon a pre-existing lesion) proceeds steadily to the formation of a pustule, or an ulcerated surface, by a more or less rapid molecular necrosis. This necrosis, occurring under differing conditions, and in different localities, gives rise to characteristic forms of the chancroidal lesion, which may be described as follows, viz.:

1st. *The Chancroidal Abrasion;* 2d. *The* PUSTULAR *Chancroid.*

These may be again divided into the *slowly destructive* and the *actively destructive* varieties. We may have as modifications of these,

From Condition.	From Locality.
The Indurated Chancroid.	The Follicular Chancroid.
The Inflammatory "	The Papulo Pustular "
The Gangrenous "	The Ecthymatous "
The Phagedenic "	The Sub-Preputial "
The Serpigenous "	The Chancroidal Bubo.
	The Bubonic Chancroid.
	The Urethral "
	The Rectal "

The Ex-Ulcerous Chancroid of Clerc, and the Ulcus Elevatum.

Modifications of all the foregoing forms and varieties by the *coincident development* of implanted syphilitic elements on the site of the chancroidal lesion.

LESSON XXVII.

ORIGIN OF THE CHANCROIDAL ABRASION.

Most frequent localities of chancroidal abrasion. Physical appearances. Pustular chancroid. Mode of origin. Clinical case in illustration. Chancroid divided into two varieties according to activity of destructive process. Cases in illustration. Character of chancroid dependent upon its source. Chancroid modified by various influences and causes.

Abrasions of mucous membrane are frequent as the result of violence during the act of coition: they occur most frequently about the fourchette and the vestibule of the female, and about the preputial orifice, and the frenum, and along the preputial reflection of mucous membrane in and behind the fossa glandis in the male.

All injuries of this character, on being brought into contact with the secretion of an active chancroid, are at once inoculated, and the suppurative action is thus initiated over the entire surface of the lesion. It is to the abrasion, thus complicated, that the term *chancroidal* is applied. To the naked eye it appears at first like a simple scratch or chafe, but an examination of its secretion shows abundant pus corpuscles, within three or four days, and often within twenty-four hours. By the aid of a good magnifying glass the advancing molecular necrosis may be seen, in the dentated edges, in the minute sloughing points on the surface of the lesion, and the secretion is inoculable. Sooner or later, in accordance with conditions which are known to render chancroidal lesions more or less active, the abrasion may be merged into the characteristic chancroid. Its shape, which at first corresponds with that of the surface inoculated, now changes, through the advancing ulceration. The edges become ragged and abrupt, the floor, excavated and covered with the débris of disorganized tissue, gives rise to a profuse secretion of pus. The time for these changes in different cases may vary from a few days to several weeks.