CHAPTER XX

NEURALGIA OF THE PROSTATIC URETHRA — CONTRACTURE OF THE NECK OF THE BLADDER — MALIGNANT DISEASE OF THE PROSTATE

The three disorders considered in this chapter—viz., neuralgia of the prostatic urethra, contracture of the neck of the bladder, and cancer of the prostate—have nothing in common from the scientific point of view, but they are bound in strong clinical kinship by the fact that all three are frequently encountered in connection with hypertrophy of the prostate, and a correct knowledge of their characteristics is essential chiefly for the purpose of distinguishing them from that disease.

NEURALGIA OF THE PROSTATIC URETHRA

This disorder rejoices in many titles. By the French it is termed *névralgie du col*; in this country it commonly passes as irritability (or weakness) of the bladder. I have selected the above title as best expressing the nature of the condition, which may be defined as a non-inflammatory hyperesthesia of the surface of the prostatic urethra.

There are two classes of cases, the one due to sexual excess and common in the young, the other a pure neurosis, frequently an expression of excess with tobacco, wine, or women, or of the nervous strain brought on by business cares or family feuds, and commonest in middle and later life. This latter class of cases may be associated with some hypertrophy of the prostate, and perhaps the congestion of that gland may prepare the soil as it were. I am more inclined to incriminate an overacid urine loaded with crystals; but whatever the predisposing cause, the striking feature of the disease is the manifest effect of the general nervous tone upon the prostatic sensibility. With every outbreak—and it is difficult to ward off recurrences—there is some new nervous cause—overwork, an unhappy speculation, a turbulent son—in short, some nervous strain or other.

On the other hand, the sexual cases are often part of a general sexual neuralgia due to excessive, irregular, or ungratified sexual desire. Here the picture of deep urethral irritability is obscured by frequent nocturnal emissions, paresthesia of the scrotum and testes, etc. The clean-cut cases are not of this type.

Symptoms.—The symptoms of a pure case are as follows: Frequent desire to urinate, the attack coming on sometimes suddenly, sometimes gradually, without appreciable cause, or perhaps commencing in an inflammatory condition of the parts (gonorrhea), but not subsiding with this. The desire to empty the bladder may or may not be attended by a slight burning pain in the act. The relief after urination is usually not perfect, and the desire soon returns. There is often a certain slowness in the act, the bladder contracting without force, and the stream being small, or, on the other hand, the bladder may contract spasmodically when the call comes, throwing out the urine with great force. Again, there may be spasmodic contraction of the cut-off muscle, causing inability to urinate, or hesitation in the act.

There are some prominent peculiarities about these calls to urinate. They rarely disturb the patient at night. Once asleep, he rests quietly, but, if restless and wakeful, from anxiety or other causes, he is obliged to empty his bladder frequently, by night as well as by day. When under the stimulation of liquor, the urine can sometimes be held for a number of hours. When pleasantly occupied, or deeply interested in anything, as at the theatre, in agreeable company, or engaged at some earnest work, the bladder is often but little if at all troublesome. On rainy, damp, or cold days, the calls to urinate are more frequent, perhaps once an hour. The same occurs during idleness, and especially during mental worry or disquietude. The spirits are usually depressed, the patient anxious, perhaps hypochondriacal. The urine is usually clear, unless it contains an excess of amorphous phosphates. This deposit sometimes alternates from week to week with a deposit of urates. Sometimes both ingredients exist in excess. Crystals of oxalate of lime are not uncommonly present. There is no soreness over the pubes, though pressure there will sometimes call forth a desire to urinate. In the rectum there is often a slight sensation of heat and uneasiness. There is frequently a dull, dragging, uncomfortable feeling in the perineum, but pressure there is not painful. Spasmodic stricture of the urethra may come on as an accompaniment of this condition, while great irritability of the cut-off muscle exists as a rule.

Diagnosis.—When a patient comes complaining of frequent urination of the type just described, and his urine contains no pus, the

diagnosis is clear; he has an irritable deep urethra. The introduction of a moderately large (22 French) blunt steel sound confirms the diagnosis. The whole canal is found sensitive and irritable.

At the membranous urethra, the cut-off muscles contract spasmodically, often sufficiently to bar the progress of the sound entirely, and give the idea of organic stricture. As the instrument advances, the cut-off muscle may be felt to quiver in slight partial contractions, while the patient complains greatly of pain. When the beak of the sound enters the prostatic sinus, the patient is very apt to feel faint. He may indeed go into syncope, or have an attack of nausea; or perhaps a sexual orgasm may be induced, in which case the prostate and the cut-off muscle contract violently upon the sound, causing the patient considerable pain. As the sound passes the neck of the bladder, either the natural feeling of a desire to urinate will not be perceived or (usually) the sensation will be highly exaggerated and painful. Sometimes spasm of the bladder will be induced, and the instrument will be forced out, or a jet of urine may gush out along the urethra outside of the instrument. On withdrawing the sound, a little blood may be found upon the beak, but, as a rule, the patient feels relieved, and will often experience for hours thereafter an ease and local comfort such as he has been a stranger to for months, perhaps for years, his interval of urination being decidedly lengthened, although the smarting at the next urinary act will be greater than before.

Treatment.—While tonics, climate, sexual hygiene, etc., may play a part in the cure, no remedy can be depended upon that does not blunt the urethral sensibility, and for this purpose nothing is so potent as the very gentle introduction of a steel sound or a few astringent deep urethral instillations. The sound need not be large enough to put the canal on the stretch; the instillations need not be strong enough to produce anything more than a passing discomfort. I do not commonly carry the sound higher than 26 French; the instillations I begin at 3% or 6% thallin sulphate; run this to 12%; then turn to nitrate of silver, 1:1,500, carry this to 1:500, and by that time the patient is cured. Sometimes sounds, sometimes instillations are best used alone, sometimes it seems more profitable to follow each passage of a sound with an instillation. The time for reintroduction will depend upon the duration of the effect of a single use of the instrument. If there is prostatitis or cystitis, the instrument will aggravate the local conditions; if neuralgia, its gentle use will always be followed by comfort, and the relief will last a variable time. In old subjects it is sometimes necessary at first to reintroduce the instrument every day; in younger people every second, third, or fourth day, until a cure is effected. The patient must be warned that relapses are likely to occur; but he may be assured that if he comes immediately for treatment a few local applications will suffice to set him right again.

CONTRACTURE OF THE NECK OF THE BLADDER

I know no common malady of the urinary organs more elusive than contracture of the neck of the bladder. I am confident that it may exist without causing any symptoms whatever. In young men it keeps up a severe posterior urethritis. In older men it simulates, and is commonly mistaken for, hypertrophy of the prostate. It is curious that this disorder, so much discussed by Mercier, Civiale, and the men of their time under the names *valvule du col*, *contracture du col*, should in our days be entirely overlooked, or classed as a variety of prostatic hypertrophy instead of receiving the clinical recognition to which it is entitled.

Contracture of the neck of the bladder is a rigid, fibrous, contracted condition of the ring of muscle constituting the vesical neck. The orifice is often so small and the contractured tissue so dense that the tip of the little finger cannot be forced through it, but the occlusion is never complete.

Varieties.—The line must be sharply drawn between tubercular (p. 404) and simple contracture of the neck of the bladder. The former possesses all the features of vesical tuberculosis, and is, clinically, quite distinct from simple contracture, although, pathologically, they resemble each other closely. At present we are concerned only with simple contracture.

Etiology.—Contracture of the neck of the bladder occurs in young and old alike, but it is not met with before puberty. The chief and almost the only cause of the disease (tuberculosis excepted) is chronic posterior urethritis. In some cases it is perhaps caused by stone in the bladder. It is so common in later life that it might almost be ranked with the arcus senilis and the fibrotic arteries as one of the evidences of the crystallization of age; but, in the great majority of cases at least, protracted inflammation of the posterior urethra is its sole cause, and many cases can be traced directly to a persistent chronic gonorrhea.

Morbid Anatomy.—The essential morbid change seems to occur in the band of muscle surrounding the neck of the bladder, the internal vesical sphincter. The fibres of this muscle, or at least those nearest the surface, lose their resiliency and become fibrous and inelastic, so that they no longer dilate or contract, except very slight-

ly. The superimposed mucous membrane is commonly, if not always, in a state of chronic inflammation. As a result of the contracted condition of this muscle the bladder ultimately becomes pouched behind it, forms a *bas fond*, and contains residual urine, quite as though the obstruction were prostatic.

Symptoms.—Contracture of the neck of the bladder has no one clinical type by which it may be constantly identified. While it doubtless often passes unrecognised, and may in its milder forms be quite curable, I have only been able to identify it clinically under one of three forms. In each case it is a stubborn and unmanageable condition.

1. *Posterior Urethritis.*—Contracture of the neck of the bladder commonly occurs, as we have seen, as the result of a protracted chronic urethritis. Indeed, the contracture itself often enough seems to prevent the cure of the posterior urethritis. The onset cannot be clearly defined, but, clinically, the diagnosis of contracture of the neck of the bladder is clearly established by a combination of certain symptoms—viz., a protracted posterior urethritis that does not respond to any local or general treatment, imperative urination, and some pain during and after urination, a pain which is the more notable since there is no acute inflammation to account for it. Imperative urination is a most distressing symptom. When the patient feels the call to urinate he must respond at once under penalty of losing a few drops of his urine, enough to saturate the tail of his shirt. There may be other symptoms, partial retention of urine, cystitis, even pyelitis, or neuralgic phenomena; but, in this class of cases, the three characteristic phenomena are (1) chronic, unconquerable, posterior urethritis, (2) imperative urination, (3) dysuria. The history of such a case is simply that of a chronic urethritis that will not get well, plus imperative and painful urination.

2. *Stone in the Bladder.*—A contracted neck of the bladder is often met with in long-standing cases of vesical calculus.[1] Whether the contracture is due to the stone or the stone is secondary to the contracture, I do not know. Suffice it to say that the condition is similar to the third variety (see below), plus stone. The contracture may be quite unsuspected until, after the stone has been crushed, the case takes on the aspect of the first or the third variety of the disease, or in the course of a lithotomy a rigid vesical neck may be encountered. Occasionally, the diagnosis is made during a litholapaxy by the obstruction to the admission of instruments. This

[1] Exceptionally a contracture gives the symptoms to stone, although the urine is clear and no stone present.

obstruction is usually met with in the shape of a bar at the neck of the bladder (when, as a matter of fact, no prostatic hypertrophy exists) over which the instruments jump. Very rarely a large-sized litholapaxy tube may be caught in the grip of the contractured muscle. On forcing the instrument a trifle it is then felt to tear through the obstruction.

3. *Bar at the Neck of the Bladder.*—This variety of contracture covers a multitude of misinterpreted cases. Those cases of atrophied prostate with the retention and other symptoms of hypertrophy; cases of "prostatic hypertrophy" occurring abnormally early in life; cases in which the retention and other symptoms are out of all proportion to the hypertrophy of the prostate; cases of "hypertrophied prostate" in which the introduction of the Bottini instrument serves to show that the prostate is not really enlarged—a discovery which is usually explained on the score of congestion—these obscure forms of retention, wrongly ascribed to hypertrophy of the prostate, are, in reality, due to contracture of the neck of the bladder. It is needless to add that the contracture may occur when there is hypertrophy of the prostate as well as when there is none. It is not always possible to identify it, yet there are some cases clearly due to contracture and not to hypertrophy of the prostate. These are:

1. All cases in which the prostate feels normal or atrophied to rectal touch and the urinary distance does not exceed 20 cm., while there is retention of urine.

2. Most cases in which there is moderate peripheral enlargement of the prostate, a urinary distance not exceeding 20 cm., with a residuum of 100 c. c. or more.

In both these classes of cases the peripheral enlargement of the prostate is quite inadequate to account for the residuum, the shortness of the urethra precludes the possibility of a middle lobe or bar, and the only remaining factor to which the residuum can be attributed is a contracture of the neck of the bladder, and perineal section will prove this the *corpus delicti.* The course of the disease here is that of hypertrophy of the prostate.

Diagnosis.—After what has been said there is little to be added on the score of diagnosis. When a chronic urethritis, whether gonorrheal or not, drags on indefinitely and is rebellious to treatment, contracture may be diagnosed if dysuria and imperative urination are present without any acute inflammation, and if there is residual urine without hypertrophy of the prostate, that clinches the diagnosis. In the second place, when there are all the symptoms and signs of prostatic hypertrophy, and yet the prostate is not hypertrophied suffi-

ciently to account for the symptoms, the existence of contracture of the neck of the bladder may be affirmed.

Prognosis.—The outlook in these cases is not good. When there is retention of urine recovery may not be expected spontaneously nor from topical applications. When there is no retention the cases are often equally intractable, although, occasionally, one is cured by the treatment of the posterior urethritis, whether by curing the surface inflammation or by causing the resorption of the deeper inflammatory tissue, I cannot say.

Treatment.—The indications for treatment are perfectly clean-cut. If the case affects the chronic urethritis type, it should be treated locally, until the patient's endurance gives out, in the hope that it may perhaps be cured thus. But if these means fail, or if the disease is of the prostatic type, it should be submitted to the knife. The only exception to this rule occurs in the stone cases. If these are submitted to litholapaxy, the bruising of the neck of the bladder by the large tubes, though this will cause a pretty active post-operative reaction lasting some weeks, may so tear the contracted bladder neck that a cure will result in the long run; yet such an uncertain and brutal treatment could not be advocated.

Operative Treatment.—Although I have kept no records of operations for contracture of the neck of the bladder, I have found in my case books 15 operations for contracture without a death. Among 8 other operative cases in which the contracture complicated a tight stricture there were 2 deaths. Although I have operated for contracture much more frequently than these figures show, I have never had a post-operative death. Among urethrotomies for stricture the mortality is entirely attributable to the stricture, and does not concern the contracted neck of the bladder.

My method of operating has always been to perform perineal cystotomy (p. 457) and to tear through the neck of the bladder with the finger, or, if this proved inefficient or impossible, to cut down the rigid neck obliquely to one side, just deep enough to allow the finger free access to the bladder. I prefer a lateral to a median cut, believing it less likely than the median incision to cause incontinence or to divide both ejaculatory ducts. To make the cut I now use the Chetwood galvano-cautery instead of a blunt-pointed straight bistoury, for the knife sometimes causes alarming bleeding, the cautery practically none. The great danger after this operation is incontinence of urine. If every fibre of the muscle at the bladder neck is divided incontinence may be complete and permanent, and I have known this unfortunate result to occur in two cases. Yet it is necessary to divide the contracture sufficiently to overcome the symptoms,

notably the retention. A solution of this difficulty will, I believe, be found in Chetwood's operation. The cautery must be applied very moderately. A single incision 1½ cm. long is ample to divide the tighter fibres and to relieve the residuum.

The after-treatment of this operation depends upon whether the knife or the cautery has been employed. If the former, a perineal tube must be inserted and retained for at least a week, preferably two weeks, in order to force the wound to heal by granulation. The use of the cautery obviates this necessity, however, and after employing it I believe the tube need only be left in place for four days. The bladder must be washed daily for a few weeks.

The complications of the operation are hemorrhage and incontinence of urine. After cutting down the neck of the bladder there is often incessant bleeding for two or three days. I have not known this hemorrhage to be fatal, but it is often alarming. After burning operations it does not occur, and this constitutes one of the notable advantages of burning over cutting. On the other hand, incontinence may occur after either operation. Even after the most skilful manipulation it is not uncommon for the patient to dribble a little for several months after the operation; but permanent incontinence may be avoided by conservative cutting. It is true that if the patient is cut too sparingly the operation may have to be repeated; but this is far preferable to an incontinence which neither time nor art will cure.

MALIGNANT DISEASE OF THE PROSTATE

Malignant disease of the prostate is almost always primary. Extension of a vesical cancer to the prostate is extremely rare, while extension of a prostatic growth to the bladder is very common. Sarcoma occurs in youth, carcinoma in old age. Either form is rare, although such statistics as Tauchon's, which show among 8,289 cases of cancer only 5 cases affecting the prostate, certainly underestimate the frequency of the disease. Engelbach in 1888 collected 96 reported cases of malignant disease of the prostate. Nine occurred before the tenth year. There were only 18 between the tenth and the fiftieth year; while between the fiftieth and the eightieth were 69 cases. Ten carcinomata occur for every one sarcoma.

Morbid Anatomy.—*Sarcoma* may be round or spindle-celled; rarely it is an adenosarcoma, lymphosarcoma, or myxosarcoma.

Carcinoma is usually medullary or adenocarcinoma. The connection between carcinoma and prostatic hypertrophy has long been disputed. Certain it is that the hypertrophied prostate very rarely takes on malignant change, and equally certain is it that carcinoma