CHAPTER VI

ACUTE INFLAMMATIONS OF THE URETHRA

Inflammations of the urethra, like those of other mucous membranes, are catarrhal in character and yield pus, which pus, flowing out at the meatus or mingling in the urine, constitutes their most salient feature.

The main, and for practical clinical purposes the only notable urethral inflammation is gonorrhea and its long train of sequences; but before approaching this subject it may be as well to clear the field a little of certain minor maladies, to get them out of the way. They are traumatic urethritis, urethritis *ab ingestis*, diathetic urethritis, and the mild discharges attending ulcerations within the urethra—i. e., chancroid, chancre, tubercle, herpes, syphilitic deposits.

Polypi and warts will be touched upon when dealing with chronic anterior urethritis, and the pseudo-gonorrheal inflammations will be considered in connection with the diagnosis of that malady.

TRAUMATIC URETHRITIS

This is an inflamed condition of the urethral mucous membrane following injury, chemical or mechanical. It ranges through various degrees of intensity according to the severity and continuance of the provoking causes.

These causes are *wounds of the urethra* by instruments, more especially crushing or bruising injuries. Bending the penis when erect, as in tempestuous and badly directed coitus, may be followed by mild urethritis (sometimes ushered in by hemorrhage and followed by traumatic stricture).

A foreign body in the urethra, such as retained stone, may give rise to a mild discharge. Hallé and Wassermann have attempted to explain urethritis following moderate and aseptic traumatism on the ground that minor organisms existing normally in the urethra become capable of exciting suppuration when the soil is prepared for them by the concomitant action of trauma.

Rough catheterism, à fortiori if the instrument be dirty, may produce urethritis, and the suppuration habitually attending instruments left *à demeure* in the urethra is too well known to require more than a statement of the fact.

Caustic injections of any kind act as traumatic causes of urethritis. Some urethras are very sensitive to the action of solutions of corrosive sublimate and carbolic acid, and much more so to the minutest dilutions of formalin, all of which substances, used as sterilizers of instruments, sometimes provoke the very mischief they would avoid.

Treatment.—The treatment of these inflammations is very simple. The cause (retained catheter, stone, etc.) being removed, the malady disappears spontaneously or under an alkaline diuretic, perhaps aided by a mild irrigation or an astringent injection (p. 125). Special care in urethral antisepsis is called for in the management of even very mild bruising injuries in order to heal them as quickly as possible, for the proneness of traumatic stricture to follow such injuries should never be overlooked.

URETHRITIS AB INGESTIS

Certain substances taken into the stomach may occasionally produce a mild urethritis. Among these alcohol holds a high rank. Excessive potations, notably of beer or champagne, or prolonged excesses of alcohol in any form, will occasionally, without other cause, produce urethral discharge. As an adjuvant to sexual excess the influence of alcohol is paramount, more particularly if there be already a pre-existing patch of chronic inflammation anywhere along the urethra. Cantharides, arsenic, purgative mineral waters, iodid of potassium, turpentine, asparagus, have all been accused of lighting up mild urethral inflammation, but the rarity of such attacks makes their consideration trivial, and the whole subject may be dismissed with the words *Causa sublata, tollitur effectus.* The effect of lochial and leucorrheal discharges and of the menstrual flow as etiological factors of urethral inflammation will be referred to when considering gonorrhea (p. 67).

DIATHETIC URETHRITIS

A gouty urethritis is accepted honestly in England and among old gentlemen in our large cities, and a strumous urethritis has been mentioned; but as essential maladies both are a refinement of diagnosis. Surely the gouty old gentleman with a fibrotic prostate and

densely acid urine suffers from more surface discharge because of his gout, and treatment of the latter may be essential to his recovery. Rheumatic subjects also are often catarrhal all along their various mucous membranes, and the remains of their gonorrheal inflammations are on that account the more difficult of removal. Strumous subjects sometimes get into a condition of granular urethritis following gonorrhea. In such cases the entire canal is thickened and velvety and cod-liver oil is helpful.

There are also well-observed instances of the appearance of a discharge from the urethra upon the subsidence of an arthritic eruption upon the skin, and Desnos [1] alludes to the sudden appearance of a spontaneous urethral discharge during the course of the grip, believing it due to small prostatic abscesses bursting into the urethra. These diathetic agencies are then surely concomitant factors, if not essential causes, of primary urethral inflammation, and for the benefit of obstinate and protracted cases of relapsing chronic urethritis it is well for the surgeon to bear the fact in mind. From his knowledge the therapeutic deductions become obvious.

Herpetic and Eruptive Urethritis.—That an attack of ordinary vesicular herpes may occur within the urethra is well known although not common. I have seen a group or two of vesicles outside and a mild urethral discharge, with smarting on urination, coinciding with the attack and disappearing spontaneously with it. Alternating attacks, one outside the next inside, have also been observed. Eczematous subjects sometimes suffer from a mild discharge coincident with a new outcrop of cutaneous eruption upon or near the genitals, or with the sudden disappearance of the outside eruption. I have also distinctly noted an attack of gleet accompanying the development of a patch of tubercular syphilid upon the outside of the penis and disappearing under the use of mixed antisyphilitic medication by the mouth. Bassereau and Bumstead speak of cases of muco-purulent urethral flow coming on with the first appearance or with a relapse of secondary syphilitic eruptions, the cause of which was the development of syphilitic mucous patches upon the urethral mucous membrane. I have several times seen a patch of tubercular syphilid involve the urinary meatus and occasion a slight discharge. I have also seen relapsing gummatous ulceration of the urethra.

Syphilitic Urethritis.—*Syphilitic chancre* not infrequently involves one lip of the urinary meatus, more often perhaps the entire circumference, stiffening it, thickening the lips, and being more or less eroded and ulcerated down into the canal of the urethra. The

[1] Traité élémentaire des maladies des voies urinaires, 2de éd., 1898, Paris, p. 93.

discharge in these cases is very slight, but the sore lasts many weeks. Concomitant symptoms—inguinal adenopathy, finally an eruption—clinch the diagnosis. The urethral inflammation is only an epiphenomenon.

A mistake, however, may arise when the chancre is situated at some distance within the urethra. The discharge in such event is slight, the incubation period between sexual contact and commencing discharge has been usually long (unless, unhappily, there be double infection), the gleet is more or less streaked with blood. But care will detect the enemy, and usually a hard lump of varying size, most often about that of a pea, may be plainly felt from the outside through the skin, and the endoscope easily clears up the diagnosis by disclosing a gray or livid, bleeding, exulcerated erosion. I have seen two of these through the endoscopic tube, one at a distance of about 2 inches from the meatus. How the virus reached this spot without infecting the outside is not clear, but the fact remains.

Chancroid.—Chancroid, in my personal experience, rarely gets very far into the urethra. It does involve the meatus, and thence by extension works backward into the canal and may even perforate its floor, leaving ultimate fistula; but I have not known it to arise *de novo* within the urethra except by extension from the meatus, where it may be seen. That such ulceration is possible in the inside of the urethra, however, is attested by the recorded case of Duncan, who inoculated his own urethra by transporting into it some chancroidal pus, and was rewarded by getting urethral chancroid with double bubo.[1] Ricord has figured a case of deep urethral chancroid with chancroidal-looking ulcerations of the bladder; but tubercular ulceration has been suggested to explain this unusual case, and in my opinion such a presumption is well founded.

Tubercular Urethritis.—That tubercular ulceration occurs within the urethra *de novo*, or except in connection with the very common prostatic ulceration, I have no knowledge. It is possible, perhaps, but not probable. When cancer involves the deep urethra, the part played in the drama by the mild accompanying urethritis is too subordinate to be billed.

GONORRHEA

Gonorrheal Cellulitis and Lymphangitis

It may be as well here, before taking up the main urethral inflammation, gonorrhea, to dispose also of two of its modest complica-

[1] Cours des maladies syphilitiques. Petit Radel, 1812.

tions, since they are in no way directly implicated in the one grand feature—urethral discharge. I refer to lymphangitis and adenitis. Balanitis and posthitis also often complicate gonorrheal inflammation, but will be considered in their appropriate section (p. 658).

Cellulitis.—A mild cellulitis not very infrequently complicates acute gonorrheal anterior urethritis. When the inflammation runs high and the discharge of pus is profuse the foreskin will sometimes swell acutely, becoming hot, edematous, red, and tender, and this cutaneous inflammation may extend backward and involve the entire integument of the penis. Periurethral abscess, and even follicular abscess about the urethra, may be attended by a similar inflammatory quasi-erysipelatous condition of the skin. This is a superficial dermatitis and cellulitis. It is generally confined to the prepuce and causes only a little uneasiness with temporary phimosis; but sometimes, when the whole penis is involved, there are chilly sensations and considerable fever.

Treatment.—A little lead-and-opium wash upon lint or gauze inside of a wrap of gutta-percha tissue quickly reduces the milder cases. More severe attacks call for rest in bed with a continuance of the same wraps or the application of ichthyol. This treatment, aided by saline laxatives, gets the better of the attack. Cutaneous abscess is the rarest of sequences, but when threatened calls for prompt and very liberal incision. An indication for the knife is a porky, doughy, brawny condition of the integument like that felt in phlegmonous erysipelas. The inguinal glands become sympathetically engorged.

Lymphangitis.—With this inflammation, or independent of it, the lymphatic trunks may become implicated during suppurative urethral inflammation. Fournier[1] has made an exhaustive study of the various forms of lymphangitis accompanying gonorrhea. There is an indolent variety in which no pain is felt (except occasionally during erection), and no external sign attracts the patient's attention; but the examining finger detects indurated cords under the skin, the dorsal trunk being most marked. The feel of these cords is exactly similar to that of the same vessels in the lymphangitis of infecting chancre. If there be also perilymphangitis, red streaks are to be seen upon the sides or the back of the penis, and the corded lymphatics are hard and knotty. Several trunks may be matted together. Sometimes they are tender. The inguinal glands are often tense, the prepuce edematous.

[1] Nouv. dict. de méd. et de chir. prat., p. 185.

Treatment consists of wet dressings under oil silk or gutta-percha tissue, possibly aided by hot hip-baths and ichthyol locally, with laxatives. Occasionally abscesses form along the course of the hard cords. These should be opened early, as the pus is liable to burrow and may denude a considerable extent of the penis.

A hard edema of the prepuce may be left behind by these various forms of lymphangitis, especially marked in the neighborhood of the frenum and perhaps giving rise to phimosis or to partial paraphimosis. Lymphangitis may leave the lymphatic trunks in a varicose condition (Ricord), or lymphatic fistula may result, usually requiring excision for its cure.

The way is now open for approaching the most common of all genito-urinary disorders—gonorrhea, a malady scoffed at by the light-brained, hot-blooded younger members of the community, but deserving grave consideration from serious minds, since its ultimate results are far-reaching and potential. In its train are found ascending pyelitis, of which I have seen some desperately acute examples, fatal general infection, fatal peritonitis from seminal, vesicular, or periprostatic suppuration with extensive burrowing abscesses.

Add to this the ocular and articular complications, the far-reaching influence of the disease upon the uterus and its adnexa, the sterility to which it gives rise in both sexes, and the untold surgery it furnishes the gynecologist, and gonorrhea rises in dignity from its putrid source and becomes an object worthy of serious study for every conscientious surgeon and physician.

GONORRHEA

Of all the affections encountered by the genito-urinary surgeon specific urethral inflammation is the most common. Furthermore, it is the most venereal of all venereal diseases, since it is the commonest malady acquired during the copulative act.

A most respectable antiquity is given to gonorrhea by the fifteenth chapter of Leviticus, although it is contended that the discharge known to the Jewish law-giver was a simple urethritis, and that gonorrhea did not appear until later (according to Astruc[1] in the year 1545–'46).

All inflammations of the urethra are characterized by a discharge of pus or of muco-pus from the meatus, and the best guide for treatment is the grade of inflammation in a given case, an inflammation of a certain intensity often requiring the same treatment whether

[1] De morbis venereis. Paris, 1736.

it has sprung from a specific organism or from a chemical or a mechanical irritation.

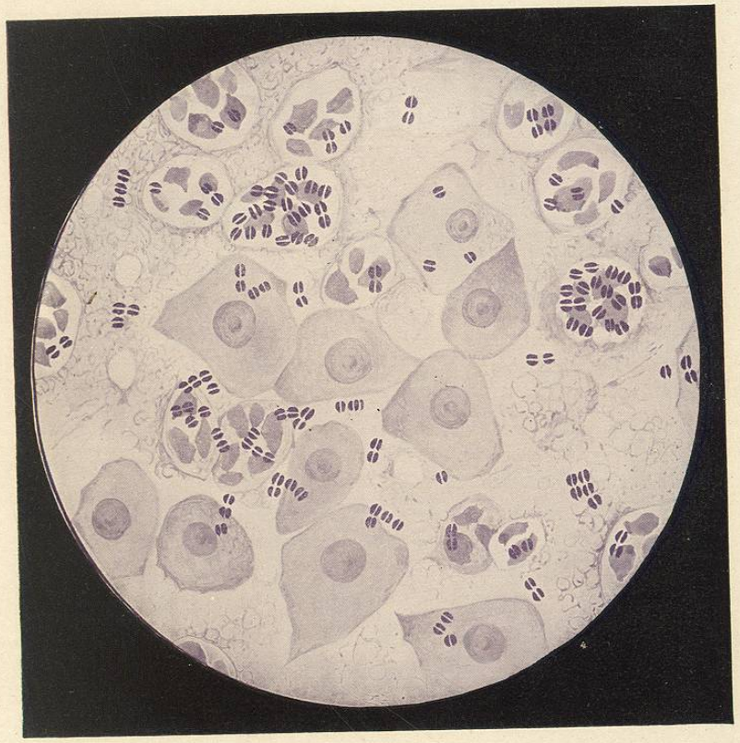
Modern science, however, has solved the question of specific *versus* simple urethritis by the discovery of the gonococcus of Neisser, a living germ that has established its claim to be considered the active, virulent cause of true specific gonorrhea.

The term gonorrhea is etymologically inaccurate, indicating, as it does, a flow of semen (γονος); but usage has secured to it a precise signification even among the laity (almost to the exclusion of the old Saxon term clap). Urethritis signifies simply inflammation of the urethra, consequently gonorrhea is urethritis. But the converse does not hold good, and although without the microscope it is impossible to pronounce with certainty upon the nature of many cases of urethral inflammation, yet it is essential to retain the two terms, calling that gonorrhea which is caused by the gonococcus and has been unmistakably derived from an individual of the other sex with a gonorrhea, and reserving the term urethritis for all inflammatory urethral discharges having other origins. This latter precaution is of the utmost importance to the student and young practitioner. It is better that a hundred guilty should escape than that one innocent person should be accused. Experience proves beyond a doubt that a high urethral inflammation attended by an abundant discharge and presenting absolutely no clinical features to differentiate it from a gonorrhea—unless the microscope solves the doubt—may be acquired by a healthy young lover from his equally healthy mistress, by a young husband from his wife, or may be produced by applying a chemical irritant to the urethra. These cases are of undoubted authenticity, and it becomes the surgeon's duty to hesitate long before asserting the infidelity of a man or a woman, and thus, perhaps, accusing the innocent and destroying the harmony of a family. It is proper to state that a healthy man may get a urethritis from a woman who has none (may give himself the gonorrhea, as Ricord puts it) far more easily than a woman can get a discharge from a healthy man, unless, of course, great mechanical violence be used, as in rape.

The Cause of Gonorrhea.—Gonorrhea may be acquired from any person having it by the mere contact of the discharge with the mucous membrane of the urethra.[1] It is not necessary that the surface should be abraded; mere contact is sufficient without any sexual act. The infectious agent is the gonococcus.

[1] Other mucous membranes are liable to become infected, but to a less degree, excepting the conjunctiva, which is even more sensitive than the urethra.

PLATE I



GONORRHEAL PUS.

First stain: Gentian violet solution. Microscopic enlargement, 2,000 diameters.