CLINICAL LECTURE

ON A

NEW METHOD OF TREATING RETENTION OF URINE AND IMPASSABLE STRICTURE.

BY FURNEAUX JORDAN, F.R.C.S.,

Surgeon to the Queen's Hospital, and Professor of Surgery at the Queen's College, Birmingham.

GENTLEMEN,—For many years I have been considering the possibility and the propriety, in cases of retention of urine and impassable stricture, of getting behind the stricture and passing instruments forwards—the way the urine runs. With care, skill, perseverance, and time, the cases of stricture in which an instrument cannot be passed are very few. Now and then, however, operative interference is needed, and usually either vesical puncture or perineal section is resorted to. The operation which I am about to describe I believe to be superior to either of these. I will briefly recite a case in which I have just performed it.

But, first, a few words on retention of urine and on impassable stricture. Some one has well said that there have never been two cases of strangulated hernia precisely alike. In every case of retention of urine, and in every case of stricture of the urethra, there is some distinctive peculiarity. In retention, one bladder will rise above the umbilicus, another will not rise above the pubes, and the symptoms in the latter case may be even more urgent than in the first. In one case, not a drop of urine escapes, and the bladder goes on constantly expanding until relief is given or extravasation occurs; in another case, there is slight dribbling, and consequently excessive distension of the bladder is more

free dribbling, failure may attend the most skilful efforts of the ablest hands, with the best selection of instruments.

A man past middle age came into the Queen's Hospital with a distended bladder and some dribbling. Careful and repeated efforts to pass instruments failed. I then carried the left forefinger and a curved sharp-pointed bistoury into the rectum. I thrust the point of the bistoury forwards through the anterior median line of the rectum, an inch and a quarter from the anus, into the membranous part of the urethra, and drew it forwards for a short distance through the incision. I readily introduced my finger into the urethra, and could bring it to the stricture in front or carry it backwards into the bladder. Directing the tip of the finger to the stricture, I conducted a probe-pointed French bougie (six, English scale) along its concavity. It passed forwards through the stricture with unexpected ease and emerged from the end of the penis. (Fig. 3.) One end of the instrument was now at the urinary meatus, the other at the anus. The ivory open end was cut off smoothly, drawn into the urethra, and carried by the finger backwards into the bladder. The urine flowed freely, at first through the incision and then through the catheter. The catheter was retained twenty-four hours. A few feet of small India-rubber tubing conducted the urine to a convenient vessel. At the expiration of twenty-four hours the catheter was withdrawn, and a No. 8 was passed without difficulty through the meatus. In a day or two a No. 12 bougie could be passed with ease. He was now allowed, for a few days, to pass urine by natural efforts. With each act of micturition, a little urine entered the rectum. The next step was to close the rectal fistula. The urine was drawn several times during the twenty-four hours, especially before each act of defecation. The wound, thus kept from contact with the urine, closed completely in eight days. The man himself discovered his good fortune by passing urine, against orders, on the eighth day. He entered the hospital haggard, wasted, feeble, and at death's door. He is now in good health.

Here, gentlemen, are diagrams to explain the operation. In old, tight, impassable stricture with retention, more or less, it is a simple method of relieving the retention and of curing the stricture. (Fig. 1.)

When I first entertained the idea of treating stricture from its bladder side, the question arose whether I should pass an instrument from the bladder, incising it close to the prostate for the purpose, or from some part of the urethra behind the stricture. My first impression was, that it would be practicable to make a limited incision into the bladder through the rectum at the spot usually selected for puncture with the trocar. In the dead body, without stricture, everything occurred as I expected it would. It was quite easy to make a limited vertical incision close to the base of the prostate; the tip of the finger, introduced through the incision, immediately came into contact with the vesical orifice of the urethra. Along the concavity of the finger, a French bougie passed readily forwards through the urethra, and made its escape at the external meatus. But on the living man, with an old stricture and a largely dilated membranous urethra, everything was different. I found in the case above cited, that the prostate gland was carried a considerable distance backwards and upwards into the pelvis. I did not remember to have seen any reference to such a condition in surgical writings; but a moment's consideration told me that such an altered position of the prostate must necessarily be present not only in the case under treatment, but in every case of dilated membranous urethra. The explanation is close at hand. In front of the membranous urethra is the triangular ligament. It is clear that this, with its strength, tension, and attachment to the pubic arch, and the penis in front of it, cannot be driven forwards to any appreciable degree. The dilatation of the urethra occurs in all directions—longitudinally as well as laterally, longitudinally possibly even more than laterally. It follows that the older and more neglected the stricture, and the more dilated the membranous urethra, the further backwards must the prostate be thrust.

The bearing of this altered position of the prostate gland on the ordinary operation of puncturing the bladder by a rectal trocar is very important. The prostate is driven nearer, perhaps close, to the peritoneal cul-de-sac. Puncture of the bladder under such circumstances is likely

Fig. 1.

slowly effected; in another, free dribbling sets in early, and the urine runs out of the bladder as fast as it runs in. In one case of rapid distension of the bladder, without any escape of urine and extreme urgency of symptoms, a comparatively large instrument may be passed into the bladder by, perhaps, an inexperienced hand; in another case, of possibly

to endanger the peritoneum with a too certainly fatal result. It once happened to me to be made acquainted with three cases of puncture of the bladder by the rectum which were successively fatal; this, too, in competent hands.

Bearing in mind, then, the dilated membranous urethra, the deeper and more dangerous position of the prostate gland, and repeated experiments on the subject, I am led to prefer, as a rule, opening the urethra in front of the apex of the prostate gland. The ordinary puncture by the rectum merely relieves the retention. It is near, sometimes unavoidably through, the peritoneum. It is not unfrequently fatal. Perineal section of any kind is mostly, in the opinion of all experienced surgeons, a difficult, deep, and often unsuccessful, dissection. The operation I have just performed is a simple incision through only a thin wall of tissue, free from important vessels or erectile tissue.

Fig. 2.

There is one error in the diagrams which I have brought before your notice. The dotted line represents the bulb of the urethra as being much smaller than it really is. The same error is present in the anatomical diagrams of books. Take a vigorous male adult not long dead, and make a vertical section of the pelvic organs exactly in the middle line: you will be astonished to find how nearly the bulb approaches the rectum, and how comparatively inaccessible is the membranous urethra from the perineum. I do not say there is any great danger in wounding the bulb; I am sure it is often wounded in lithotomy and in the various perineal sections. Nevertheless, any operation which distinctly avoids the bulb has so far an advantage over other operations which aim at a similar object.

There is one point in urethral surgery on which I differ from currently accepted surgical doctrines. I believe that actual obliteration of the urethra at the seat of stricture is not only not impossible, but is not so unfrequent (it certainly is not common) as is usually supposed. I base these remarks on careful dissections, and on the phenomena of inflammation of mucous membranes. Stricture-tissue is itself a cell (or tissue element) growth; in other words, it is a mass of granulation-substance, on its way to connective tissue, more or less dense. If the epithelial covering of this tissue be removed, either by the progress of inflammation or by the abrasion of instruments, from the whole circumference of the stricture, the granulations will certainly coalesce in the centre. You have then a mass of granulation-substance with urethra behind it and urethra in front of it. It is quite true that a network of fine canals

traverses this substance, the result of the use of instruments and of the flow of urine. In perineal section—especially that variety, probably the best, called the “Leeds operation”—we often see several small openings along which we pass the grooved probe, with the hope that one or the other will prove to be the urethra. The succession of hopes is frequently blighted, because at that spot there is no urethra. With the finger in the urethra, however, behind the stricture we are more likely to be successful in following the course of the urine from behind forwards than we are in following instruments less ingeniously driven from before backwards. We have another advantage; we can place a finger in contact with the back of a stricture, and with the other hand (or other hands) an instrument may be carried to the front of the stricture. We thus obtain a knowledge of, and a control over, a stricture either from before backwards or from behind forwards, which no other means could give us.

It is beyond all doubt that an instrument must pass more easily the way the urine flows, as it is beyond doubt which way water can be most readily passed through a funnel. Every fold, ridge, ruga, orifice, or lacuna inclines towards the meatus. A hundred thousand acts of micturition have driven these all one way. The stricture itself is a funnel, the smaller end of which is directed outwards. False passages are often present in old and difficult cases; they lie anteriorly to the stricture. Should the surgeon prefer to pass an instrument from the meatus, the finger placed on the bladder side of the stricture enables him to guide it with an accuracy otherwise unattainable.

As regards the ease and certainty with which the membranous urethra can be opened from the rectum, let me observe that I have never failed to open even the flaccid and collapsed tube in the subject; in old and impassable stricture, the membranous part of the urethra is, as a rule, dilated. In the cited case, I passed the bistoury on the finger. The rectal speculum may be used instead of the finger. (Fig. 2.)

The membranous part of the urethra is much nearer the rectum than it is represented in the anatomical diagrams. An instrument in the membranous part of the urethra is readily detected by the finger when carried fairly within the sphincters. We recently had a lad with urethro-rectal fistula: he had been cut for stone by a most able and careful surgeon in one of the largest of our midland hospitals. The rectum had been unfortunately wounded. He was taken into hospital under my care. The one great difficulty in the treatment arose from the circumstance that, surrounding the margins of the opening—in fact, everywhere

between the membranous urethra and the rectum—there was only a thin film of tissue. In men, the urinary apparatus is even deeper in the pelvis than in children.

After opening the urethra, the treatment which I adopted was “continuous dilatation”; this will probably prove the most generally useful. The same incision may, however, prelude the treatment of the stricture by rupture, excessive dilatation, internal incision, or escharotics by instruments carried through either the rectum or the urinary meatus.

A word on the “continuous dilatation” treatment. With the French flexible instruments, this treatment is admirably efficient and quick. It has this great advantage—in old stricture with probable renal disease, it gives rise to less shock than any other kinds of rapid treatment, valuable as many of them are. The illustrious Liston had a contempt for flexible instruments. I hope you will agree with me in the opinion that the Flood, as I have said elsewhere, did not come after him, and that Providence has been kind enough to permit surgery to make advances since his death.

It may happen that instruments will be purposely devised to act on stricture through the rectum. It is certainly desirable, if it be practicable, to have at hand French catheters and bougies made alike—that is, probe-pointed at both ends, so that the end which is drawn into the membranous urethra may be readily pushed backwards into the bladder.

I do not think there is any danger of a rectal fistula. A clean incision without loss of substance would probably heal in time, even if

left alone, if the stricture be well dilated, as the lithotomy wound heals. It would not be difficult to close the wound with sutures at the time of the incision, or by a later operation. Perhaps the simplest and best

accompanied by disease of the kidneys. If this disease be advanced, the performance of any operation whatever on the urinary organs is attended with risk to the patient.

Fig. 3.

method of closing the fistula is the frequent use of the catheter—a method which is very certain to succeed. If an exceptional difficulty in closing the opening occurred to me, I would draw off every drop of urine, divide the anal sphincter on one side, and keep the bowels quiet.

Another advantage in the operation which I have brought before you is worth alluding to. The curved-pointed bistoury in your pocket-case, or even a common penknife, might enable you to save a man from extravasation of urine, or even death, if you had no other instrument at hand.

But suppose, when you have carried your finger into the membranous urethra, you are unable to pass an instrument forwards through the stricture. Should this occur, which is unlikely, I should introduce a catheter through the rectum, the wound, and the prostatic urethra, into the bladder, and retain it there for a time. If it slip out, you can easily introduce it again. Puncture of the rectum sometimes requires to be repeated frequently. After a little rest, the instrument would probably pass forwards through the stricture. With a funnel-orifice and probably false passages in front, an instrument will always pass more readily forwards than backwards.

When I say that a finger can readily be introduced into the urethra, I am not speaking of very large fat fingers; but probably even with these there would be no great difficulty. Bear in mind, the living urethra is much more dilatable than the dead.

Bear in mind, too, as we are again speaking of anatomy, of the diversity presented by the shapes, sizes, relations, and curves of all our internal organs. In the pelvis, as elsewhere, every anatomical peculiarity is as individual and varied as are our noses or chins. Do not, therefore, underrate the value of anatomical knowledge. Anatomy itself—not ignorance of anatomy—teaches anatomical diversity.

The operation which I have just described I believe to be simpler, safer, and more efficient than the alternative operations commonly adopted for the treatment of stricture of the urethra. We must not forget, however, that old and neglected stricture is usually

CONGENITAL ABSENCE OF UTERUS AND VAGINA.

By J. W. F. SMITH, M.D., Physician to the Royal Infirmary, Aberdeen, and Lecturer on Clinical Medicine.

IN the summer of 1867, a girl attended the Royal Infirmary as an out-patient, complaining of periodic pains in her back, with headache. She was 21 years of age, healthy, and seemingly well developed in every respect; but she stated that she never menstruated. She had the usual routine of medicines given internally in amenorrhœa, and galvanism was also applied to the sacrum and pubes. After this treatment had been persevered with steadily for two months, I proposed to her mother that a vaginal examination should be made. This was agreed to, and, on examining her in the usual way, I found that my finger just penetrated about an inch within the labia, and that further progress was arrested in every direction. On inspecting the parts, I found hair on the pubes; the labia, both majora and minora, well formed and normal; but the vagina ended in a cul-de-sac, rather deeper at the posterior than the anterior wall. In a few days I had a consultation on her case with the other members of the staff, the patient being placed under chloroform to allow the freest examination. When pressure was made over the pubic region, with one finger in the rectum, no tumour or swelling could be detected; and when a catheter was introduced into the bladder, nothing could be felt between the catheter and the finger in the rectum beyond a thin septum. From this we were satisfied that the uterus was absent. I was inclined to think, from the periodic pains and other symptoms, that the ovaries were present, although probably in rather a rudimentary condition. The mammae were large and fatty.

This was a peculiarly hard case, as the girl was engaged to be married, and I considered it my duty to dissuade her against taking such a step. She followed my advice, and when I saw her last, which is about two years ago, she had become very stout, and still complained of periodic pains in her back, with intense headache.