Are all inflamed vesicles enlarged? To both the answer is negative. An enlarged vesicle may be inflamed, or tubercular (p. 787), or cancerous (p. 791), or cystic (p. 790), and an inflamed vesicle, though not obviously enlarged, may be sensitive—a sensation of pain or of sickening—to pressure; or rough pressure upon it may set up an epididymitis, evidence enough.

In doubtful cases, when the vesicle is not enlarged, the diagnosis is rarely of any clinical importance, but may be made by an examination of the contents of the vesicle obtained in the following manner:

*Method of obtaining the Contents of the Vesicle.*—The patient passes his urine, and if the strictest care is aimed at, the urethra and bladder are next washed clean and the latter left full of boric-acid solution. The prostate is then thoroughly massaged by the finger in the rectum and the bladder partly emptied, to wash away the contents of the prostatic sinus.

Now the finger is introduced into the rectum as high as possible over the suspected vesicle, pressed with gentle firmness against it, and then brought slowly downward with a zigzag motion, and the maneuvre repeated several times. If the pressure be too severe an epididymitis may result, if too slight nothing will be expressed. The just mean can only be acquired by practice. The bladder is then emptied and the fluid centrifuged and examined. If pus and bacteria are present over and above the spermatozoa and spermatic cells there is spermato-cystitis. The pus so obtained may contain gonococci, a sufficient explanation for some of those cases of relapsing posterior urethritis which appropriate irrigation treatment fails to cure radically.

**Prognosis.**—The prognosis of spermato-cystitis, as it ordinarily occurs in connection with gonorrheal posterior urethritis, is, as a rule, excellent, because the implication of the vesicle is most often ignored, needs no especial treatment, and takes care of itself. To this rule, however, there are three classes of exceptions:

1. The cases which persist in chronic catarrh with dilatation, giving rise to a variety of symptoms, including recurring epididymitis.

2. Cases of latent gonorrheal spermato-cystitis, in which although the posterior urethra is apparently well, and pus and shreds have disappeared from the urine, gonococci still lurk in the vesicles. In such cases the first intercourse or nocturnal emission may infect the patient and renew the urethritis, or discharge may relapse a few days after giving up local treatment and without the intervention of any new cause. This condition of affairs, while not common, does undoubtedly exist.



### Abscess of the Seminal Vesicle

3. Occasionally the inflammation goes on to abscess of the seminal vesicle, the ejaculatory duct becoming occluded. Such abscess, while giving rise to the symptoms of acute prostatic abscess (p. 88)—being differentiated from it as to position by the rectal touch—may burst into the peritoneum, or, infiltrating the perivesicular and periprostatic connective tissue, go on to post-vesicular ischio-rectal, or pelvic abscess (p. 90).

Such abscesses usually point spontaneously into the bladder or the rectum. Very exceptionally a fatal peritonitis or a burrowing periprostatic abscess may result (p. 91).

For treatment of spermato-cystitis, see page 141.

## SPERMATORRHEA

Improved methods of modern diagnosis, aided by a broadened common sense, justify the surgeon, I believe, in dismissing spermatorrhea from the catalogue of diseases. There is no such disease as spermatorrhea. The alleged malady is a fetich created largely by Lallemand—a fetich to which its morbid worshippers, young and old, bow down throughout the community morning, noon, and night, offering to it the incense of their distorted erotic fancies.

Spermatorrhea exists surely as a symptom, but not as a malady. As well call cough or pain a disease.

Spermatorrhea is the intermittent or constant involuntary escape of seminal elements (spermatozoa) without orgasm, and not in nocturnal emissions. This escape occurs during the urinary act, during defecation or rectal straining, sometimes during jolting exercise, sometimes in slight constant discharge mingled with prostatic and follicular secretions. It means that the ejaculatory duct is patulous, either atonic and relaxed, or catarrhal.

The duct may be atonic and relaxed and even catarrhal from the debility of age when there is enlarged prostate. Sometimes it becomes relaxed during the weakness following prolonged fever (typhoid). Sometimes it is relaxed by the congestion and strain of masturbation, or more often by excessive and prolonged sexual excitement without relief, aided by erotic fancies and imaginings, but in such instances a prostatorrhea or a spermato-cystitis is the malady that gives the symptoms, and not the escape or loss of semen.

I have known men having sexual intercourse nearly every night of their lives for years, and often more than once in a night, who had no single symptom of any sexual malady, and surely, if an ex-

cessive expenditure of seminal fluid were in itself capable of producing symptoms, these individuals should have shown some sign of these symptoms.

I have known every symptom attributed to spermatorrhea to occur in individuals who had no seminal loss whatsoever, voluntary or involuntary.

Finally, I have repeatedly found seminal elements constantly in the urine of vigorous men, ignorant of the fact, perfectly healthy in a sexual sense, and absolutely devoid of any of the alleged symptoms of the bugbear.

Therefore, while spermatorrhea as a symptom is a valuable factor in diagnosis—indicating atony or catarrh of the ejaculatory ducts, and, usually, spermato-cystitis—yet I cannot consider it a malady, since the loss of semen *per se* does not occasion symptoms. It is only a part of the picture in other maladies, maladies that have already been described. Where it occurs essentially without the concomitance of a definite malady it does not cause symptoms, does not interfere with bodily or sexual health, does not threaten life nor entail any consequences, and it may be and should be wholly disregarded.

I think it is time for the self-respecting genito-urinary surgeon to leave the ranks of quackery and to disabuse the public of false ideas on this subject.

## ASSOCIATE COMPLICATIONS OF GONORRHEA

To complete the clinical picture of those maladies directly associated with and capable by their continuance of maintaining urethral discharge, there remain to be considered folliculitis, periurethral abscess, and cowperitis.

### FOLLICULITIS

This is an inflammation of one of the urethral follicles. The cause is surface inflammation of the urethra, most commonly gonorrhea, although the inflammation of a follicle behind a stricture is far from uncommon.

Doubtless many of the urethral follicles are inflamed during the course of a gonorrhea without giving rise to any symptoms referable directly to them. This is certainly the case whenever there is chordee. But such general superficial implication of the follicles and their ducts takes care of itself and may be clinically ignored.

**Normal and Morbid Anatomy.**—A short enumeration of the pores of the urethral mucous membrane may not be out of place here. There are in the urethra a large number of minute openings (pores).



These have been called, the larger, the foramina; the smaller, the foraminulæ of Morgagni. The larger ones do not seem to be at all glandular, but reduplications, infoldings in pouch form, of the mucous membrane; yet they are lined in their depths by cylindrical and not by pavement epithelium. The smallest are said to have true glandular structure.

These foraminulæ dot the roof of the urethra, and at about two inches back from the meatus there is a little group of small ones upon the floor. They are also occasionally found upon the lateral walls.

The big lacuna, the lacuna magna, opening upon the roof of the urethra near the proximal end of the fossa navicularis, is well known to any one using filiform instruments, for the advancing tip of which the lacunal mouth is an efficient trap.

Besides these larger openings there are smaller ones along the urethra communicating with ordinary mucous glands much like those found upon other mucous membranes. These are quite superficial, and do not penetrate deeply.

Finally come the glands of Littré. They exist all along the urethra, and are rather large racemose glands situated deeply among the muscular fibres surrounding the urethra. Their ducts point forward in the pendulous urethra, like the foraminulæ and the ducts of the mucous glands; but in the membranous urethra, where they are quite abundant, they open at right angles to the mucous membrane, and here their ducts are rather long, the glands being situated among the muscular fibres of the membranous urethra, and being necessarily squeezed when this muscle contracts. These glands of Littré, indeed, are only so many minute glands of Cowper. Their secretion is alkaline and tenacious, and they are sexual rather than ordinary mucous glands.

Finally, the glands of Cowper are situated in the perineum beneath the floor of the urethra between the two layers of the triangular ligament. They are grape-like in structure and of considerable size, with long ducts leading forward and emptying upon the floor of the urethra at the back part of the bulb. These also are sexual glands, not simple mucous glands.

Now a follicle or a lacuna anywhere along the urethra may become the seat of inflammation which has invaded it by creeping in through the mouth of the duct.

*The lacuna magna* (Fig. 3) has a wide mouth. Sometimes there are two wide-mouthed lacunæ on the roof. When the lacuna magna inflames, its mouth never becomes occluded, and the process remains a surface one and gets well, or persists sometimes as a chronic inflammation after the remainder of the urethra has recovered from

its gonorrheal attack. Phillips[1] has called especial attention to this.

Other wide-mouthed foramina behave in the same manner, but their ducts, being relatively small, easily become occluded by the swelling which the inflammation causes, and we have at once all the conditions for follicular abscess and for periurethral inflammation. These abscesses may occur anywhere along the urethra, but there seem to be points of election, one on each side of the frenum in the floor of the urethra, and another at about 2 inches back, frequently upon the roof. But a follicle may occasionally suppurate anywhere, perhaps burrowing forward through the tissue of the glans penis and opening alongside the meatus (paraurethral fistula).

But little of importance has been added to our knowledge of these follicular abscesses since the study made of them by Hardy.[2] He likened these small tumours to wens of the scalp on account of their round shot-like feel, and believed that there were two special lacunæ most prone to involvement, one on each side of the frenum in the floor of the urethra.

**Etiology.**—The cause of lacunal and follicular inflammation is primarily surface urethral inflammation, usually gonorrhea, assisted by some such adjuvant as increased intensity of the disease from drinking, prolonged erection and the like, or occasioned by direct violence (too strong injection, rough use of instruments).

**Symptoms.**—The symptoms are local pain (worse during erection) and a hard, shot-like body under the integument, at first not adherent and often not very tender upon handling. If the tumour appears beside the frenum, it may be felt, when not very acute, like a hard pea, with a little fibrous string extending from it to the mucous membrane, this string being the obliterated duct of the little gland.

These follicular indolent tumours vary from the size of a pinhead to that of a pea or a bean. They commonly resolve. If pus forms, a route for its escape is usually opened by ulceration either towards the urethral surface or externally into the tissues, forming periurethral abscess, or externally through a previously adherent integument.

When the discharge is inward, the abscess may remain with hard walls as a chronic suppurating pouch for months or years, filling up and becoming prominent from time to time, and maintaining a moderate gleet, subject to exacerbations, but always palpable between the attacks as a small, insensitive, shot-like lump. Sometimes the abscess points both ways, and urethral fistula results.

For treatment, see page 129.

[1] Maladies des voies urinaires. Paris, 1860.
[2] Mémoires sur les abcès blennorrhagiques. Paris, 1864.



## PERIURETHRAL ABSCESS

Periurethral abscess is generally the result of the extension of follicular or lacunal suppuration, although it may originate spontaneously. It may occur anywhere along the canal, and is distinguishable from the follicular inflammation by its acuteness and size. Such a central inflammation beneath the frenum bulges on each side, and somewhat resembles the double follicular abscess of that region; indeed, it may have originated in one of the follicles of Morgagni situated there.

It is entirely possible that one of the glands of Littré in the membranous urethra might suppurate, but this is rare, and we have no especial symptomatology.

For treatment, see page 129.

## COWPERITIS

This is a folliculitis on a large scale, and its causes and symptoms are much the same as those already detailed for folliculitis of the anterior urethra, of course intensified in all respects and differing in the position of the swelling.

Cowper's glands are really a sexual annex. Their alkaline, tenacious fluid pours out during sexual excitement to lubricate the urethra and to facilitate the ejaculation of the sperm.

Urethrorrhea, which has been already considered (p. 93), is largely a functional weakness of Cowper's glands due to prolonged sexual strain, but this is not cowperitis.

**Etiology.**—The causes of cowperitis, like those of folliculitis, are primarily gonorrhea or inflammation behind a stricture, aided by too strong an injection, an irrigation, or the use of an instrument; but it may arise spontaneously, or occur after horseback-riding, dancing, bicycling, prolonged erection during gonorrhea, etc. Its date of occurrence is usually during the fourth week of a gonorrhea or thereabouts; or, more rarely, at any time during a chronic urethritis of the anterior urethra, since the ducts open upon the floor of the bulbous urethra, and these are the natural doors for microbic invasion.

**Symptoms.**—During an acute gonorrhea attention is called to Cowper's glands by vague discomfort in the perineum, amounting perhaps to positive pain. These perineal pains, however, may be

reflex from the urethra or from the prostate. It is necessary to place the patient in the lithotomy position and to palpate the perineum. If acute cowperitis be present, the position of the gland on one or the other side of the raphe, usually the left, will be excessively sensitive to pressure. There may be no lump nor tumour, for the inflammation usually aborts spontaneously, and does not get past the congestive stage. Indeed, the malady is not habitually recognised unless the surgeon takes the trouble to palpate the perineum.

If the inflammation does not subside, an oval, hard tumour, as large as a small nut, presently shows itself on one side of the raphe, its larger diameter being antero-posterior and its blunt end turned towards the anus.

This lump behaves much like the other follicular abscesses of the urethra. It may long remain tender and hard; it may go on unceasingly to increase in size, finally forming a definite abscess over which the perineal integument adheres. It may point within through its own duct and then subside and get well, for the long duct, starting in the bulb and directed forward, does not invite urinary leakage backward. Indeed, in the not uncommon event of a double opening, one through the duct into the urethra and the other by ulceration through the skin, although there is urethral fistula, as proved by injecting the sinus from without, there is habitually no escape of urine from within through the fistulous canal.

Of course, during this abscess formation, sitting, standing, walking, even pressure of the clothing, all cause local pain. The swelling mechanically pressing upon the urethra makes urination painful, the stream small. Retention of urine does not seem to occur. The function of the rectum is not interfered with.

The course of the acute malady is rather rapid. The congestive stage, if resolution is to be the termination, is over in less than a week, and suppuration generally established in ten or twelve days, if at all. Resolution is possible, after there has been a distinct tumour, and appears to be the rule (Critzmann).

For treatment, see page 131.

### Chronic Cowperitis

Chronic cowperitis is less common than the acute form. It manifests itself by a viscid gleet, worse in the morning, the urine containing a very long, thick shred from Cowper's duct entrapping cuboid and cylindrical epithelia, mixed with striated mucus, pus, detritus, and bacteria, perhaps gonococci.

Perineal palpation establishes the diagnosis by a feeling of greater resistance at the site of the gland than elsewhere in the perineum. The thickened area is very slightly sensitive to pressure. These features differentiate chronic cowperitis from chronic posterior urethritis.



**Pericowperitis.**—Pericowperitis occurs in the acute form of the malady, more especially if the abscess bursts through the skin of the perineum, or, burrowing forward, points near the peno-scrotal angle. In chronic cowperitis, however, it is a constant accessory phenomenon, either as a thickening of tissue about the chronically inflamed gland or as a chronic suppurating process, the pus slowly burrowing and opening spontaneously through the integument of the perineum. Such opening often communicates with the urethra, but does not habitually give exit to urine.

**Diagnosis.**—The only possibility of error in diagnosis lies in confounding ordinary perineal urinary abscess with suppuration of one of Cowper's glands—yet the distinction is usually easy. The perineal urinary abscess is habitually an accompaniment of stricture, or follows upon local external violence to the perineum. Except after excessive external violence the course is generally less rapid than that of cowperitis, and the urinary abscess is quite often central, the suppuration in cowperitis always commencing on one side. However, the distinction towards the end is often difficult, perhaps impossible; but this is not of practical importance as the treatment is identical.

Cowper's glands occasionally develop *retention cysts* by the occlusion of their ducts, especially in infants (Englisch), primary tuberculous degeneration (Critzmann), and primary carcinoma as a result of chronic inflammation (Kaufmann). J. Englisch, of Vienna, has made thorough studies of this subject, the results of which are embodied in a number of monographs.[1] Gubler cites as a curiosity a syphilitic gummy tumour of the perineum which occupied the exact position of Cowper's gland.

**Prognosis.**—The prognosis of acute cowperitis is the best. It habitually gets well without difficulty or delay. Abscess, of course, aggravates the prognosis, but this also habitually recovers under a spontaneous or a surgical opening, without fistula. In chronic cowperitis the prognosis is far more grave as to the local conditions, which may perpetuate themselves indefinitely in the form of fistula and its various attending complications, calling ultimately for a free use of the knife for its cure.

For treatment of cowperitis, see page 131.

[1] Wien. med. Jahrbüch., 1883, p. 269; Jahrbücher d. k. k. Gesellschaft d. Aerzte in Wien, 1883, p. 397; Wien. med. Wochenschrift, 1886, xxxvi, 1105; Centralbl. f. d. Krank. d. Harn u. Sex. Org., 1897, viii, 341.