CHAPTER V.

THE SIMPLE AND THE VIRULENT BUBO.

BUBO, derived from the Greek βουβων, originally signified either the groin, the glands in the groins, or, again, inflammation of these glands. In more modern times, the term has been applied in general to *any* affection of the lymphatic ganglia. Thus we read of scrofulous buboes dependent upon a strumous diathesis; of cancerous buboes dependent upon a scirrhous tumor in the neighborhood; and of the plague of the Levant (*the bubo-pest*), characterized, among other symptoms, by an affection of the lymphatic glands of the groins and axillæ. The meaning of the word, so far as having any connection with the groin, and so far as dependent upon any causes which can exclusively affect the groin, has, therefore, been departed from.

In common parlance, however, if we hear the expression "that man has a bubo," we infer that he has an affection of one of the lymphatic ganglia dependent upon *venereal* disease; and venereal diseases are, of course, those only which concern us in the present work. At the same time, let it be observed, so far as the situation of the tumor is concerned, that a venereal bubo is a bubo, no matter where situated; and that, even if dependent directly or indirectly upon venereal contagion, other causes than venereal often play an important part in its evolution.

We shall find hereafter that *syphilis* exerts a peculiar influence upon the lymphatic ganglia at two periods of its course: 1, In its initial stage, upon the glands in anatomical relation with the chancre; 2, In its period of full development, upon the glandular system at large. With these, so-called "indurated" and "constitutional" buboes, which are inevitable to syphilis, and which will be considered further on, we have at present nothing directly to do, although what we have to say of the anatomical connection between the glands and the lymphatics will be found to have a bearing upon them. In speaking of buboes in this chapter, we refer, therefore, only to those which are not specific in their origin. They are two in number:

I. THE SIMPLE BUBO.
II. THE VIRULENT BUBO.

FREQUENCY OF BUBOES.—All persons are not disposed alike to the development of buboes. In those of a strumous constitution, the lymphatic system appears to be much more sensitive than in others, and buboes are of more frequent occurrence. In general, they are found oftener in men than in women, partly, doubtless, in consequence of the different habits of life in the two sexes. It has been

estimated that 40 out of every 100 men with chancroids are attacked with buboes; and of these 40, that from 30 to 35 have suppurating buboes; while of every 100 women affected with chancroids, only 20 have acute inflammation of the ganglia, of which 15 suppurate. Zeissl ascribes this difference not only to the more active habits of the male sex, but also to the fact that the majority of venereal affections in women are situated upon the mucous membrane and not upon the external integument, where their occurrence is found by experience to be followed most frequently by buboes in the male sex also.

As to the comparative frequency of the simple and virulent bubo, statistics vary greatly. Jullien[1] states, as the result of the collected observations of a number of authorities, that of 287 buboes, 149 were simple and 138 virulent. These statistics, however, must not be regarded at all as conclusive, since the diagnosis between a simple and a virulent bubo requires an amount of care and precision on the part of the observer which is rarely given.

SEAT OF BUBOES.—The inguinal ganglia are most frequently affected in cases of buboes, and the anatomical seat of these ganglia is of no little interest as showing what course such tumors may take. This subject has been most thoroughly investigated in two admirable lectures by Prof. Auspitz,[2] of Vienna, one of whose plates (Fig. 114) we reproduce, and whose description we shall closely follow.

The inguinal ganglia are divided by anatomists into the *superficial* and the *deep*. The former are the more constant, indeed always present, and of the greater importance. They are seated in the subcutaneous cellular tissue, separated from the surface only by the skin and a thin layer of connective tissue—the "superficial fascia," and lying upon the "fascia lata." The richness of the tissue in which they are imbedded depends greatly upon the amount of corpulency of the individual. They vary to some extent in their number and situation; these, however, are so generally constant as not to differ materially from the accompanying representation, which includes the lymphatic vessels merging into them.

Of these groups of glands, *A* and *B* are strictly inguinal, while *D* is strictly femoral. The group *C* belongs rather to the inguinal glands, with which it stands in closer anatomical and pathological relations than to the femoral.

Deepseated inguinal ganglia, underlying the fascia lata, described by most anatomists as four to six in number, are far from being constant. Auspitz has found only one usually present, and this, "Rosenmüller's gland," situated between the semilunar edge of Gimbernat's ligament and vena cruralis.

In women, vessels from the lymphatic network of the labia majora and minora, connecting with that of the vagina, run beneath the skin

[1] Traité pratique d. mal. vén., Paris, 1879, p. 429.
[2] Arch. f. dermat. u. syph., Prag, 1873, iii. u. iv. Heft.

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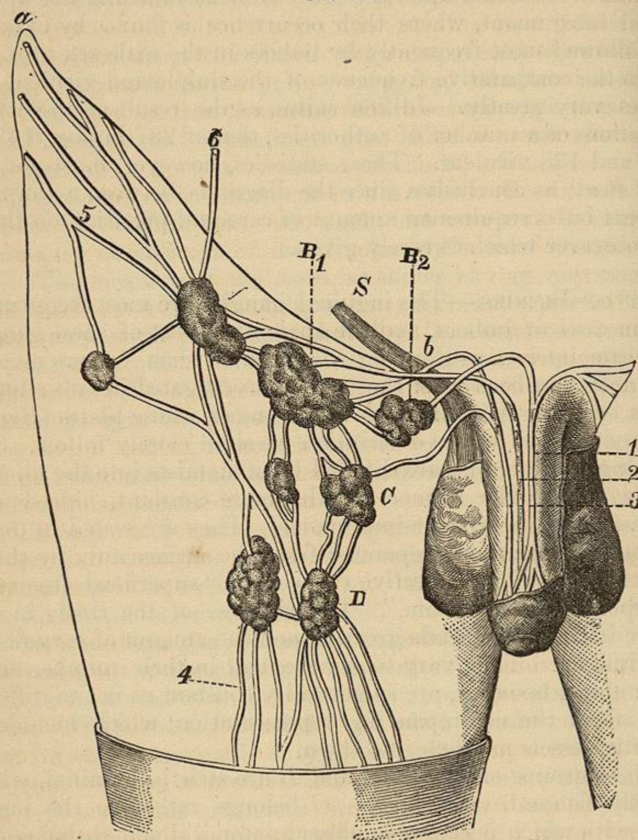
of the labia and terminate in glands situated in the same manner as in the male.

The anatomical connection between the above-mentioned ganglia and the exact seat of any lesion affecting them, will determine which of them will become exclusively or chiefly involved. "If the exciting cause be seated on the prepuce or glans penis, the group B is in the first place, in the next place C and A, and only very seldom D, is implicated. If the lesion be on the anterior portion of the scrotum, B and C are in most cases the glands mainly involved. If it be on the leg or on the lower part of the thigh, we find that it is first D and then C which is either exclusively or especially swollen.

Fig. 114.



Schematic representation of the superficial inguinal ganglia (Auspitz). ab, Poupart's ligament. S, Vas deferens. A. B_1, and B_2, C and D, Inguinal ganglia. 1. Lymphatic vessel running along the dorsal groove of the penis; 2 and 3, vessels running along its right side; these three anastomose in the corona glandis. 1 becomes divided near the root of the penis into two lateral branches, which, as well as 2 and 3, terminate in the inguinal ganglia. 5, vessels coming from near the ant. sup. spine of the ilium to the ganglion A. 6, ditto from the hypogastrium to the same ganglion. 4, ditto from the lower extremity to the gland D.

In affections of the buttocks, it is A; in those of the hypogastrium, A and B; finally, in those of the perinæum, and of the posterior portion of the scrotum, whose lymphatics unite with each other or with the lymphatics of the penis, it is the group B (B_2) which is chiefly affected. The group D is *exclusively* swollen only in consequence of affections of the lower extremity, and never from those of the genitals."

Data similar to the above, with regard to the anatomical relations of lesions and buboes in other parts of the body, especially the upper extremities, head, and face, where of venereal ulcers the chancre is the rule and the chancroid the exception, will be given when describing the indurated bubo.

The Simple Bubo.—As already stated, this bubo is nothing more than a simple adenitis. Its causes are various. Commencing with those which are of the more trivial character and advancing to the graver, they may be enumerated as follows:

1. In the first place, it may depend merely upon excessive sexual indulgence. Instances of this kind are by no means common, but are occasionally met with.
2. It may be due to any mechanical lesion of the genital organs, as a rent or abrasion contracted in coitus, especially if the latter be subjected to cauterization or the application of irritant dressings.
3. It may be due to eczema, herpes, follicular inflammation, balanitis, vulvitis, or any other simple affection of the genitals. Such simple causes as these and those above mentioned are now and then so slight and so transient, that they can be ferreted out only by the most careful investigation of the case, or otherwise the bubo passes for a *bubon d'emblée*.
4. Urethritis, whether due to contagion or not, and any mechanical lesion of the urethra, as by the use of instruments or the passage of a calculus, may occasion it.
5. It may depend upon the presence of a chancroid, or even a true chancre or a secondary lesion of syphilis, *acting merely as a common source of irritation and inflammation*, and not in virtue of any virulent or specific quality.

The manner in which either of the above causes produces its effect upon the gland has, possibly, not been fully explained, since the intervening lymphatic may show no sign of being involved. The old idea of "sympathy" between the rootlets of the lymphatics and the ganglion in which they terminate is no longer tenable. Doubtless, in many cases, simple irritant matter is conveyed by them and lodged in the ganglion; in other cases, the inflammatory process probably extends through them, but is so transient and rapid in its passage as to afford no evidence of its having existed. Analogous instances are found in the inflammation and suppuration of glands in other parts of the body, as the axilla, in consequence of wounds of the fingers, prurigo, eczema, etc., especially when the irritation is heightened by

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excessive manual labor, as we often see in washerwomen. We again observe the same in the evolution of gonorrhœal epididymitis without any affection of the cord.

The simple bubo usually appears during the early period of the existence of the lesion upon which it depends, within a few days or the first week or fortnight after the appearance of the latter.

The symptoms of simple adenitis are well known. Most frequently only one gland is affected; if others are involved, they are commonly so to a less degree. The patient first notices a swelling in the groin, attended with tenderness on pressure, and pain, which is aggravated by motion or the standing posture. The gland is felt to be somewhat enlarged, but is still movable beneath the integument, which preserves its normal color, and the surrounding cellular tissue is evidently thickened by infiltration. This condition may last for an indefinite period, and yet finally disappear without suppuration. There exists only ganglionic tension or engorgement, which undergoes resolution, and this holds good of the great majority of buboes originating in such simple causes as gonorrhœa, balanitis, herpes, etc.; whereas a simple bubo dependent upon a chancroid is usually much more inflammatory in its character and prone to suppuration.

In the less fortunate cases, the inflammatory symptoms increase in severity; the tumor acquires large dimensions and becomes adherent to the skin and underlying fascia, so that it is no longer movable; the pain and tenderness are increased; motion is difficult; the skin becomes reddened; suppuration is ushered in by a chill; the presence of matter is indicated by a soft spot in the midst of the general hardness, and soon after by distinct fluctuation; and although resolution is still possible, yet commonly the contents of the abscess are discharged through an opening in the integument formed by the process of ulceration. In the great majority of cases I believe that the seat of the suppuration is in the cellular tissue surrounding the gland, and not in the gland itself. The original congestion or inflammation of the glandular tissue appears to undergo resolution after exciting a similar process in the loose cellular tissue of the neighborhood, which more readily takes on suppurative action; and when the abscess is opened by nature or art, the gland may often be seen within the cavity already covered with granulations destined to commence the work of repair.

The pus of a simple inflammatory bubo is like that of any common abscess, destitute of contagious properties, and therefore not inoculable.

I have spoken of the simple inflammatory bubo as affecting one ganglion, but it sometimes happens that two or more are involved, when several collections of matter may form, and these by their early union may give rise to one large abscess; or they may remain distinct or only communicate after the opening of one of them. Not unfrequently these collections of matter are separated by Poupart's ligament, one being situated in the groin and the other upon the upper and inner part of the thigh.

The course of a bubo subsequent to the evacuation of the contained matter varies in different cases. In healthy subjects and under proper treatment, the cavity may rapidly contract and fill with granulations, its walls unite and cicatrization take place, leaving a slight scar scarcely perceptible after the lapse of a few months. In less fortunate cases, secondary abscesses form in the neighborhood even after the first has been opened, and communicating with the cavity of the latter, give rise to fistulous passages, which are often several inches in length. Or again, instead of having a distinct point of origin, a fistulous track may shoot out from the cavity itself. The opening may have been free, allowing ample exit to the matter, and the process of repair appear to be going on propitiously, when suddenly, without apparent cause, the surgeon in passing his finger over the surface notices a hardened cord beneath the skin, or in probing the cavity discovers a new fistulous track, which has formed insidiously, without giving the slightest indication of its presence. In short, a line of infiltration of the cellular tissue has, as it appears, started from the original abscess, and by a process of suppuration opened a new fistulous track; and thus the cellular tissue beneath the skin may become riddled with false passages of different lengths, running in various directions, and reminding one of the burrowings of a mole in a hay-field. In whichever mode developed, these fistulous tracks most frequently run along Poupart's ligament, either upwards and outwards towards the anterior superior spine of the ilium, or downwards and inwards to the inner fold of the thigh. In rare instances they penetrate nearly perpendicularly to the surface for some distance. Their walls become covered with a kind of false membrane, which secretes a thin purulent matter, and the surrounding tissues are more or less brawny to the touch.

In strumous subjects, a bubo often assumes a still more sluggish and subacute character, resembling the well-known scrofulous inflammation of the glands of the neck in young persons.

The inguinal tumor is less firm and of a more doughy feel than in the form above described. A moderate amount of pain, tenderness on pressure, and difficulty of motion may be complained of by the patient, but these are rarely severe or of long continuance. The tumor very slowly enlarges, perhaps to the size of a hen's egg, and loses its mobility in consequence of contracting adhesions to the neighboring tissues. The skin covering it becomes thin and of a livid red color, and fluctuation can be detected without being ushered in by chills and fever, as in the inflammatory bubo. If an opening now be made with the lancet, the young surgeon is surprised to find that nothing resembling ordinary pus flows out, but merely a thin, flaky, watery-looking fluid. If, on the other hand, the tumor be left to itself, several openings usually form spontaneously at different points of the surface, and the skin included between them, being deprived of its vascular supply, loses its vitality and gives way. The glands thus exposed are found to be more or less disorganized; they

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are of a spongy and friable texture, and infiltrated with thin purulent matter, which can be made to exude upon pressure from the numerous openings upon their surface. The external opening is still further enlarged by retraction of the skin, and the mass of swollen and disorganized glands often projects above the level of the surrounding integument, and, acting like a foreign body, interferes with cicatrization of the wound. Fistulous tracks may form, running in various directions, but phagedæna never occurs as a complication, as it does with a virulent bubo.

Virulent Bubo.—The virulent bubo receives its name from the fact that the pus which it contains is contagious, and will, upon artificial inoculation, give rise to a chancroid. It is in fact a chancroid of the ganglion, and hence may be called a *chancroidal* bubo.

Unlike the simple inflammatory bubo, it is due to a single cause only, viz., the presence of a chancroid upon the region supplied by the lymphatics in anatomical connection with the affected ganglion; and, so far as we know, its occurrence cannot be avoided by any precautions except by the destruction of the chancroid, nor favored by any extraneous means, as mechanical violence, muscular fatigue, etc., which play so important a part in the etiology of the simple inflammatory bubo.

The virus secreted by the chancroid gains entrance within the lymphatics, probably by erosion of these vessels, and not, strictly speaking, by absorption. Being conveyed along their course, it is sometimes arrested at a certain point, and gives rise to virulent lymphitis, which will be described hereafter. More frequently it reaches one of the ganglia, beyond which it never extends; its further progress is stopped by the intricate meshes and minute ramifications of this body, and its presence gives rise to inflammation, which assumes the contagious character of the exciting cause. The same power of reproduction is manifested which gives to virulent pus its contagious qualities, and the abscess which necessarily ensues is filled with inoculable matter. Resolution is as impossible and suppuration as inevitable as if the secretion of the chancroid had been deposited within the ganglion upon the point of a lancet. From the supposed mode of its origin, this bubo has sometimes been called the *bubo from absorption.*

A virulent bubo usually occurs during the early or progressive stage of a chancroid, but is by no means confined to this period. Ricord refers to a case in the service of M. Puche, in which a virulent bubo made its appearance as late as three years after the commencement of a serpiginous chancroid.

The chancroid may have entirely healed before the development of a virulent bubo, and the virus have entered the lymphatics but a short time before cicatrization took place.

Since the chancroid is, in the great majority of cases, situated upon the genital organs or in their neighborhood, a virulent bubo occurs

with corresponding frequency in the groin. Even when the chancroid is seated within the male urethra, or in the deeper portions of the vagina, or upon the cervix uteri, or when in either sex it exists upon the perinæum or at the anus, it is equally in the groin that we are to look for a virulent bubo—a fact which has been established by Ricord, Robert, Grivot, Grandcourt, Bernutz, Legendre, Langlebert, and other observers. Artificial inoculation of the chancroidal virus upon the arm has produced virulent buboes in the axilla, and in a case reported by Huebbenet, one was developed over the parotid gland following an inoculation upon the cheek.

Virulent adenitis is usually situated upon the same side of the median line as the chancroid, but sometimes upon the opposite, owing to the interlacement of the lymphatics. Commonly only one groin is affected; occasionally both are involved, especially when there are several chancroids seated upon each side of the penis, or when one ulcer is situated upon any part directly in the median line, as the frænum. It is very rare for more than a single gland on one or both sides to suppurate specifically; and hence the virulent bubo is said to be "monoganglial." Other ganglia in the neighborhood may, however, be secondarily affected through extension of the inflammatory process, but should they suppurate, the pus is not inoculable like that of the first ganglion.

Prior to its spontaneous or artificial opening, the course of a virulent is the same as that of a simple inflammatory bubo, and the student should understand that the early symptoms of the two are identical; though the presence of the former may be suspected from the rapid growth of the tumor and its tendency to suppurate; while the existence of the latter will be rendered probable by an irritated or inflamed condition of the chancroid upon the genitals, and by an amelioration in the bubo following rest and antiphlogistic treatment. Whenever a bubo undergoes complete resolution without coming to suppuration, it is evident that it could not have been virulent.

During the formation of this bubo, the virulent pus is confined to the interior of the affected ganglion; but the same time simple inflammation and suppuration commonly take place in the surrounding cellular tissue as in the simple inflammatory bubo, and hence there exist two collections of matter, separated by the walls of the ganglion; the one within containing chancroidal, and the one without simple pus. Now if the bubo be left to itself, the external abscess usually breaks before the internal, and consequently the pus which first flows out is simple and not inoculable, and the cavity of the abscess may be covered with healthy granulations like that of the simple inflammatory bubo. In the course of a few days, however, the glandular abscess discharges its virulent matter, inoculating the surface of the cavity, and the latter puts on all the characters of a chancroid; its interior becomes covered with a grayish diphtheritic deposit, its edges are everted and undermined, and its secretion is autoinoculable, or if it accidentally comes in contact with any solution of con-

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