tinuity as a leech-bite, in the neighborhood, it will give rise to a chancroid. The same can be demonstrated when opening the bubo artificially; if a superficial incision first be made so as to penetrate the external abscess only, and a drop of the exuding matter be inoculated; and if subsequently the knife be made to penetrate the glandular abscess, and some of its contents be also inserted beneath the epidermis, it will be found that the former inoculation will fail while the latter will succeed.[1]

Secondary abscesses may form in the vicinity of the gland first affected in the virulent, as in the simple inflammatory bubo, but virulent pus does not appear except as the result of inoculation from the original abscess. Again, fistulous passages may be produced in the manner already described; these have been known to result in very extensive underminings of the skin, attended by acute inflammation of the cellular tissue, of the most formidable character.[2]

In some instances, a virulent bubo heals kindly in the course of a few weeks, like the milder chancroids upon the genitals previously described. It is thus probable that many virulent buboes are never recognized as such, since their appearance may not attract the attention of the attendant physician, and the only unfailing test of their existence—autoinoculation—is rarely applied, or even necessary. But there is another termination, which is far less fortunate, and which, although not frequent, is one of the most fearful consequences of venereal exposure:

Virulent adenitis, alone of the different forms of bubo, is liable to phagedæna.

In a few cases this complication would appear to follow, and perhaps depend upon, that of the chancroid upon the genitals, phagedæna existing in both; but, in the majority, phagedæna attacks the inguinal chancroid or bubo, when the original sore has shown no such tendency, or has even been of the mildest type.

The remarks already made with regard to phagedæna in connection with the chancroid apply here. It may appear in three forms:

1. Limited in extent and duration; merely enlarging the boundaries of the abscess, or at most increasing its depth and persistency, but soon yielding to appropriate treatment.

2. Sloughing phagedæna, resembling hospital gangrene, a rare form when accompanying a bubo; and

[1] "Equally instructive examples (that the glands collect hurtful ingredients, and thereby afford protection to the body) are afforded by the history of syphilis, in which a bubo may for a time become the depository of the poison, so that the rest of the economy is affected in a comparatively trifling degree. As Ricord has shown, it is precisely in the interior of the real substance of the gland that the virulent matter is found, whilst the pus at the circumference of the bubo is free from it; only so far as the parts come into contact with the lymph conveyed from the diseased part, do they absorb the virulent matter." (Virchow, *Cellular Pathology*, p. 187.)

[2] See a remarkable case reported by Debauge, Chancres simples et bubons chancreux, Thèse de Paris, 1858, p. 75.

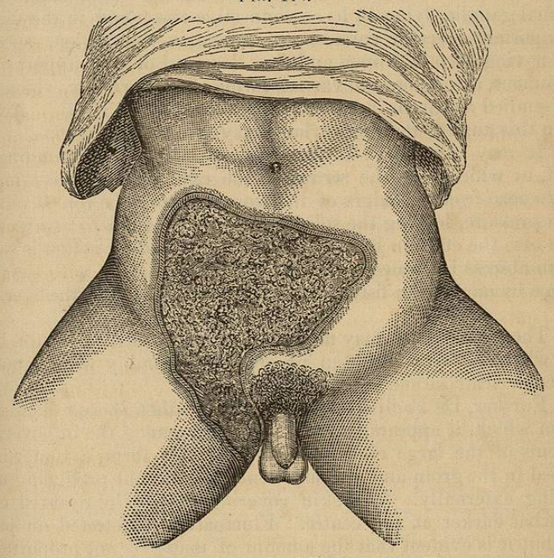
3. Serpiginous phagedæna, to the extent and duration of which there is no limit.

The last-named form is the source of those persistent and disgusting serpiginous ulcers which we occasionally see in our public hospitals, and which are depicted in all sets of illustrations of venereal diseases. (See *Cullerier's Atlas*, pl. xv.)

Judging from my own observation, these ulcers commence in a virulent bubo far more frequently than in a chancroid upon the genitals. Their symptoms have already been described in the preceding chapter, and their possible severity is shown in the following case reported by Fournier:[1]

"A deplorable instance of ganglionic phagedæna was to be seen in the wards of M. Ricord, in 1856. The patient had contracted, in 1849, a simple chancre on the penis, which healed readily itself, but which was complicated with an acute bubo. This bubo suppurated,

Fig. 115.



Phagedenic bubo. (After Jullien, op. cit. p. 433.)

opened, and continued for several weeks without showing any tendency to increase in size, but suddenly the inguinal ulceration began to extend, and took on the character of serpiginous phagedæna. From that time, in spite of every mode of treatment, and of the

[1] N. Dict. de méd. et de chir. prat., Paris, t. v., p. 771.

most energetic means known to science, this ulcer still extended; it invaded the whole inguinal region, turned the flank, mounted towards the loins, and entirely covered one buttock; then it descended again upon the thigh, the posterior and external surface of which it ploughed up for the whole extent of the limb, and at last reached below the knee, where it finally spread out over an enormous surface. Everything was done for this horrible sore, but all means failed. The patient left the hospital without benefit and wholly discouraged. Many years after, I met this unfortunate in one of the streets of Paris, pale, emaciated, and scarcely able to drag himself along. He told me that he had been subjected to various modes of treatment, without success, and that his ulcer was still present. Moreover, his leg was flexed at a right angle upon the thigh through retraction of the cicatrices on the posterior aspect of the knee. The disease had now lasted for fourteen years!"

Complications.—On account of the anatomical situation of the inguinal ganglia, lying in loose connective tissue and in the vicinity of important vascular connections, buboes in this region, especially after having been laid open and thus deprived of the support of the integument, are exposed to various forms of hæmorrhage, which have been studied at length in an able article by Dr. De Paoli.[1] According to this author, the hæmorrhage may assume three forms.

1. It may take place in the connective tissue surrounding the gland, in which case the serum of the extravasated blood may be seen to ooze from the edges of the wound, or may be forced out in a jet on pressure, leaving the solid constituents behind to be absorbed; or, in case the effusion has been large, inflammatory action is set up, and an abscess is formed, which finally communicates with the original one by means of a fistulous track, or opens through the overlying skin.

2. The hæmorrhage may take place from the surface of the bubo, even when the latter has been progressing favorably with a prospect of speedy cicatrization.

3. Further, De Paoli speaks of what he calls a *hæmorrhagic bubo*, a form which, it appears, is not uncommon among the impoverished residents of the large cities of Italy. In this form, a tumor is developed in the groin and gradually enlarges without producing much swelling externally. The skin covering it is of a rose-red color, somewhat darker at the centre. Fluctuation is detected on palpation, but it is evident that the amount of matter is not proportionate to the extent of the undermining of the integument. The patient suffers little incovenience, and probably pursues his ordinary avocation.

Following the act of coughing, or on straining, or even without appreciable cause, this swelling undergoes a sudden increase of size.

[1] Gior. ital. d. mal. ven., Milano, 1874.

If incised, a moderate amount of blood escapes, and an extensive cavity is exposed, covered with fungosities of a bluish color, with one or more hyperplastic glands at the centre. These latter, if cut into, bleed freely. The surrounding integument is found to be extensively detached, thinned, and ecchymosed. The vascular bands or bridles connecting the opposite walls of the abscess, which are usually found in the purulent bubo, are here completely wanting.

Even after free incision, little tendency is shown towards reparative action. Fungous granulations spring up, which, on the slightest occasion, as a fit of coughing or the application of almost any dressing, break down again and bleed freely, and the case is often aggravated by the formation of ecchymoses in the neighborhood.

De Paoli has observed this bubo in persons of a decidedly scrofulous or phlegmatic temperament, but most frequently in those affected with scurvy, of which it is often one of the first manifestations; "not indeed the terrible form of scurvy which affects mariners, but the milder form met with among the impoverished residents of the slums of large cities."

Dr. Hammond mentions a case of death from pyæmia following the opening of a bubo (op. cit., p. 57). Prof. B. W. McCready has met with a sloughing bubo, opening into the bladder and giving rise to a urinary fistula. (Oral com.)

A bubo sometimes occasions peritonitis, which is usually partial, but which may become general. Clerc[1] gives two such fatal cases, including the post-mortem appearances.

The possibility of a bubo being transformed into a cancerous ulcer is admitted by Jullien (op. cit., p. 438), who quotes Rollet as having met with such a case in an old man.

An instance is reported by De Paoli, in which the inflammatory process extended from a bubo in the groin to a testicle retained in the corresponding inguinal canal.

Bubon d'emblée(?).—The older writers on venereal diseases believed that the chancroidal and syphilitic poisons could be absorbed without any lesion of the skin and without any sore appearing at the point of absorption. In this manner, they stated there might occur a "*bubon d'emblée*," or "non-consecutive bubo," arising independently of any lesion of the genital organs, secreting pus which was autoinoculable, and capable of being followed by general syphilitic infection of the system. Within the present century this view has been advocated by Baumès, Castelnau, Bertherand, Cazenave, and Vidal de Cassis, partly also by Diday; and has been ably opposed by Ricord, Fournier, Rollet, Langlebert, Virchow, and others. None of the cases adduced in its favor, not forgetting one published by Mollière,[2] which attracted at the time considerable attention, and which made a convert of Diday, can be regarded as convincing.

[1] Ann. de derm. et syph., Paris, t. i., 1869, p. 439.
[2] D. Mollière, Observation de bubon d'emblée chancrelleux, Lyon méd., 1873, t. i., pp. 226, 241, 329.

In short, there is as yet no proof whatever that the chancroidal or syphilitic poison can be absorbed through the sound integument and no local reaction occur at the point of inoculation. A bubo secreting inoculable pus can depend only upon a chancroid situated either externally or concealed within a mucous canal, as the urethra, vagina, or rectum. This chancroid may escape observation, either on account of its having healed at the time the patient comes under observation or because it is not sufficiently sought for, but it must exist or have existed. Until more satisfactory evidence is adduced in its favor, we must conclude that the existence of a "bubon d'emblée" is not proven.

Diagnosis of Buboes.—It is rarely the case that a bubo can be mistaken by an intelligent observer for any other affection, and little more than mere mention of the possible sources of error will be called for.

Hernia will be recognized by the softness of the swelling, by the impulse conveyed on coughing or sneezing, by its disappearance on pressure or on assuming the recumbent posture, by its increase when the patient is standing, by the absence of tenderness and other symptoms of inflammation. In case the hernia is irreducible, we still find resonance on percussion, and, should strangulation occur, the constipation of the bowels, the fecal vomiting, the tenderness of the abdomen, and the grave general symptoms which rapidly ensue, will *probably* put the attending surgeon on the right track; we say "probably," because a bubo alone may set up peritonitis, the cause of which, however, is not likely to be mistaken, unless by a careless observer.

An undescended testicle, inflamed in the course of a gonorrhœa, may be mistaken for a bubo.[1] The diagnosis may be based on the following points:

1. Absence of the testicle from the scrotum on the affected side.
2. The presence in the inguinal canal of a movable tumor, ovoid in form, smaller than the descended testicle, but giving the characteristic pain on pressure.
3. The inflamed tumor is seated above Poupart's ligament, and its long axis corresponds with that of the inguinal canal.
4. The tumor is separable, on manipulation, into two portions, one inferior and internal, larger, harder, and more irregular, which is the epididymis; the other, superior and external, smaller, ovoid, smoother and softer, which is the testicle.

Inflammation of the cord due to gonorrhœa rarely occurs without the epididymis on the same side being also affected. Should it, however, occur alone, the coexistence of the urethral discharge, the position of the swelling, its diffuse character, and the very considerable amount of pain and uneasiness which it occasions—far greater than that caused by a gonorrhœal bubo—will serve to distinguish it.

[1] See two cases reported by Rollet, Gaz. d. hôp., Paris, 3 déc., 1861, no. 141, p. 561.

Varix of the internal saphena vein, at the point where it passes through the saphenic opening in the fascia lata a short distance below Poupart's ligament, is said to have been mistaken for a bubo as well as for a femoral hernia. According to Zeissl,[1] the swelling in varix rises and falls isochronously with inspiration and expiration; or, if the walls of the vein are so thickened that this motion cannot be perceived, the diagnosis may be made out in the following manner: If the vein be compressed by the fingers below the varix, the supply of blood will be cut off, and the tumor collapse; if the same be done above the varix, the tumor will become more tense and prominent.

An ulcerated epithelioma of the groin, which often accompanies epithelial cancer of the penis, may closely resemble a phagedenic bubo. The diagnostic signs have already been given, when speaking of the chancroid.

Is it possible that any one should fail to distinguish between a bubo and a simple abscess, an aneurism or a dislocation of the thigh?

Diagnosis between the Simple and Virulent Buboes.—There is no *certain* means of diagnosis between a simple and virulent bubo on their first appearance. If the patient has simply a gonorrhœa, balanitis, herpes, eczema, or a mere abrasion, a supervening bubo can of course be only a simple bubo. If he has a chancroid, the bubo may be either simple or virulent. We find, in general, that a simple bubo appears during the first fortnight of the existence of the cause upon which it depends, a virulent bubo after this period; that a virulent bubo is ushered in with more acute symptoms, as a chill, pain, and febrile disturbance; moreover, the glandular tumor is more circumscribed, and presents a hardness and elasticity which are not met with in the simple bubo. The virulent bubo also hastens with greater rapidity and with certainty to suppuration.

When a virulent bubo is left to open itself or is opened by the knife, the contained pus is found to be thick and creamy; the secretion of a simple bubo, on the contrary, is usually thin, watery, and flocculent. Auto-inoculation of the secretion of a virulent bubo, provided the matter be taken from the cavity of the gland itself, will produce a pustule followed by a chancroidal ulcer; inoculation of the matter of a simple bubo will fail. Finally, when the bubo is virulent, the whole surface of the incision becomes inoculated by the virus discharged from the gland, and the sore presents those characteristics which have already been described as belonging to the chancroid, and *a chancroid it really is*, liable to all the accidents of the latter, especially phagedæna, and subject to the same treatment.

When a patient has a bubo in each groin, it may be that the one on one side is simple while the one on the other is virulent, as observed by Ricord and others.

The diagnosis between the two forms of bubo here mentioned and the induration of the ganglia dependent upon syphilis, will be given

[1] Op. cit., vol. i., p. 228.

in the chapter on the evolution of syphilis. It should here, however, be observed that we may have a bubo of a double character, just as we have sometimes a "mixed chancre." For instance, a true chancre upon the genitals occasions induration of the inguinal ganglia; this fact does not protect the same ganglia from taking on inflammation and suppuration in consequence of any of the simple causes already mentioned—and this is known to be of not very unfrequent occurrence,—nor is there any reason why a chancroid coexisting upon the genitals should not excite in the same ganglia virulent (chancroidal) inflammation.

Treatment of Buboes.—A patient with any affection of the genital organs will best avoid a bubo by remaining as quiet as possible—abstaining from much exercise of any kind; by using a suspensory bandage when on his feet and keeping the parts elevated upon the abdomen when in bed; by a light diet and the avoidance of stimulants, and by securing freedom of the bowels. To the same end, the surgeon will take care neither to irritate the lesion, whatever it may be, upon the genitals, by inappropriate dressings or applications, nor to abrade its surface and thereby lay open channels for absorption. This remark does not conflict with the use of one of the stronger caustics *in the early stage of a chancroid*, when its employment may be expected to destroy the virulence of the ulcer and render the absorption of virulent pus impossible. Thus much as to the prophylaxis of buboes.

Supposing a bubo to have made its appearance, what then? In the first place, let the young surgeon remember that any attempt to abort it can be successful only in case the bubo is a simple inflammatory one; in case it is a virulent bubo, the attempt will surely fail. Some weight, therefore, should be attached to the affection or lesion on which the bubo depends. If this be a gonorrhœa or balanitis, an eruption of herpes, or other simple affection, we are encouraged to use every means to effect resolution of the tumor, and shall often succeed unless the patient be of a miserable, strumous constitution. But even if the patient have a chancroid, his bubo may still be simple, and hence attempts to abort it are not absolutely contraindicated, but need not be persisted in beyond a reasonable period.

Abortive Measures.—Of all available means to effect resolution of a bubo and to avert suppuration, rest is of the first importance, and the more absolute it is the better. Walking and even standing should be avoided, and the recumbent posture be maintained, with the hips elevated by means of a cushion or pillow. An active cathartic at the outset will rarely be amiss, and an evacuation from the bowels should be obtained daily. If the patient be of full habit, his diet should be low; but when the system is already depressed or cachectic, strict abstinence will favor suppuration, and should be avoided.

Similar rules should govern the use of local depletion, the benefit

from which, however, is so uncertain as scarcely to compensate for its inconvenience; yet when the patient is plethoric, and the local symptoms acute, from six to a dozen leeches may be applied near (not upon) the tumor, and the bleeding be promoted by immersion in a hot bath; but leeches should never be used when an abscess has formed and is upon the point of opening, lest their bites be inoculated and transformed into chancroids, in case the bubo be of the virulent kind.

The application of ice or of ice-cold compresses to the swelling, especially when it is of an acute inflammatory type, will sometimes be successful in aborting a bubo. So long as it is agreeable to the patient's feelings, it may be regarded as beneficial.

Of local applications, used as counter-irritants, none is more convenient nor perhaps more efficacious than the tincture of iodine. It is desirable, however, to use a stronger preparation than the ordinary tincture of the Dispensatory, as Churchill's, the formula for which is the following:

℞. Iodinii Puri, ℥iiss	75
Potassii Iodidi, ℥ss	15
Spt. Rectificat., f℥xij	360
Alcohol, f℥iv	120
Solve.	

The tinctura iodinii decolorata may also be used, when staining of the skin must necessarily be avoided. Again, the following ointment is a valuable counter-irritant:

℞. Potassii Iodidi, ℈j	1 30
Iodinii, gr. v	30
Unguenti Adipis, ℥j	30
M.	

Or a solution of iodine in glycerine:

℞. Potassii Iodidi, ʒss	2
Iodinii, ʒj	4
Glycerinæ, ℥j	38
M.	

Either of these preparations may be applied twice a day until as much inflammation is induced as the patient can well bear, when the application must be less frequent.

For the purpose of lessening the irritation produced by the tincture of iodine, Prof. Sigmund adds the tincture of nutgall, and Prof. Zeissl the tincture of belladonna (Zeissl, op. cit. p. 231):

℞. Tinct. Iodinii, ℥j	30
Tinct. Gallæ, ℥ss	15
M.	

℞. Tinct. Iodinii, ʒvj	24
Tinct. Belladonnæ, ʒij	8
M.	