CHAPTER III.

THE CHANCROID COMPLICATED WITH EXCESSIVE INFLAMMATION AND WITH PHAGEDÆNA.

EXCESSIVE inflammation terminating in gangrene gives rise to the inflammatory or gangrenous chancroid; and phagedenic ulceration, in several different forms, to as many varieties of the phagedenic chancroid.

INFLAMMATORY OR GANGRENOUS CHANCROID.—The inflammation attendant upon a chancroid is sometimes so excessive as to terminate in gangrene, and produce a slough of the surrounding tissues, like that caused by the application of a powerful caustic. Age is said to be a predisposing cause, as is undoubtedly a constitution originally defective, or one debilitated by excess of any kind, and especially by the habitual use of alcoholic stimulants. Among exciting causes, are to be mentioned mechanical constriction, violence, indulgence in coitus, excessive exercise, want of cleanliness, and retention of the secretion upon the surface of the sore, the use of improper dressings, as fatty substances, and especially mercurial ointment. The supervention of some acute disease may also produce it. M. Sperino found this complication occur in many of the chancroids which he inoculated upon persons who were afterwards attacked with fever, and particularly with intermittent fever, which was very common in the neighborhood of his hospital, at Turin, situated in a marshy district.

But this complication is most frequently met with in cases of congenital or accidental phimosis, in which the sore is imprisoned beneath the prepuce. The inflammation progresses rapidly and soon terminates in gangrene. The slough may be limited to the tissues surrounding the ulcer, and involve only the internal layer of the prepuce; in which case the chief evidence of the occurrence of the complication is found in the ichorous appearance and fetid odor of the discharge from the preputial orifice, and the ultimate effect may be to produce adhesions of greater or less extent between the glans and its envelope.

In other cases, both layers of the prepuce are involved. The extremity of the penis becomes swollen and œdematous, resembling a club or the clapper of a bell; a dark violet-colored spot appears, either with or without phlyctenulæ upon its surface, generally upon the dorsal aspect, and involves more or less of the prepuce. If the arteria dorsalis penis become corroded, dangerous hæmorrhage may ensue, which, as shown by experience, is not always arrested by ligature of the artery. If the slough is limited in extent, the glans penis often protrudes through the opening formed, while the preputial orifice remains intact, and the virile organ has the appearance of being bifurcated at the extremity. In other instances the whole of the prepuce comes away, but the progress of the gangrene is usually limited to the furrow at the base of the glans, and the patient is circumcised as accurately as if by the surgeon's knife.

Paraphimosis complicating chancroids may result in a similar manner, and produce a slough of the whole or a part of that portion of the prepuce (its mucous layer) lying in front of the constricting ring, together with more or less of the glans.

After the fall of the slough, there remains only a simple wound destitute of virulent properties.

It is evident that excessive inflammation, which is due to simple causes, is a mere complication of the chancroid, and does not in itself change its nature; but its effect, when it terminates in gangrene, is exactly the same as that produced by the application of a strong caustic, viz., the tissues surrounding the ulcer are involved in the slough to an extent exceeding the sphere of the specific influence of the virus. Consequently, the remaining wound presents all the characteristics of any simple sore, and its secretion is not inoculable.

Inflammatory or gangrenous chancroids are included by most English writers among the phagedenic, but there would appear to be sufficient reason to follow the classification adopted by the French, and consider them as distinct. Buboes are rare in connection with this variety.

Inflammatory chancroids are to be treated by confining the patient to bed, low diet, mild purgatives, leeches to the groin or perinæum—never on the penis itself—the local application of cold or evaporating lotions, or, at a later stage, of warm poultices, as of chamomile flowers, recommended by Dr. Hammond as the best (op. cit., p. 36) and other antiphlogistic measures, so long as the acute symptoms continue; but if gangrene supervene tonics and stimulants are in most cases required. If the case be complicated with phimosis and the ulcer be concealed beneath the prepuce, the prepuce should at least be slit up by means of a bistoury carried along a director introduced from the orifice, care being taken to extend the incision to the furrow at the base of the glans. I think it desirable, however, to avoid, if possible, these incomplete operations, which leave the penis in a condition of deformity, and I therefore resort to complete circumcision in many cases, and especially when the foreskin is unnaturally long. If the slough of the tissues surrounding the ulcer has already formed, there is no danger of inoculation of the edges of the wound; and even if the gangrene is only commencing and the wound should become inoculated, the fresh ulceration will commonly heal as rapidly as the sub-preputial chancroids, and the patient will be left in a much better condition than when only a partial operation has been performed. Fuller directions may be found in the chapter on phimosis.

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Mr. William Lawrence, whose experience has been very extensive, has the following remarks upon the indications for an operation: "To determine whether the prepuce should be divided or not is sometimes a difficult matter of diagnosis. The degree of redness, swelling, and pain will not enable us to decide. The propriety of the measure depends on the condition of the sore, which we cannot see. The discharge from the orifice of the prepuce must assist our judgment in doubtful cases. An ichorous or sanious state of discharge, with fetor, indicates sloughing; and in such circumstances the division ought to be performed. If the discharge should be purulent, even though somewhat bloody, and the glans tender on pressure, we may be contented with leeches, tepid syringing, and mild aperients."[1]

If gangrene shows no tendency to self-limitation, destructive cauterization should at once be employed.

Phagedenic Chancroids.—In the chancroid, as commonly observed, the process of ulceration is generally slow and limited in extent, and advances with nearly equal rapidity in all directions; whence the sore maintains a rounded form, and does not involve the tissues to any great extent or depth. Phagedenic chancroids, on the contrary, are characterized by their more rapid, extensive, and irregular progress; though these characters vary greatly in degree in different cases.

The following remarks are intended to apply to phagedæna, not only when it attacks the original ulcer, but also when it affects a virulent bubo or virulent lymphitis, which are in reality chancroids of the glands or of the lymphatics.

These remarks, so far as the symptoms are concerned, are also applicable to cases of phagedæna attacking the initial lesion of syphilis, in which the indurated base of the sore is commonly destroyed. But, it should be noticed, a true chancre is less frequently affected with phagedæna. In most such instances that I have seen, the induration remaining after the healing of the original sore has itself become ulcerated and taken on phagedenic action.

Induration of the ganglia, in the rare instances in which it terminates in suppuration, is never followed by phagedæna. *Phagedæna attacks a bubo only when the latter is virulent and due to a chancroid.*

In the mildest and most frequent form of phagedæna, the sore merely extends in surface and in depth slightly beyond its ordinary bounds; this is sometimes observed at all parts of the circumference, but generally at one part more than another, so that the circular form is lost and the outline becomes irregular, but yet the ulcerative action is not excessive.

Serpiginous Chancroid.—Phagedæna may stop here, or it may go on to form a serpiginous chancroid, which is slow in its progress, but to the extent and duration of which there is no limit. The edges of

[1] Lectures on Surgery, London, 1863, p. 399.

the sore in this variety are thin, livid, and œdematous, and so extensively undermined that they fall upon the ulcerated surface or may be turned back like a flap upon the sound skin; they are often perforated at various points, and are very irregular in their outline, resembling a festoon. The surface of the sore is uneven, and covered with a thick pultaceous and grayish secretion, through which florid granulations at times protrude and bleed copiously upon the slightest touch. Serpiginous chancroids are not attended by much constitutional reaction. They exhibit a predilection for the superficial cellular tissue, and are inclined to extend in surface rather than in depth. They sometimes undermine the whole skin of the penis as far as the pubes, or make their way down the thigh nearly to the knee, or upwards upon the abdomen, or follow the course of the crest of the ilium. They often advance on one side while they are healing upon the opposite. Their progress may appear to be arrested and the sore nearly cicatrized, when rapid ulceration again sets in and destroys the newly-formed tissue. Their secretion is copious, thin, and sanious, and preserves its contagious properties through the many years that the ulcer may persist. They leave behind them a whitish and indelible cicatrix, resembling that produced by a deep burn.

This sore may be mistaken for the serpiginous ulceration of tertiary syphilis. It is distinguished from it by the fact that it commences with a chancroid—usually seated upon the genitals—or with a suppurating bubo in the groin; that from this point of origin it extends by a continuous process of ulceration, the course of which is evident from the foul cicatrix which it leaves behind; and that it never overleaps sound portions of the integument. Moreover, the fluidity of its secretion does not favor the formation of scabs, and its contagious properties are manifest if inoculated upon the person bearing it.[1]

Sloughing Phagedenic Chancroid.—A third variety is called the sloughing phagedenic ulcer, and is characterized by the greater acuteness, rapidity, and depth of the destructive action. Its symptoms closely resemble those of hospital gangrene. There is considerable constitutional disturbance, a full and hard pulse, furred tongue, and other symptoms of fever. The pain is often excessive, and almost insupportable. The ulcer extends chiefly to dependent parts in the neighborhood, which are infiltrated by its copious and foul secretion. It respects no tissue whatever, and its ravages are sometimes terrible; the glans, penis, or labia may be wholly destroyed, and the testicles entirely laid bare. Fatal hæmorrhage has been known to occur from ulceration of the arteria dorsalis penis. The sloughing phagedenic chancroid is most common among the intemperate and lowest class of prostitutes, and also among persons visiting hot climates or exposed to various hardships. It was this variety which decimated the English troops in the Peninsular war, although venereal diseases were at the time comparatively mild among the natives.

[1] Bassereau, op. cit., p. 475.

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Phagedenic chancroids are not unfrequently attended by buboes, which generally take on the same destructive action as themselves.

Fournier's confrontations, already referred to, prove that the phagedenic chancroid is not always transmitted in its kind, and that hence it cannot depend upon a distinct poison. This does not, however, conflict with the fact that contagious matter possesses noxious properties proportionate to the degree of its putrescence, when such has taken place. We have an instance of this in the disastrous effects of wounds acquired in the dead-house. Witness also the mortality in the town of Westford, Mass., in the spring of 1860, following vaccination with scabs originally pure, but which were dissolved in water and exposed to air and heat until they were decomposed.[1] In most cases, however, phagedæna is doubtless dependent upon some form of constitutional cachexia, the exact nature of which is not always apparent. The abuse of mercury in the treatment of venereal ulcers is another cause, which was more frequent a few years since than now, and the improved practice of the present day may account in a measure for the partial disappearance of this variety.

Treatment of Phagedæna.—The general treatment of phagedenic ulcers should be based upon a knowledge of the cause of the destructive action when this can be ascertained. Phagedæna most frequently occurs in persons debilitated by various causes, as intemperance, irregularity of life, want, or a residence in damp, unhealthy apartments; in these cases, nourishing food, the ordinary comforts of life, and the mineral or vegetable tonics are required. Scrofula is another fruitful source of phagedæna, and calls for preparations of iodine and other antistrumous remedies. Moderate doses of opium repeated at short intervals, so as to keep the patient gently under its influence, are often of essential service in allaying pain, and in controlling the progress of the disease. Numerous observers have called attention to the beneficial effect of this agent upon ulcerative action, and have ascribed to it a decidedly tonic influence. Rodet reports several cases of serpiginous chancroids which resisted a great variety of means, but which yielded to opium. This surgeon commences with about one grain of the extract of opium morning and night, and gradually but rapidly increases the dose so that the system may not become habituated to it before its therapeutic effect takes place. He prefers two large doses in the twenty-four hours to smaller ones more frequently repeated, in order that digestion may go on unimpeded in the intervals. Light wines are largely administered at the same time, and are said to correct any tendency to constipation.

In many cases it is impossible to discover the cause of phagedæna. The general condition of the patient is good; all his functions are duly performed; and yet his ulcer continues to extend. In such cases our chief reliance must be placed upon local applications and deep cauterization, and the general treatment must be experimental.

Ricord placed great reliance on the potassio-tartrate of iron, which

[1] Boston M. and S. J., May, 1860.

he called the "born enemy of phagedæna." He administered it internally in doses of two teaspoonfuls to a tablespoonful of the following mixture three times a day after meals, also applying a lotion of the same salt to the ulcer:

℞.	Ferri et Potassæ Tartratis, ℥ss. . . .	15
	Aquæ, ℥iij	90
	Syrupi, ℥iij	110
	M.	

Ricord's praise of this remedy has not been confirmed by my own more mature experience, or that of others.

Great benefit is to be derived from the local application of *iodoform*, as recommended in the treatment of the chancroid. Under its influence the pain is allayed and the ulcer will frequently, without other measures, take on healthy action. The iodoform may be applied in powder or ethereal solution once a day, and the sore be dressed with an ointment containing a drachm of iodoform to the ounce of lard or vaseline.

Probably no treatment affords better results in obstinate cases of phagedenic ulcerations than the prolonged immersion of the parts in hot water, a method employed by Hebra in various affections of the skin. If the ulceration be confined to the genitals, an ordinary sitz-bath will answer the purpose; if more extensive, a full bath will be required. In the former case, a large sponge is convenient for the patient to sit upon. Immersion for eight or ten hours a day, care being taken to keep the parts affected below the surface of the water, is desirable; as the case improves, immersion every other hour may suffice. The water should be kept at a temperature of about 98°, and the upper part of the body be protected by suitable covering. At night, a dressing of iodoform should be applied, and the same be allowed to soak in the bath the next morning before removal. By this treatment, the sufferings of the patient are not only greatly relieved, but the effect in arresting the progress of the ulceration and inducing reparative action is, in most cases, astonishing.[1]

Weisflog[2] uses a Faradic bath, one electrode being connected with the bottom of the tub. The patient, when immersed, touches the other electrode, covered with a moistened sponge, with one or more fingers, according to the sensations produced in the ulcer.

The dermal curette may often be advantageously employed in the treatment of phagedenic ulcers of various size. By its means all the pulpy matter of the surface must be thoroughly removed, leaving none, and only stopping when healthy tissue is reached. Then the surface must be cauterized, either with white heat or a strong solution of potash (one to three drachms of caustic potash to the ounce of water). In every case the ulcerating margin must also be carefully

[1] See articles by—Dr. Simmons, of Yokohama, Med. Rec., N. Y., Sept. 11, 1875. R. W. Taylor, Review in Arch. of Dermat., N. Y., vol. ii, 1876, p. 183. Arthur Cooper, Lancet, Lond., May 24, 1879, p. 731.

[2] Arch. f. path. anat., etc. (Virchow), Berl., B. 66, s. 311, and Practitioner, Lond., March, 1879, p. 216.

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attended to. The operation should be done under ether. Subsequently cooling antiseptic lotions may be applied. Marc See[1] speaks highly of this method, which I can recommend from considerable experience.

A novel mode of treating these phagedenic ulcers and buboes has been used with success by Thiersch,[2] of Leipsic, in several cases. This consists in the subcutaneous injection of a solution of one part of nitrate of silver in one thousand of water. The points of injection to be selected from the edge and from each other about three-eighths of an inch, and by this means the ulcer is surrounded by a cordon of these injected spots. Thiersch employs a syringe holding an ounce of fluid, armed with the ordinary hypodermic needle, and he injects about a drachm of the solution at each puncture. The operation is so painful that etherization of the patient is necessary, and subsequently cooling applications are to be used locally. Should one series of injections fail they should, according to Thiersch, be repeated, even as often as every eight or fifteen days. He cites a case in which a vast ulcer had existed five years and was thus cured. The rationale of this procedure seems to be the strangulation of the vessels through the distension of the tissues by the fluid injected. Such radical treatment may be used in desperate cases.

Our last resort for the cure of phagedenic chancroids is the complete destruction of the sore by a powerful caustic or the actual cautery. In cases of a comparatively mild character, we may rely upon the application of fuming nitric acid, taking care to apply it to every crevice, especially beneath the edges of the undermined integument. If the smallest loophole be left from which virulent pus can proceed, it will inoculate the wound remaining after the fall of the eschar, and the only effect of the treatment will be to increase the size of the ulcer. It is evident, therefore, that cauterization, in order to be a benefit and not an injury, must be thorough and complete. In severe cases Ricord repeats the application as often as twice a day, and in the meanwhile dresses the sore with lint soaked in aromatic wine or a solution of the potassio-tartrate of iron. Pain and swelling are not always contraindications to the use of the caustic, which is frequently the most effective sedative that can be employed.

The carbo-sulphuric paste (see p. 395) is also an excellent caustic, and does its work better than any other, with the exception of the actual cautery.

Other caustics recommended by authors are—

Pure bromine.

The permanganate of potassa,[3] of which a saturated solution (gr. 85 to water ℥j) may be applied three or four times a day, and the

[1] Le Progrés Med., 1880, p. 852.

[2] Behandlung des Phag. Schankers mit Parenchymatösen Einspritzungen von Silbersaltpeter. Arch. für Klin. Chir., xxvii., 1881–1882.

[3] See "Remarks on the Use of Permanganate of Potassa," by Dr. F. Hinkle, Am. M. Times, N. Y., Nov. 28, 1863.

sores dressed meanwhile with lint soaked in a mixture of a drachm of the saturated solution to the pint of water.

Carbolic acid has been more recently employed for the same purpose, and is, I believe, still more efficacious. The surface of the sore may be painted over with the impure liquid acid, and afterwards dressed with a solution of the same, of the strength of two drachms to the pint of water.

The actual cautery may still be required in the more severe cases of phagedæna, when other means have failed; and the extent of the surface involved by the ulceration should be no bar to its free application. Either the old cauterizing irons, or, better still, Paquelin's thermo-cautery, or the galvano-cautery, is best adapted. A "white heat" is required, and the patient should be rendered insensible by an anæsthetic.

The ulcer should first be cleansed by washing it copiously with water, removing all adherent matter, and then drying it. Every portion of the secreting surface should now be deeply cauterized, carrying the hot iron into every nook and sinus, and paying special attention to the parts overlapped by the skin of the edges. These flaps of integument should be cauterized not only upon the under, but also upon the outer surface, so as to be for the most part destroyed. A cold water-dressing is afterwards applied, and the patient, on waking, does not suffer much more than he did before the operation. When suppuration commences, Goulard's extract or aromatic wine may be added to the lotion.

An attack of erysipelas has been known to arrest the progress of phagedæna and to induce cicatrization of serpiginous ulcers which have proved intractable under almost every form of medication. An instance of this kind is contributed by M. Buzenet to Ricord's *Leçons sur la chancre*, and several are reported by other surgeons.

Attempts to cure serpiginous chancroids by means of "syphilization" have signally failed.

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