John Y—, aged twenty-nine, a groom out of place, applied at the hospital, April 4th, 1852. He was suffering from stricture of four years' standing. He had great difficulty in voiding his urine, and the obstruction had increased very considerably lately. The urine is now discharged, with much pain, in a very small, thread-like stream.

On examination, I found a very firm stricture at the anterior part of the membranous portion of the urethra. After a trial of a few minutes' duration, the guide was introduced through the stricture, and then the silver tubes to No. 5 were passed. An elastic tube, No. 4, was then sent through the stricture, and kept in that position for about twenty minutes. On the following day, the metallic tubes were increased two sizes, and afterwards elastic tube, No. 6, was passed and retained for half an hour. This treatment was continued as in the other cases, and in a fortnight the patient could pass his urine in a full-sized stream, and was discharged cured. I saw this man in November, and he stated that he was quite well in all respects, that he was then in a situation as groom, and could perform all his duties as effectually as at any period of his life. His constitution, when he first applied at the hospital, was in a very shattered condition.

On April the 1st, Patrick D—, aged fifty-nine, a burly Irishman, applied at the Royal Free Hospital, with a recommendation addressed to me by my friend, Mr. Rawlins, Surgeon, of Kentish-town, requesting that I would attend to the stricture. I examined the man, and found he had two strictures, one about two inches from the orifice, the other near the membranous portion of the urethra. There was considerable hardening in the region of the perinæum. The No. 1 catheter-guide could with difficulty be introduced; this accomplished, however, no further obstacle had to be surmounted. In fourteen days a No. 10 common sound could be passed with the utmost ease. At the end of three weeks this man was discharged in perfectly good health.

T. H—, aged sixty, a bricklayer's labourer, was admitted into the hospital March 6th, 1851, with an intractable cartilaginous stricture of the urethra, about six inches from the orifice. He stated that he had been under treatment in Ireland and different parts of this country at least twenty times during the last thirty years. On introducing a No. 5 common sound, the instrument entered a false passage, about four inches from the meatus. A No. 2 guide, after an effort of about twenty minutes' duration, was passed through the stricture, and then onwards into the bladder, when a large quantity of offensive urine was discharged. The urethral tubes up to No. 5 were then introduced, and also an elastic tube. The operation was repeated daily, and the tubes gradually increased in size, without producing a single unfavourable symptom, or causing any pain. In fifteen days a No. 12 common sound was easily passed. This instrument I gave to him at his own urgent request. He assured me that he would always pass it twice a week for the remainder of his life. I saw him about four months after his discharge from the hospital. The induration around the urethra had quite disappeared; the discharge had ceased; there was not any thickening of the passage remaining; his bladder and urethra acted perfectly, and his health had been so completely restored, that he had resumed his occupation, and stated that he could ascend the highest ladder with ease. From the history of this man's disease, it appeared that the false passage was the difficulty which resisted the ordinary mode of treatment. He said that at times, when he had been under treatment, he had "bied like a pig." The guide having been first introduced, the tubes were effectually prevented from entering the false passage, which was soon closed by the action excited in the part. This was a very interesting case.

C. C—, a butler, out of place, applied at the Royal Free Hospital, March 13, 1851, suffering from stricture of the urethra. He passed his urine *guttatim*. He says that he has been examined at several hospitals, and by all pronounced to have an impermeable and incurable stricture, about seven inches down the canal. Has had a light, gleet discharge for years, following a very bad gonorrhœa which he contracted, and treated by powerful astringent injections. He appears much reduced by his disease—is desponding—thin. The small catheter-guide was passed into the bladder after considerable trouble, and a few drops of blood preceded the flow of urine. The metallic tubes were now used, up to No. 5—and the elastic tube No. 4 retained two hours. On the following day, the same instrument was used. The next day, the sizes were increased to 8, the elastic being retained two hours. In fourteen days from the commencement of the treatment, this hitherto intractable stricture yielded to the influence of the tubes, and a No. 12 sound then passed with ease. The man states that caustics had been frequently used, and always produced shivering, and very considerable hæmorrhage. At the expiration of a month he was quite well.

To be continued.

CASES AND OBSERVATIONS

ILLUSTRATING

THE BENEFITS OF THE STRICTURE DILATOR

IN THE TREATMENT OF STRICTURES OF THE URETHRA.

By BARNARD HOLT, Esq., F.R.C.S.,

LECTURER ON SURGERY, AND SURGEON TO THE WESTMINSTER HOSPITAL.

HAVING, in common with other surgeons, occasionally experienced the difficulty of re-introducing a catheter, or sound, for the cure of stricture, where an increase in the size has been demanded, I have long considered the propriety of endeavouring to construct an instrument, which, being once introduced, may be materially increased in size without any other instrument being passed in direct contact with the urethra. To accomplish this desirable result, several plans have been adopted without hitherto overcoming the difficulty. I think every object of such dilatation is attained by the following modification of M. Perrève's instrument, which I have named the Stricture Dilator, and described at the termination of the paper.

In offering this instrument to the notice of the profession, it is not my intention to enter into the pathology of stricture, or at present treat of the history, progress, and treatment of the disease; but as my views have always favoured the treatment by gradual dilatation, I purpose, as briefly as possible, to relate a few of the cases I have already treated, and thus demonstrate the capabilities of this instrument in overcoming some of the difficulties experienced in the management of this occasionally intractable disease.

H. F—, aged twenty-two, was admitted into the Westminster Hospital, Dec. 5, 1851. He has been the subject of stricture for five years, during which period he has had two attacks of retention of urine, and is now admitted for a third. A No. 1 silver catheter was attempted by the house-surgeon without success; he was placed in a warm-bath, and a No. 1 gum-elastic catheter, without a stilette, passed with considerable difficulty; three pints of urine were removed with great relief, and he was desired to take half an ounce of castor-oil.

On the third day after admission, the dilator was gently introduced, and the tubes gradually increased from No. 1 to No. 4.

Fourth day.—He can make water more freely, its expulsion being attended by a slight cutting sensation.

Fifth day.—The tubes were increased from No. 4 to No. 6, the patient merely complaining of slight uneasiness.

Three days were now permitted to elapse, his urine was passed freely, and without pain; the same proceeding was adopted, and on the ninth day a No. 6 catheter was passed with facility.

Dec. 16th.—Ten days after admission (the larger dilator not being made) a No. 7 catheter was introduced, and he was compelled to leave the hospital on the following day to resume his employment.

J. W—, aged forty, a man of unhealthy aspect, was admitted Dec. 23rd, suffering from a continual desire to pass his urine. He stated that for twelve months he experienced greater difficulty in passing urine than formerly, and that, during the last few weeks, his bladder had become so irritable that he was compelled to relieve himself twelve or fourteen times a day. A No. 5 catheter was attempted, but would not pass into the bladder, an obstruction of an apparently obstinate character existing about five inches from the meatus; a No. 1 catheter was eventually passed, and a small quantity of urine withdrawn.

The third day after admission, the smaller dilator was introduced, and the tubes increased from No. 1 to No. 3; there was slight hæmorrhage, and he complained of a cutting sensation during the period of dilatation; the No. 3 tube was permitted to remain five minutes, and then withdrawn.

Fourth day.—He expressed himself much more comfortable; the urine had been passed without pain, and the frequency of micturition was materially abated.

Fifth day.—The same sized dilator was again introduced, and the tubes gradually increased from No. 3 to No. 6; the pain experienced during the passage of the tubes was of the most trifling character.

Sixth day.—Yet further improved; his urine is passed in a good stream, and he is not compelled to empty his bladder more than three times during the day and twice in the night.

Seventh day.—The larger sized dilator was introduced, and the tubes were increased from No. 6 to No. 8; the passage of this instrument and its tubes was unaccompanied by pain, and there was not any recurrence of hæmorrhage.

Eighth day.—The improvement was so manifest that he was desirous of resuming his employment, but consented to remain another week, that the largest size might be introduced.

Ninth day.—The tubes were to-day increased from No. 8 to No. 10, with the same success.

Eleventh day.—The dilator has been again had recourse to, and the tubes increased from No. 10 to No. 12.

Twelfth day.—He declares himself perfectly well, and that he passes his water as freely as he ever did in his life. He is no longer compelled to get up in the night, and only relieves himself twice or three times during the day.

January 6th.—Fifteen days after admission he left the hospital, a No. 12 ordinary metallic bougie having been previously passed to prove that the dilatation had been effectual.

J. R.—, aged sixty-five, has had stricture for many years, experiencing all those symptoms which usually accompany a protracted case. When admitted into the hospital, the small dilator was introduced, and the tubes passed to No. 2; the pain was trifling, and on the next day his urine flowed more freely than it had done for some time. The same instrument was again introduced, and the tubes increased to No. 4, and on alternate days a repetition of the treatment was had recourse to, the tubes being at each visit increased two sizes until No. 12 was passed with facility; at no period was there any irritation produced after the dilatation by the tubes, and upon every occasion the patient expressed himself relieved both of his difficulty and frequency in micturition. The dilator has been introduced ten times, the four last having the full-sized tubes passed.

January 9th.—The house-surgeon, Mr. Evans, passed a No. 12 ordinary metallic bougie, and he is to leave the hospital on Tuesday next.

R. H.—, aged sixty, had been a patient of mine five years ago with three strictures of a most obstinate character; so diminished was the urethra in calibre, that for six years he had been compelled to wear an apparatus to catch the urine, which was continually dribbling away. After nine months' persistent treatment, this person was so far recovered that No. 12 could be passed with facility, and I requested him to come to me once a month, in order that the canal might be maintained in its present size. Circumstances prevented his attending, and he again presented himself on December 10th, 1851, in a condition nearly as bad as before. A No. 1 bougie was attempted, but without success, and it was only after three subsequent trials that an entrance into the bladder was accomplished.

On the eighth day, Dec. 18th, the small dilator was introduced, and the tubes increased to No. 2; he complained of slight cutting sensation, but stated it was not so severe as the dilatation by the ordinary bougie.

Tenth day.—The urine has run more freely, and he is comparatively comfortable; the dilator was introduced, and the tubes were increased from No. 2 to No. 4.

Twelfth day.—The same success has attended the No. 4. No irritation was produced; the dilator was introduced, and the tubes were increased to No. 6.

Fourteenth day.—The larger dilator was used; the No. 7 tube passed without difficulty or pain.

Seventeenth day.—Since passing the last instrument, the urine has been made more freely, with less pain and less frequency. No. 8 tube was passed.

Twenty-seventh day (Jan. 6th).—The dilator has been introduced every other day, but as some pain was experienced upon the introduction of No. 9 tube, it was thought advisable to increase the size less rapidly,—one number at every other visit. No. 11 is now introduced without difficulty, and he is in every respect as much improved in this short period as he was by many months' treatment with the ordinary bougie.

In the greater number of cases treated by ordinary dilatation, the bougie is required to be introduced three or four times before any increase can be gained, and in some particular cases of great irritability, it is not effected until after many trials.

The stricture not being sufficiently dilated at the first introduction to admit an instrument of a larger calibre, whilst the urethra is too irritable to permit a second instrument being passed, valuable time is wasted, and the hopes of the patient continually thwarted.

In cases of false passage, banded obstruction, or irregular and lengthened thickening of the mucous lining of the urethra, the greatest difficulty is experienced in getting any instrument into the bladder; and in almost every such case it is impossible to increase the size of the ordinary bougie until after many consecutive trials.

In the hands of an experienced surgeon the dilator will prove of infinite value, more particularly from its simplicity and the facility of management after introduction. From the little inconvenience experienced by the patient during the process of dilatation, strictures which have hitherto resisted the second

introduction of a bougie are capable of being dilated to from one to four sizes, according to circumstances. In the following cases I was consulted previous to using the dilator:—

Mr. P.—, a gentleman from Worcestershire, consulted me for three old cartilaginous strictures of many years' duration. After some difficulty, a No. 1 silver catheter was passed; in two days this introduction was repeated; but the third and fourth attempts failed, and he was obliged to return to the country until the urethra became less irritable. Upon his next visit to London, a small gum-elastic catheter, less than No. 1, was introduced and retained. He was confined to his bed, and every second or third day the size was increased, until No. 7 could be passed. He was now permitted to pass urine without the catheter, when three small calculi escaped, the result of urinary deposit, as a consequence of detention of the urine behind each impediment. After many months this gentleman recovered sufficiently to pass his own instrument, which he has continued to do occasionally until the present time.

Mr. R.—, a gentleman from Bedfordshire, consulted me for stricture of many years' duration. He had two strictures of a similar character to the former case; his urethra became irritable after the second introduction, and he was obliged to return to the country until the irritability had subsided. Upon again coming to London, a No. 1 gum-elastic catheter was passed and retained; the size was gradually increased to No. 7, and then the same instrument was passed daily for many days before any increase could be gained. He subsequently recovered.

R. H.—, a gentleman residing in London, consulted me for stricture. His urethra was exceedingly irritable, and no increase beyond No. 4 could be gained. The nitrate of silver was had recourse to, and he was subsequently seen by Sir Benjamin Brodie, who recommended some weeks' quietude. This gentleman, after many months' treatment, eventually recovered.

Two cases have lately come under my care, where any attempt at increase in the size of the bougie was followed by shivering and retention of urine; and I have recommended both patients to desist from instrumental interference, until their general health may be re-established. It is my intention to try the dilator in both these cases, as in neither of them could two instruments be successively passed in one day.

The two first of these cases, selected out of many which might be cited, are examples of obstructions, which are only to be overcome by keeping the patient in bed, and retaining a catheter in the bladder,—to many patients a very inconvenient proceeding, and now rendered unnecessary, as every advantage attendant on dilatation can be readily effected by the dilator.

From the success which has attended the introduction of this instrument, and the speedy yet safe method by which the stricture can be effectually removed, I have no hesitation in affirming, that if these patients had been subjected to the present plan of treatment, none of the inconveniences there encountered would have occurred, and the dilatation would have been effected in the same progressive manner as in the cases first related.

The surgeon possesses, in this instrument, a means whereby dilatation can be carried to any extent; yet this advantage is not to be abused, inasmuch as many circumstances may arise, where extreme dilatation would be attended with great disadvantage. Thus, in cases where great spasm is present, the irritability of the urethra being evinced by persistent contractions and attempts to expel the instrument, the dilatation must be gradual, and only continued in obedience to the feelings of the patient. The rule of never using violence holds good here as elsewhere. In no case in which I have used the dilator, has there been anything further than slight smarting on the next attempt at micturition; no rigors, no retention of urine, or stricture fever, which, under the old system, so frequently attends the attempts to pass a second and a larger bougie, has resulted from its introduction. I cannot help anticipating its general adoption. It might be urged, that rapid dilatation is not so permanent as gradual; but this is surely a false argument, inasmuch as having by rapid dilatation gained a certain size of passage, that size can be easily maintained, and certainly with less inconvenience than is occasioned by the protracted measures we are at present compelled to employ. Yet, were it only for one circumstance, I believe preference will be given to the dilator—namely, the facility of increasing the size, *without withdrawal of the original instrument*, and without any other being passed *in immediate contact with the urethra*,—thus obviating the present necessity of a second and frequently unsuccessful attempt at introduction.

In many cases of old cartilaginous obstructions, where the ordinary bougie accurately fits the diameter of the stricture, considerable pain is experienced in its withdrawal, from the tenacity with which the bougie is grasped by the stricture; and occasionally some amount of force is necessary to remove it. This

difficulty is entirely obviated in the employment of the dilator, by the gradual and easy retraction of the tube, by which the blades of the dilator become immediately closed to the diameter at which it was originally introduced.

In conclusion, I venture to suggest that the stricture dilator is capable of effecting all that can be done by the ordinary bougie, and, in addition, has the following advantages:—

Firstly.—The dilator, being introduced in a small compass passes the stricture with greater facility and less pain to the patient.

Secondly.—It can be increased from one to six, or six to twelve sizes, without removal from the bladder; thus entailing upon the patient only one introduction at each visit.

Thirdly.—The means of increase is effected without more than one instrument coming in contact with the urethra

Fourthly.—There is no possibility of the dilating tubes lacerating the urethra, or escaping from between the blades of the dilator.

Fifthly.—The dilatation can be increased, or relaxed, and accurately regulated according to the feelings of the patient, *without withdrawal of the original instrument.*

Sixthly.—The increase is very gradual, whatever sized tube may be introduced, in consequence of the length of the upper and lower blades, and the conical form of the extremities of the tubes.

Seventhly.—In the operation of lithotomy, it affords facilities for the introduction of a large and straight staff, by a slight modification of the form and size of the tubes.

A A, The upper and lower blades.

B, The directing-rod.

C, The regulating screw.

D, The dilating tube.

The Engraving gives but an imperfect idea of the *Dilator*, the curve being too short; and the directing-rod ought not to have any ornament at its extremity.

Description of the Dilator.—The dilator consists of an upper and a lower grooved blade welded at the point, and fixed in a handle which admits of dilatation. Through its centre, or between the two blades, a wire or directing rod is fixed, upon which the tubes pass, in order to secure them from slipping from between the blades of the dilator. A screw is fixed in front of the handle, which regulates the size to which the instrument should be increased. The tubes are made of silver, and range from one to twelve, conical at their extremities, for the more gradual dilatation of the stricture, and in order that but little strain should be exercised on the extremity of the dilator. The dilator being once introduced, the screw should be partly removed, according to the sized tube it is to be desired should be used. The tube is then passed on the directing rod, between the blades of the dilator, and very gently pushed forwards, the dilator being firmly held in the left hand to prevent any jerking, by which un-

necessary pain might be caused. The tube, having been gently passed to the extremity of the dilator, is to be permitted to remain until any smarting has subsided, when it may be withdrawn, and, if necessary, a larger tube introduced—the surgeon exercising the same caution as before. In the generality of instances it is desirable that the tubes should not be increased more than three sizes at one visit, otherwise constitutional symptoms might arise from the too violent pressure. The dilator being withdrawn, care should be taken that it is properly cleaned and wiped dry, as, were the directing rod to become rusty, some future inconvenience might be experienced in the passing of the tubes. The first dilator is capable of increasing the size from one to six, the second from six to twelve.

The dilator is made by Messrs. Philp and Whicker, of St. James's-street.

Jan. 1852.

A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

ST. MARY'S HOSPITAL.

Large Ovarian Tumour, Softening and Discharging itself Spontaneously through the Rectum.

(Under the care of Dr. TYLER SMITH.)

OVARIAN tumours, and the methods for their removal, have of late received considerable attention and discussion in the profession. It has appeared to us that great good might accrue, if an extended collection were made of those cases in which the elimination of these tumours or their contents has occurred spontaneously. The records of experience show that at one time an ovarian tumour left to itself, bursts into the peritonæum, when it may either destroy life by exciting inflammation, or the effused matters may be absorbed; sometimes adhesions and suppurative inflammation take place, and the tumour is discharged through the abdominal wall; at another time, a communication is formed with the bladder; in some cases, the contents have found their way through the

uterus or Fallopian tubes; and again, in others, as in the present case, the rectum has been the outlet by which the diseased mass has discharged itself; such a collection of cases would show the channel selected most frequently by nature for these extraordinary evacuations, and would probably indicate the most favourable plan for surgical interference, if this should be considered justifiable. With this view, we have much pleasure in placing the following case on record, which bears a striking resemblance in almost every particular to a case recorded by Denman, (*Practice of Midwifery*, 7th edition, p. 82). In both cases the breaking down and discharge of the tumour occurred after the succession of long journeys. The notes of the present case were taken by Mr. J. W. Trotter.

Mary G—, aged thirty, formerly cook in a gentleman's family. The catamenia appeared for the first time at the age of thirteen, since when, they have generally been regular in character and quantity. She was married at twenty-one. Two years after her marriage, she aborted at the sixth month, and in two years after this, gave birth, at the full term, to a child now living. The labour was a favourable one, but since the birth of the child, five years ago, she has suffered a good deal from pelvic pain and bearing down, after walking or other exertion, as well as at the monthly periods. The patient has also been subject to occasional attacks of gastric and biliary disturbance. The region of the liver bears the marks of frequent blistering.

In September last, the catamenia did not appear for five weeks, but the flow, when it came, was profuse, and attended with great pain. There was some suspicion, on the part of her medical attendant, that she had aborted at this time, but no positive evidence was obtained. Before the flow of the catamenia ceased, she had a severe attack of peritonitis, re-