CLINICAL LECTURE

ON A

METHOD OF PERFORMING LITHOTOMY.

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

Professor of Surgery in Queen's College, Birmingham; Surgeon to the Queen's Hospital; Consulting Surgeon to the Women's and the West Bromwich Hospitals.

ALTHOUGH the contrivance of the lateral method of cutting for stone was a great step in advance, it cannot be said that there is no room for further improvement. Every detail is a matter of controversy, and some of the details are attended with difficulty. One author has taken the trouble to count the difficulties, and makes them out to be nineteen in number. I must refer you to the text-books for their fuller consideration, and here merely remind you that the mode of holding the knife, the position of the blade in the staff, where the incision should begin and where it should end, and how large it should be, are debated questions. There are dangers to the rectum, to the peritoneum, to vessels, to the genital apparatus. There are difficulties in getting into the bladder, difficulties in getting the stone out of the bladder, and difficulties arising from making a false bladder.

A case of lithotomy probably unique in its character came under my notice several years ago, which, after much reflection, suggested the operation which you have seen me adopt in recent cases of stone in the bladder. A gentleman resolved—perhaps not very wisely—to commence a career of operative surgery at middle life. One of his first operations was a lithotomy in a little boy. I held the staff for him. He opened the membranous urethra properly enough; but, on making the deep incision, his knife passed (as was subsequently found) by the side of the staff, instead of along the groove, through the roof of the urethra into the space in front of the bladder. On putting his finger into the wound, another error was made: feeling the stone indirectly through the anterior wall of the bladder, he believed his finger to be in direct contact with it, and directed the staff to be taken out. The forceps, carried into the artificial bladder, of course failed to seize a stone. After much vain effort, he asked me to examine the parts. I found the condition I have described, and immediately inferred the steps which had led to it. I need scarcely tell you that I advised that the lad should be put to bed, and the operation repeated at some later time. But my friend urgently desired, for special reasons, that the stone should be removed there and then. I found that (using the left hand), by putting my finger into the rectum and my thumb deeply into the wound, I could seize the stone with the bladder around it; my thumb was outside the bladder at the front, and my finger was outside the bladder at the back. Instantly realising the fact that no important vessel or nerve, no peritoneum or rectum, was near, I decided to incise the front of the bladder. I passed a sharp-pointed curved bistoury by the side of my thumb, and carefully cut through the bladder-wall; the point of the instrument quickly coming on to the rough stone. The finger in the rectum pushed the stone through the opening; but a forceps was needed to bring it from the front of the bladder through the perineal wound. The boy's recovery was rapid and unbroken. I have been asked why I have not made known this remarkable case before. My friend was sensitive to criticism. A few months ago, he died. His friends, who were also mine, who were present at the operation, will not now accuse me of impatience or unfairness.

This case has frequently led me to review the principles on which we base our operations on the bladder, and this conclusion has been forced upon me: the front of the bladder is its safest aspect; it is the aspect most sedulously avoided. We prefer to open the apex, which touches the peritoneum; or the base, which touches the rectum. Let us imagine what may seem at first sight a singular group of circumstances. A surgeon is about to cut for stone for the first time in the history of surgery. The patient is a man whose external genital organs and the triangular ligament itself have been swept away—say by an accident. The finger in the membranous and prostate urethra can draw the neck of the bladder well down towards the sacrum. The stone is large; in order that it may be removed, the bladder must be cut somewhere. The smallest, simplest, and safest incision will be one that enlarges the natural orifice in one direction or another. Now, is it conceivable that a surgeon unfettered by habit and tradition would think of cutting in any downward direction—of cutting towards the rectum or the delicate genital apparatus, and in a direction where safe space is most limited?

But such a man, devoid of external genitals and of triangular ligament, is practically before us every time we operate for lithotomy through the perineum. Such a man is *not* like a woman, in whom it may be objected that the upward incision is not generally accepted as the best. Quite otherwise. The urethra and prostate gland are deeper in the pelvis, are close upon the rectum, and, above all, are not held up firmly to the pubic arch by the triangular ligament.

The proposal, then, which I make is this: the membranous urethra being opened behind the triangular ligament, the deep incision—the incision in the prostate gland and the neck of the bladder—shall be made upwards and to an extent suited to the size of the stone. The extent, I believe, need rarely reach the capsule of the prostate. Where the firm fibrous submucous tissue is divided, and the substance of the prostate scored, the dilatibility of the parts is singularly great.

Touching the details: the first incision may be made as in the median or in the lateral method. The latter seems to me to give easier access to the apex of the prostate. I put a little angle in the outer wound, so that the concavity is towards the rectum, and all parts of it are more equally distant from the rectum. The membranous urethra should be freely opened. The well-oiled finger should then be gently carried along the staff through the uncut prostatic urethra, and brought into contact with the stone. The staff having been taken out, the finger firmly depresses the neck of the bladder downwards and backwards, while a straight blunt-ended bistoury is passed flatwise along its dorsum until the bladder is reached. The instrument, having its edge turned upwards, is carried by a quick movement a short distance into the bladder, and, with the edge still upwards, withdrawn in contact with the dorsum of the depressed finger. This proceeding gives a fairly uniform diameter to the wound. As a rule, pressure of the knife upwards is not needed; the urethra, being stretched on the finger, is incised to a sufficient degree by a single sawing movement. If the stone be known to be very

large, free incision upwards is easily made, and in a direction which readily allows a large stone to be removed. The forceps is next slid along the surface of the still retained and still depressed finger, and the operation is concluded in the usual way, save that all manipulation by finger or instrument is directed downwards to the floor of the neck of the bladder and to the prostatic urethra. The staff in this operation should not be large (especially if the operator's finger be large). A staff large in the membranous urethra, and prolonged probe-like into the bladder, might be partially withdrawn while the finger was insinuated into the bladder; or a probe might be run into the bladder, as in the median operation, prior to the withdrawal of the staff.

A very simple expedient may be adopted where the urethra is small, which is especially useful in children. It is an expedient which some surgeons may prefer in all cases. A concealed bistoury, larger and stronger than the one used for dividing strictures at the meatus, may be easily carried into the bladder, after the membranous urethra is freely opened, along the staff (or even without the staff) in the urethra. A nervous operator may touch the stone with the instrument; the blade is then directed upwards and projected to a measured extent, and the in-

strument is withdrawn with the sheath pressing back towards the rectum. It seems to me that no lithotomy could be more simply contrived or formulated than this: open the membranous urethra on a grooved staff; put a strong simple concealed bistoury into the bladder; project the blade upwards and draw out the bistoury; put the finger into the bladder, feel the stone, and extract as usual. Much may be done with this bistoury. It may be used as a sound; it may incise the prostatic urethra

to any desired extent. After the incision (or before, if the urethra be large enough), the sheathed bistoury flatwise is an excellent guide for the finger to the bladder. All these advantages I experienced in the case of this little boy—my fourth case.

Whether the straight bistoury on the finger, or the concealed bistoury, be used, the instrument should be so held that the upward incision is confined to the prostatic urethra. The floor of the membranous urethra is already divided; its roof need not be cut.

I have found less than usual hæmorrhage by this method; but, if it be at all free, say in adults, the application of a long sponge-tent for an hour or two effectually checks it. The tent may be withdrawn at will, without removing the tube.

I have been asked if there is no danger of urinary infiltration. Urinary infiltration is not a feature of the suprapubic operation, in which there is no downward drain, as there is here. I have had five suprapubic operations: three in little girls, one in a boy with traumatic stricture; all these recovered. One, a man with fatty viscera and with a stone that could not be removed through the perinæum, died. In no case was there urinary infiltration. Here, in fact, the urine drains away from and under the deep cut, not over and into it, as in the lateral method. The upward incision in women, whatever other drawbacks it may have, is not attended with urinary infiltration.

The advantages of the operation seem to me obvious and numerous. The floor of the pathway to the bladder is uninjured, and underneath this floor lie the main dangers. The route to the bladder is more direct, less angular; and its diameter is more uniform. The operation is simple in principle, more definite in detail, more easily performed. In the lateral method, the far end of the deep cut is necessarily an uncertain point. If the knife stop short of the end of the staff, there is uncertainty; the position of the end of the staff itself is a variable one. The floor of the bladder is practically on a level with its neck, and therefore the vesical end of the deep incision is inevitably an unfixed and an unfixable spot. The front of the bladder, on the contrary, is at a sharp angle to the prostatic urethra, and furnishes a natural, definite, and measurable limit, to the vesical cut—a cut which begins at the angle and comes forward. The incision may be made larger at will by definite and clear steps. Where the prostate is enlarged, it is a great gain not to leave large cut surfaces in its substance—surfaces which heal slowly or not at all. It is possible that an upward cicatrix might give unexpected relief in some cases of prostatic difficulty.

I have told you of my first case of several years ago. The next case was in a man near sixty, with enlarged prostate, but spare and temperate. Three years before, I had cut him by the lateral method, and removed a large stone. On the second occasion, I operated by the method I have described—treating the neck of the bladder somewhat

after the fashion of the neck of the sac in strangulated hernia, and notching it upwards on the end of the finger. Three calculi, each averaging an inch and a half in diameter, were removed with great ease. The forceps was gently held along the whole tract, and not more at one spot than at another, a new experience to me. A long sponge-tent remained by the side of a tube for a few hours. His recovery was complete and rapid. The third case, which ended unfavourably, was that of a man aged sixty and extremely fat. He stoutly alleged that he lived a temperate life—falsely, as it was afterwards shown. The bladder was the deepest I have met with. Five calculi, all exceeding an inch in diameter, were removed. To my great regret, I found that the too zealous curiosity of some friends who were present had led them to insinuate their fingers upwards between the bladder and the pubes. This reminds me of the one great precaution to be taken: let there be no manipulation or examination in an upward direction. No purpose can be served thereby. After death on the third day, the heart and liver were found to be unusually fat. There was a limited patch of urinary infiltration above the pubes; it was not near the peritoneum, and there was no peritonitis. Probably it had nothing to do with the result.

My last case was in this little fellow eighteen months old. I opened the membranous urethra on a grooved staff, and then carried, without a hitch, a concealed bistoury into the bladder along the staff, but with no anxiety to keep in the groove. An instrument that passes readily in the direction of the bladder cannot go anywhere except into the bladder. Without caring to do so, I felt the stone with the end of the instrument. Turning the blade upwards and projecting it, I incised the neck of the bladder upwards. Keeping the closed instrument on the floor of the entrance to the bladder, my finger passed over it into the bladder with great facility. The forceps, introduced over the finger, seized and brought away two calculi in close contact with each other, and weighing together 185 grains. I never saw so little hæmorrhage. He passed all his urine by the natural channel on the seventh day. He is now in perfect health.

[Since the above left my hands, I have had a fifth case in a boy of five. He left the hospital well in a fortnight.]

CLINICAL LECTURE

ON SOME

VARIETIES OF NERVOUS HEADACHE.

Delivered at the Samaritan Hospital.

BY WILLIAM HENRY DAY, M.D.,
Physician to the Hospital.

IN a previous lecture (BRITISH MEDICAL JOURNAL, November 16th, 1878), I somewhat hurriedly carried you over a wide field of inquiry concerning the nature and causes of headaches. I spoke of anæmia and hyperæmia of the brain as factors in the production of these morbid states; and I incidentally passed in review the remedies in which experience has most justified our confidence. I said I would consider the subject at a future time with fuller detail, and to-day I will try to redeem my promise by making some remarks on *nervous headache*.

Our views regarding the pathology of nervous headache are vague and indefinite. Ask the question of those who have carefully studied the subject, and you will seldom get a satisfactory definition. It is neither precise nor scientific. It does not meet the cases that are constantly before us. A really nervous headache is one that starts *ab initio* in the brain; the sensory tract of the encephalon becomes irritated and over-excited, and pain results. A rheumatic headache, the congestive headache of acute inflammatory affections, or of organic disease, the typical neuralgic headache affecting one side of the cranium, or the headache due to syphilis, are easy of diagnosis, and we can scarcely confound them with any other forms. But there are headaches classified as nervous which do not correctly belong to this category. They originate in various sources of irritation not primarily cerebral, and quickly cease, as a rule, on removal of the exciting cause.

The ordinary meal, which would be digested in a healthy state of the system, indirectly creates disturbance in the brain and invites the evil; though at another time it would fail to provoke it, if the general condition were stronger, and more tolerant of indulgence or change of habit.

And here, by way of introduction to the subject before us, I would fain impress this somewhat melancholy fact upon your attention: that the habitual sufferer from headache scarcely secures common sympathy from his or her friends; its frequency is so universal throughout the world that it passes as of little moment or concern, because, generally