ACCOUNT
OF
A S T O N E
AND OF
A P O R T I O N O F C A T H E T E R
EXTRACTED FROM
THE FEMALE BLADDER BY A DILATOR.
WITH AN
A P P E N D I X
BY MR. CHAPMAN OF WANDSWORTH, AND BY MR. BIRT,
OF DISS, NORFOLK,
ON
THE REMOVAL OF A CATHETER AND OF A STONE
FROM
THE FEMALE BLADDER BY DILATATION.
BY SIR ASTLEY COOPER, BART. F.R.S.
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Read June 11, 1822.

THE dilatibility of the female urethra, or meatus urinarius, is established by papers in the volumes of the Society's Transactions, by Mr. Thomas, Mr. Travers, and by myself; and it only remains that it should be considered, if better means cannot be devised to produce its dilatation than the introduction of sponge tent into the urethra, which is liable to the serious objection of its requiring to be borne for several hours, and during that time exposes the patient to the pain and inconvenience of retention of urine. I therefore resolved, on the first opportunity, to employ an instrument, constructed upon the principle of the speculum ani and speculum oris, to enlarge the passage to the bladder; and which would have the advantage of permitting the escape of the urine, whilst it dilated

the urinary canal sufficiently to allow of the admission of forceps into the bladder, to extract a stone of considerable dimensions.

An opportunity was soon afforded me by the kindness of Dr. Nuttall and Mr. M'Nab, who requested me to visit a patient of theirs, suffering under the symptoms of calculus.

CASE I.

Mrs. M'C——. I accompanied Dr. Nuttall and Mr. M'Nab to visit this lady, who had been for six months labouring under extreme irritability of her bladder, and such pain and interruption in passing the urine, as to lead those gentlemen to believe she had a stone in her bladder. Upon passing the sound I immediately discovered a stone, which Dr. Nuttall and Mr. M'Nab could distinctly hear. I informed the patient of the nature of her disorder, but assured her I could remove the stone without the use of any cutting instrument, and she had no difficulty in submitting to its extraction. In my return home I called upon Mr. Weiss, in the Strand, and requested him to make me a speculum to dilate the meatus, and he, with his accustomed ingenuity, immediately suggested an instrument infinitely better devised than any I could have contrived for the purpose.—(*See Plate IV.*)

On the 7th of January, 1822, the above medical gentlemen accompanied me to the house of our patient, and at eight o'clock in the morning I introduced the dilator. At four o'clock in the afternoon of the same day I removed the instrument, and readily introduced my finger into the bladder by the meatus, which was sufficiently dilated for that purpose, and directly felt the stone. I then passed a pair of forceps into the bladder, and immediately grasped the stone with them, and extracted it. The stone was soft, and its outer shell separated from its interior; I therefore passed a pair of flat forceps into the bladder, and removed the larger fragments of calculus; but for several days some small portions passed away with the urine.

During the removal of the stone she was resting across the bed, unconfined by bandages.

For a few days after the operation she had a severe attack of irritative fever, which required Dr. Nuttall's attention, and she was obliged to lose blood, and to have the abdomen fomented; but I had the pleasure of seeing her gradually restored to health, having never lost the power of retaining her urine; and young, and but recently married, a constant distillation of urine from the bladder would have been an evil greater than death itself.

From the facility with which the meatus yielded

to the dilator, in the foregoing case, it seemed that no absolute necessity existed for the lapse of several hours before the instrument was withdrawn, and the attempts at extraction made; and I therefore determined, in a future case, to dilate the meatus for a few minutes only, and then to extract any extraneous body which the bladder might contain.

CASE II.

On Monday, the 24th of March, I was requested by Mr. Ilott, of Bromley, in Kent, to visit a patient of his, residing in West Square, St. George's Fields, who had been occasionally subject to retention of urine, for which she had been under the necessity of employing the catheter, the introduction of which she was enabled to accomplish for herself; but the last time she introduced it the catheter broke, and a part of it remained in the bladder. Excessively alarmed at the circumstance, feeling much pain in making water, and great uneasiness at the extremity of the meatus in walking or in exercise in a carriage, she mentioned the case to Mr. Ilott, who advised her to submit to the extraction of the broken instrument. In the presence of Mr. Ilott I performed the following operation :—

The patient was placed across the middle of a

bed, with her head raised upon a pillow, her knees were separated and bent back to her chest, in which position they were held by a nurse, without the aid of bandages, or necessity for other means of confinement.

I then passed the dilator into the meatus urinaris, and turning its screw, I readily dilated the passage, to admit my finger. The dilator was retained for two minutes only, when I passed a pair of forceps between its blades into the bladder, whilst Mr. Ilott withdrew the dilator.

The catheter not being immediately felt with the forceps, I removed them and passed in my finger, when I felt the broken catheter upon the portion of the bladder above the rectum, and having raised it from thence into the axis of the bladder and meatus, I again passed the forceps, and readily extracted it.

This lady suffered very little during the operation; it was very quickly accomplished; her urine passed involuntarily until her next menstrual period, when she recovered the natural power of retention.

REMARKS.

The advantages derived from this mode of operating, in comparison with that by the knife or gorget, consist

First, In the facility with which it is executed. A knowledge of anatomy beyond that which every surgeon possesses who has been educated within the last twenty years, in this metropolis, is not required for it. Indeed, I believe that any surgeon, who practises as an accoucheur, would not hesitate to perform it.

Secondly, It is attended with but little danger; unless the dilatation be violently made, and the instrument be left in the meatus for a length of time; then contusion and irritation might be produced by it, which, in an irritable person, would lead to fever; and, perhaps, inflammation of the bladder.

Thirdly, It may be accomplished with very little pain, and in a short time; but still, further experience will be required to determine if it be best to dilate the meatus in a few minutes, or hours, or in several days, by more gradual dilatation. I feel disposed to believe, that if the stone be small, the dilatation should be accomplished in a few minutes; but if it be large, it will be better to dilate but little, from day to day, until the greatest degree of extension is accomplished; carefully avoiding contusion, which is much to be dreaded.

Fourthly, But its greatest advantage is in the preservation of the powers of retention of urine; for if the operation destroys this power, as that by incision does, I can scarcely acknowledge it to be of value;

for although it is the means of removing the pain produced by the stone, it exposes the patient to great suffering from excoriation, and with every attention to cleanliness, the constant distillation of urine renders the patient offensive to all around her.

ASTLEY COOPER.

APPENDIX.

I have long ago received the following cases from two medical friends ; but have had no opportunity of making them known ; but as they possess considerable interest, I shall beg leave to insert them as an Appendix to this paper.

Wandsworth, Dec. 29th, 1817.

DEAR SIR,

Finding by a perusal of the Second Part of the last Volume of the Medico-Chirurgical Transactions, that the subject of the dilatibility of the female urethra has occupied your speculations ; I am induced to send you a catheter, which, (as its tarnished appearance will indicate,) remained nearly three weeks in the bladder of a female, it having been allowed to slip in, in consequence of the operator leaving his patient's bed-side to reach a basin from a table ; the bladder at the same time being much distended with urine. The extraction of this instrument was effected by the agency of

the finger alone, without any previous process of the sponge tent, and though not without difficulty, yet with comparatively little pain to the patient, notwithstanding it was done under circumstances the most unfavorable, it being necessary to conceal both from the patient and her friends, the real nature of the accident. I had no notion the canal would dilate so readily, until having repeatedly introduced a common forceps without effect, I was led to try my little finger, in order to ascertain with greater certainty, the precise situation of the catheter, when finding it pass pretty readily I introduced the forefinger of my right hand, till it came in contact with the handle of the instrument, which I gently raised and conducted toward the orifice of the meatus, when by a combined movement of my right hand finger in the bladder, and my left hand upon the abdomen, I succeeded in extracting the instrument without my patient or any body else being at all aware of what I was doing. I merely mention this as additional evidence, if any were necessary, of the facility with which dilatation of the urethra may be effected, and as confirmation of the propriety of the practice pursued in Mr. Thomas's case of the ivory ear-picker, whose patient must be congratulated upon her fortunate escape from the effects of the bistouric cachée.

Should this account be of any use in encouraging surgeons to adopt the practice of dilatation, in

cases of calculus, in preference to the more painful and hazardous operation of cutting, you are at liberty to make what use you please of it, or if that should be thought necessary, I would draw up a statement of the case at length.

I am, my dear Sir,
with the greatest respect,
your obliged and obedient servant,
THOMAS CHAPMAN.

P.S. I have a calculus in my possession, of pretty large size, which I took from the urethra of a male, by excision, when within four or five inches of the extremity of the glans penis ; the man not knowing up to the time of the operation that he was subject to stone, never having felt any previous pain or difficulty in voiding his urine.

A Case of artificial Dilatation of the Female Urethra, &c. By GEORGE BIRT, Esq. Member of the Royal College of Surgeons.

IN January 1814, I was consulted by Mrs. Borton, a small woman of relaxed habit, about forty-five years of age. Her various symptoms led me to suppose she had a stone in the bladder, and I urged the necessity of an examination to ascertain whether my conjecture was correct, but she positively refused it, alleging, that a physician she had

consulted had done it repeatedly, without being able to detect any stone : as she would not accede to my proposal I declined visiting her.

On the 30th of April her husband came to me very early in the morning, and informed me his wife was in excruciating agony, which arose from her not having been able to pass any urine for many hours, and requested my immediate attendance upon her. Upon my seeing her, I found the bladder was very much distended, and I stated the immediate necessity of my drawing off the urine with the catheter, with which she very readily complied. Upon my introducing the catheter into the bladder, I distinctly heard and felt it strike against a calculus, which receded, and about four pints of urine was drawn off. I then stated to her the necessity of her having the stone extracted; and she told me she had been advised by a medical gentleman to go into the Norfolk and Norwich Hospital, to undergo the operation of lithotomy, to which she objected. I assured her I had every reason to believe I could extract it without cutting, and she greatly wished me to do every thing I thought right for her; I then left her with a promise of seeing her the following day; but in the evening her husband again came, and informed me his wife was in the same situation as when I went to her in the morning, and begged me to go to her assistance immediately. Upon my arrival she told me she had not passed any urine since I left

her, and was in very great pain from distortion of the bladder. Upon passing the catheter, I struck against a stone as in the morning. I then placed her in the situation for lithotomy, and passed a probe into the bladder, I then passed another probe into the bladder, and very gently dilated the urethra, which in a few minutes allowed me room to pass in a pair of forceps and lay hold of a stone. I then passed the fore-finger of my left hand along the vagina, and kept the stone from slipping back into the bladder; in less than ten minutes I extracted it. I passed a catheter into the bladder, to ascertain whether there were any more stones. As soon as the catheter entered the bladder it struck against another stone, which I distinctly felt by introducing my finger into the bladder through the meatus urinarius. I introduced the forceps a second time into the bladder and grasped another stone. My finger was passed into the vagina as before; but this stone being larger than the first, was not quite so easily extracted, and the woman growing quite impatient, and my not having sufficient assistance to keep her quiet, induced me to touch the orifice of the meatus with the point of a lancet, which immediately gave exit to the stone; the incision which I made was not more than the eighth of an inch in length, and could I have prevailed upon her to have been quiet a few minutes longer, I am certain the stone would have been as easily extracted without this slight incision.

I was not half an hour from the commencement till I extracted both stones. Upon sounding the bladder a third time, no more stones could be detected.

I directed her an opiate, and upon calling the following day found she had not been able to void any urine. I introduced the catheter, and the next day she could retain her urine and expel it whenever she wanted, without any inconvenience, and was able to attend to her domestic concerns. She has remained up to the present time perfectly well.

Diss, Norfolk,

Dec. 19, 1817.

a Blades

b b. Screw & Handle.

c.c. the Style which is drawn back upon the inclined plane of the blades, so as to open them by turning the screw at b.