tenacious, and strings out as the thumb and finger are separated, feeling soapy as they are again rubbed together; or, on the other hand, the drop may be quite watery and thin, but it is always somewhat sticky and never has a seminal odour. This flow when abundant stiffens, but does not stain the linen, and it may come away in greater quantity during straining effort, as at stool, during exercise, or after micturition. If the discharge be due to surface urethral congestion it is quite watery, clear, and only slightly sticky. When the secretion of the glands of Littré and Cowper is mixed with it or constitutes its main bulk, it is thick, cohesive, and tenacious. Patients generally think that it is spermatic fluid. The microscope shows it to be composed of single flat epithelial cells and clusters of the same, mucous corpuscles, films of striated mucus, granular *débris* of various kinds, no pus threads (unless there be also a patch of chronic anterior granular urethritis, which is quite possible as a concomitant), no prostatic bodies, no spermatozoa, no lecithin bodies, no Böttcher's [1] crystals.

The causes of this affection are prolonged, ungratified sexual desire, constant impurity of thought, a sort of mental masturbation through the imagination, often indulged in by weak-minded youths, as well as by old men who are regretfully conscious that they are getting beyond the potential stage of sexuality. Another cause is delayed orgasm during intercourse or withdrawal before emission, pernicious practices which occasion sexual strain. Masturbation if excessive, or too much natural sexual exercise under the stimulus of mental provocation—all these and the like, being a violence to the various urethral mucous glands and to the circulation of the urethra by prolonged, sustained, excessive nervous tension, lead to passive congestion and lack of tone in the circulation of the urethra and in its mucous glands and follicles, and thus occasion an excess of mucous secretion all along the line, together with more or less desquamation of pavement epithelium—and this is the malady and the whole of it.

The natural beading of the meatus during intense sexual excitement is physiological. It is equivalent to the watering of the mouth when one is hungry and smells appetizing food.

Whether it is fair also to denominate urethrorrhea that form of mucous oozing following chronic anterior urethritis in some cases, notably in the strumous, gouty, and debilitated, after the pus and shreds have disappeared, may be questioned; but it is much the same thing, being a mucoid oozing from congested surfaces which are not

[1] The fluid must be examined in substance. It cannot be recovered by the pipette from a specimen of urine since the latter totally dissolves it.

inflamed enough to yield pus, and it gets well, not by local treatment, which indeed may maintain and prolong it, but by improved general health, change of air, etc., with lapse of time. I well remember such a case, which came to me thirty years ago, a solicitous young man who had been under continuous treatment for a year at the hands of one of New York's most noted surgeons without avail. I stopped all treatment and sent him to Bermuda. The vessel had not been twenty-four hours out of port before his mucoid drop diminished notably. It promptly disappeared and never returned.

Many a time a little, final mucoid drop of this sort is entertained for weeks or months by excess in local treatment due to unnecessary solicitude on the part of the patient and inordinate zeal on the part of the surgeon.

But the true urethrorrhea, be it due to whatever cause among those enumerated, gets slowly better upon doing away with the continued action of that cause—be it lust, masturbation, excess, or what not which has occasioned it—and by insisting on urethral and general hygiene aided, perhaps, by monobromid of camphor 30 centigrammes 3 times a day, if erections be insistent, and such tonics as seem indicated, notably iron and strychnin. A minute dose of atropin, sufficient to dry the mouth slightly, assists. I think it also somewhat dries the urethral and prostatic secretion. Massage of the urethra by the passage of a large steel sound every two or three days through the anterior canal, or by the double-current cold-water metallic sound (Winternitz) with iced water, is sometimes helpful, with perhaps a light injection of the non-alcoholic fluid extract of hydrastis 8%, or claret and water 50%, once or twice a day. Strong injections irritate, and any injection may do as much harm as good, notably in those self-centred cases where morbid introspection is the salient feature of the malady. Here anything that keeps the patient's mind upon his genitals harms him, and any local treatment may be mischievous. A cold morning douche to the external genitals has a tonic effect. The patient's mind must be disabused of his morbid fancies. Horseback exercise is helpful, unless there be also chronic prostatitis, when it might do harm.

For treatment, see page 140.

PROSTATORRHEA

This malady may occur alone, in which case it is not inflammatory, not a prostatitis—with which it is almost universally confounded, nor yet a urethritis—but a sexual malady, and, like urethrorrhea, due to some form of sexual strain.

But prostatorrhea may very well be engrafted upon an already existing surface or follicular prostatitis, and in the declining stages of the latter may form part of the picture—or a person with prostatorrhea may get chronic follicular prostatitis as a sequence of gonorrhea—but the point is that true prostatorrhea is a local sexual weakness due to strain and not a sequence of local inflammation.

Chronic spermato-cystitis is distinctly a sequence of gonorrheal inflammation after the latter has invaded the prostatic sinus, and this vesiculitis may yield some of the symptoms of prostatorrhea; indeed, the two may also coexist. So that, clinically speaking, a true case of uncomplicated prostatorrhea is very rare, since it is likely to be affiliated on the one hand with chronic inflammatory follicular prostatitis, and on the other with chronic seminal vesiculitis. It may also be associated with urethrorrhea, and share some of the symptoms of the latter.

Sturgis [1] has made an admirable study of the malady, differentiating its individuality in a very concise manner.

Prostatorrhea is a sexual weakness due to strain or sexual perversion of some sort. It is a local lack of tone due to deteriorated nerve force from prolonged nervous tension, and is not an inflammation.

It consists in an intermittent discharge from the meatus of thin, white milky fluid of acid reaction, sometimes neutral, not sticky, soapy, nor cohesive to the feel, and when uncomplicated containing no pus cells, spermatozoa, or leukocytes. It does, as a rule, contain prostatic bodies (sympexions), cubic and pyramidal epithelia, and upon the addition of a 1% solution of phosphate of ammonia, a drop of which may be added to a portion of the discharge upon a microscopic slide, it does produce the peculiar star-like angular collection of pointed and crossed buck-saw crystals known by the name of Böttcher, not found in any secretion from any portion of the genito-urinary tract except the prostate. It contains also clumps of lecithin granules.

This distinguishing mark is notable, but unfortunately there may be a combination of prostatorrhea and chronic spermato-cystitis; and then sometimes the Böttcher's crystals are found in the discharge expressed from the meatus without the addition of the ammonia solution, because the secretion of the inflamed vesicles is alkaline.

The prostatic secretion smells like semen on account of the lecithin which it contains. It is acid in reaction in the normal state,

[1] N. Y. J. Cut. and Gen.-Urin. Dis., 1898, xvi, 263.

but Lohnstein,[1] recording recently his 542 examinations of the prostatic secretion, carefully obtained by massage from the prostates of 80 patients, noted certain variations from Fürbringer's dictum as to the reaction of the normal secretion. For even in these pathological states the fluid was 404 times (75%) acid, 30 times (5%) neutral, 108 times (20%) alkaline; but it was not always the same in the same patient, being in 5 cases alternately acid and neutral, in 8 neutral and alkaline, and in 15 acid and alkaline, while the proportion of moving spermatozoa was equally great in both cases. This mixture of spermatic elements in the fluid would, however, indicate either that Lohnstein was dealing with cases of spermatocystitis as well as of prostatitis, or that his massage included the vesicles as well as the prostate.

These investigations, however, establish the fact that the secretion in prostatitis is generally acid, as the fluid of the vesicles alone is known to be feebly alkaline. Fürbringer says of these vesicular and testicular fluids that they become easily alkaline.

This, then, being the quality of the fluid—acid, thin, watery, white (opalescent)—the question is, Does prostatorrhea ever occur as a distinct malady independent of prostatitis or spermato-cystitis? In my opinion, although possible it is very rare—so rare as a distinct malady that it may be almost disregarded, being better considered as an associate symptom sometimes with urethrorrhea, sometimes with prostatitis, sometimes with chronic spermato-cystitis.

Symptoms.—In a true case—always a masturbator or one given to perverted or excessive sexual exercise, most often a neurotic or neurasthenic subject—the patient finds a whitish, thin, watery drop at the meatus, and notices that the same is extruded in greater quantity at stool, and sometimes after urination.

He believes this to be a seminal loss, and is on that account excessively despondent. He is likely to have obscure neuralgic sensations along his urethra, a feeling as if a cold, occasionally a hot, drop were trickling along the canal at odd times. There may be a little vesical irritability not noticed by a man in health, for *raro mingitur castus* is as true now as of old. Every physical and functional evidence of sexual lack of tone may be present. The penis may be long, cold, and flabby, blue at the glans penis, notably about the corona glandis. The testicles may be flabby, soft, neuralgic, or at least oversensitive to handling. There may be pain in the back, radiating down the thighs or in the perineum, and various other reflex pains. There may be dyspeptic symptoms, a white tongue, a soft

[1] Guyon's Annales, 1900, xviii, 1188.

rapid pulse, dilated pupils, cold, moist palms, headache, tendency to mild vertigo, loss of memory, inability to concentrate the attention or to sustain prolonged mental effort, as in study or even in reading. With this there may be premature ejaculation during intercourse, and excessive sexual desire with diminished power—possibly functional impotence due largely to solicitude and to neurotic causes.

The patient may be melancholic and despondent to the verge of mania, incapable of consolation; and this all the more if with his prostatorrhea he has spermato-cystitis, a perfectly possible combination. In fact, all the evidences of the so-called sexual neurasthenia may be present in any or every combination.

But it is not a fact that true spermatorrhea alone or true chronic spermato-cystitis alone necessarily gives rise to these symptoms of despondency, sexual incompetence, or precipitate ejaculation, for a considerable number of patients have both spermatorrhea and spermato-cystitis, and are not subjectively conscious of it, unless by the physical signs of pain and local discomfort to which the inflamed vesicles give rise. I have again and again found spermatozoa constantly in the urine of patients being examined for another malady, and have not communicated my information to them because the seminal loss occasioned no symptoms whatsoever, and I preferred not to arouse the attention and fix it on this very delicate sexual centre. Yet the combination of prostatorrhea with spermato-cystitis is more likely to be associated with this train of symptoms than is either malady alone, and I ascribe this to the fact that in these cases there is often a combination of inflammatory action with sexual exhaustion; and that the patient, usually a neurotic, is unable to withstand the combination. The symptoms are neurotic rather than physical. They occur in neurotics who have no local disease, neither prostatorrhea nor spermatorrhea, and conversely, patients with prostatorrhea and with spermatorrhea may be entirely devoid of this combination of symptoms.

It is proper, however, to note the frequent combination of the symptoms with the maladies, and the fact that the cure of the local symptoms may and often does greatly improve the neurotic state, probably by calming the mind and doing good by the process of suggestion.

In true uncomplicated prostatorrhea the prostate is not necessarily sensitive, either subjectively to the patient or to rectal touch; but as prostatorrhea is often a part of the general picture in which another malady (prostatitis, spermato-cystitis) is concerned, the prostate may be subjectively and objectively excessively sensitive where there is true prostatorrhea.

The malady is of long duration, but is always capable of betterment, often of entire cure.

For treatment, see page 140.

SPERMATO-CYSTITIS

Spermato-cystitis, inflammation of the seminal vesicles, is a result, early or late, of posterior urethritis, and as such is almost always of gonorrheal origin.

There is, however, a very chronic form of vesicular dilatation (usually bilateral),[1] due to masturbation, to sexual irregularity, to excess, or to prolonged, ungratified desire. This occurs particularly in neurotic subjects, and is accompanied by prostatorrhea, with or without a little chronic surface or follicular prostatitis. These patients are often afflicted with sexual neurasthenia and complain of so-called spermatorrhea.

The frequency of spermato-cystitis as a complication of gonorrhea is a matter in much dispute, and cannot be determined until our methods of diagnosis become more refined. This is due to the fact that in a certain indefinite proportion of cases of gonorrheal posterior urethritis, and in all cases of epididymitis, there is subacute spermato-cystitis. This passes unrecognised, as it yields no especial symptoms, calls for no particular treatment, and subsides spontaneously with the disappearance of the greater malady which it complicates.

Therefore Von Petersen's estimate of the relative frequency of the complication (14%) must be considered much too low.

Spermato-cystitis may be acute or chronic, and in either case may run a mild or a severe course. The mild cases, whether acute or chronic, yield no symptoms other than those of the prostatitis which they accompany; and while such cases may be recognised by careful examination (see Diagnosis) they require no treatment. But the contrary is true if the symptoms become intense.

Acute Spermato-cystitis

In mild cases there are no symptoms, except the objective one of moderate distention of the vesicle with extra sensitiveness, recognised by rectal touch.

Severe cases may be accompanied by considerable fever, and have for local symptoms pain in the perineum, anus, rectum, or hip.

[1] Old men with enlarged prostates very commonly have also largely dilated vesicles, which are in a more or less definite condition of chronic inflammation. These are some of the patients that get good temporary results from orchidectomy.

This pain is of an aching, a throbbing, or a burning character, and is increased by urination (which is urgent and frequent) and by defecation. There may be partial priapism, and emissions may be painful and frequent, the semen bloody. The urine contains free pus, usually a little blood and shreds, as in acute prostatitis, the shreds often entrapping sympexions or spermatozoa, and free spermatozoa may also be found. There may be epididymitis.

Chronic Spermato-cystitis

Octave Guelliot restricts the symptoms of chronic spermato-cystitis to those of a not infrequent complication—i. e., recurrent epididymitis. This is far too narrow a view, but it emphasizes an undoubted fact—namely, that chronic inflammation in a vesicle is often entirely overlooked, being dominated perhaps by a more obvious disorder in the testicle, or oftener shrouded by and mistaken for prostatitis.

Symptoms.—The symptoms of chronic seminal vesiculitis are often definite, and evince themselves in one or more of the following three ways:

1. Pain, often with more or less vesical irritability and functional sexual disturbance.
2. Gleet, pyuria, pyosperm or hemosperm.
3. Recurrent epididymitis.

The pain is usually neuralgic in character, and resembles the pain of chronic prostatitis or of urethral neuralgia; or it may be reflected to various regions, notably the testicle, where it may manifest itself as a neuralgia more or less intense. Pain may exist in the back, low down, may radiate down the sciatic nerves, or along the front of the thigh (more marked if the testicles and cord be sensitive). Pain in the hip, said to be pathognomonic, but often absent, has led to confounding this malady with hip disease. Defecation may be painful and may leave a dull aching sensation high up within the rectum, which may come on spontaneously at night, awaking the patient. It recalls fissure pain.

Ejaculation, often unsatisfactory, may be painful, and is generally premature. There may be feeble erection and functional impotence from lack of desire; but desire is usually increased, while capacity is lessened. Nocturnal emissions may be frequent, the sperm may be bloody or chocolate-coloured; there may be symptoms of cystitis, even retention.

As in prostatitis, there may be slight but obstinate urethral discharge. The pus in the urine or semen shows macroscopic and microscopic characteristics distinguishing it from pus from the prostate.

(See Diagnosis.) Occasionally, however, the pyuria is intermittent or remittent, resembling the urine of pyelo-nephritis rather than that of prostatitis. If the blood mixed with semen comes from the vesicle they are intermingled, if from the prostate it occurs in streaks.

Epididymitis may be the sole symptom worthy of attention. Melancholia, depression of spirits, and all the symptoms of sexual neurasthenia (see Prostatorrhea) may be also present, notably in neurotic and oxaluric patients.

The physical signs of spermato-cystitis are essential to the diagnosis.

Diagnosis.—The symptoms are so variable and so nondescript, including as they do many of the symptoms of posterior urethritis, prostatitis, prostatorrhea, and even neurasthenia, that careful examination of the vesicles and of their secretion may be necessary before an accurate diagnosis of the malady is possible. In every case of gleet or of persistent urethral or perineal pain the vesicles require examination, since they may be the chief or the sole seat of the disorder. A history of hemosperm, priapism, seminal colic, or recurrent epididymitis strengthens this probability that the vesicle is the *corpus delicti*.

Rectal Examination.—The vesicles like the prostate are reached by the finger in the rectum. The procedure has already been described.[1] Suffice it to say that the normal vesicles cannot be felt unless overdistended. If inflamed, the finger passing up over and beyond the prostate meets with no resistance in the middle line, but laterally, instead of slipping around the corner of the prostatic lobe, it meets a prolongation of this lobe upward and outward in the shape of a boggy, tense, or soft, fluctuating, elongated, sausage-like tumour, often exquisitely sensitive, and always more or less tender. The tip of the finger cannot reach the upper limit of the vesicle. Indeed, in some cases it can scarcely reach the lower part of it. A full bladder and counterpressure on the lower abdominal wall are aids in examination. The surgeon need not hesitate to crowd his finger into the rectum as far as it will go, but he should fear the exhibition of any roughness, for it is easy by too much pressure still further to inflame a vesicle not yet quite out of the acute stage, and to bring on active symptoms of irritation of the neck of the bladder (cystitis) or acute epididymitis, bloody emissions, aggravation of urethral discharge, etc.

Two questions arise here: Are all enlarged vesicles inflamed?

[1] The rubber-tissue finger-stall does not interfere with the exploration, protects the surgeon's finger for other surgical work, and possesses an esthetic advantage.

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-