ON THE NECESSITY OF

SUFFICIENTLY EXTENDED URETHRAL INCISIONS

FOR THE

PERMANENT CURE OF STRICTURES OF THE URETHRA.

WITH A DESCRIPTION OF A NEW URETHROTOME OF VERY SMALL CALIBRE, TO BE USED PREPARATORY TO DR. OTIS'S DILATING URETHROTOME.

BY

W. H. BATES, M. D.,

BROOKLYN.

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Probably at no time has the subject of the treatment of strictures of the urethra attracted more attention from surgeons than the present—more especially since the revival of the operation of internal urethrotomy, and the introduction of new instruments for the purpose of diagnosis and treatment of this class of troublesome affections—not only to the patients, but to the surgeon. It must be obvious that the value of all new principles advanced, and the curative procedures under them, cannot be judged or criticised from an abstract point of view; therefore practical experience upon real cases is the only reliable basis upon which rational conclusions can be founded. With this view I propose to contribute some of the results of my personal experience, which bear upon the recent discussions in this department of sur-

gery—excluding such details as are general to strictures as a class.

The most protracted case I have any record of is that of a man now over seventy-four years of age, on whom I operated between eight and nine years ago. At that time his stricture had existed for nearly fifty years. He had been under the treatment of some of the ablest surgeons, including Drs. Valentine Mott and J. Kearney Rodgers. He had been in the habit of passing a No. 16 French steel sound almost daily. After several months' treatment, I did not succeed in carrying dilatation above No. 18 French, which was painful, and as a last resort I divided the stricture with Civiale's urethrotome, after which No. 27 French steel sound was readily introduced into his bladder. The introduction of this same number was continued for some time with marked benefit. The patient's general condition being greatly improved, his urethral discharge diminished. I then lost sight of him for a time; subsequently I saw him for other trouble; he informed me that he was very much better. Last spring he came to my office, and I desired to examine his urethra. He stated that he had remained well. I passed easily the same sound I had used on him previously. I also examined him with the urethrometer, and found no trace of stricture at the seat of division. The patient had found no necessity for having recourse to any instruments, since those passed by myself.

The next case was likewise a protracted one. Mr. K., aged thirty-three years. For five years past has been troubled with muco-purulent discharge, which would occasionally cease for a month or two, and then return, without apparent cause. Had been constantly under treatment, and examined for stricture by several surgeons, but was assured that none existed. On examination, I found a stricture of large calibre, readily admitting a No. 27 steel sound, about four inches from the meatus. Persevering efforts to effect higher dilatation were continued through several months, with only temporary benefit, the stricture remaining firm and rigid. Divulsion by means of Holt's divulsor was resorted to, but without permanent benefit. I then divided the stricture with a urethrotome, up

to No. 30 French, and introduced No. 30 steel sound into the bladder daily, for a few days, when the patient informed me that all discharge had ceased, and he discontinued his attendance. He has remained perfectly well up to the present time, now over two years, using no sound whatever. I quite recently examined his urethra carefully with the urethrometer and bulbous sounds, and failed to detect the slightest indication of stricture.

The next case was one of multiple stricture. Mr. R., aged twenty-five years. Six or seven years ago he contracted gonorrhœa, which ran into a gleet, for which he was constantly treated; came under my care more than a year ago. Three strictures were detected and operated upon successively, with Dr. Otis's dilating urethrotome, dividing little above the normal calibre, thirty-four millimetres, previously ascertained with the urethrometer. The rapid cessation of the discharge followed the operations. This patient has frequently been carefully examined since, and there is no evidence of any stricture left. He has likewise had no subsequent recourse to instruments.

The next case illustrates the persistence of stricture with free discharge, notwithstanding what would be considered an ample urethra. (*Vide* Sir Henry Thompson's recent lectures, London *Lancet*.) Mr. M., aged thirty-five years. Had been troubled with stricture for several years, for which he had been treated by a surgeon in Germany, by dilatation, which he had very irregularly continued. Recontraction had taken place, followed by free discharge, for which I was consulted. After the acute symptoms had subsided, the normal calibre of the urethra, thirty-seven millimetres, was restored by operation, the strictured portion being thirty millimetres. This patient has remained well ever since, now over a year. Uses no sound.

The following case is of interest, showing the effect of the restoration of the urethra on long-continued discharge, the discharge in this case having lasted for a period of twenty-six years. Mr. F., aged forty-five years. Contracted gonorrhœa at the age of nineteen; over a year ago was placed under my

care for treatment by Dr. Shaw. Stated that he had never been free from urethral discharge since he first contracted disease. On examination, four strictures were found, three of which, situated in the pendulous portion, were divided, and the normal calibre of the urethra restored. The fourth, situated in the membranous portion, was divulsed. The frequent introduction of sounds for a few weeks was continued. This patient was so much pleased with the relief given him (having frequently suffered from retention), that he declined to submit to anything being done for the cessation of the discharge, considering it of no consequence. A short time ago he called upon me, and I examined him, and found that not the slightest contraction had taken place in the strictures that had been divided. One situated in the membranous portion which had been divulsed, but not cut, had recontracted (of which I shall speak hereafter). There was not the slightest trace of any discharge to be detected from this patient's urethra. He informed me that it had recently entirely ceased. There had been no introduction of instruments in this case after the first few weeks subsequent to the operation. I think this case illustrates somewhat the effects of the operation upon a similar case of long-continued discharge, which Dr. Otis operated on in July, in London, for the cure of gleet, and which Mr. Berkley Hill published in the *Lancet*. He stated that "the discharge ran on until the holidays, and was then cured by other means." In that case, as in this, the subsequent cessation of the discharge may have been due to the original operation, and not to the after-medication.

The most interesting feature of the next case which I shall offer is the very large calibre of the urethra, coexisting with the persisting symptoms of stricture. I wish it understood that these figures are not the result of dilatation, but simply the normal measurement, as determined by the urethrometer and bulbous sounds. Mr. W., aged thirty-three years; height five feet eleven inches, weight one hundred and eighty pounds. This patient contracted a gonorrhœa two or three years ago, followed by a gleet. The discharge never entirely ceased. On examination, found a stricture at the meatus, of twenty-five

millimetres calibre. The normal calibre of the urethra, as ascertained by the urethrometer, was forty-five millimetres. A second stricture was found four inches from the meatus, of a calibre of thirty-seven millimetres. The strictures were divided so as freely to admit No. 40 steel sound, being the largest then in my possession, which was passed daily, until the parts healed.

The discharge rapidly diminished. The patient remained under treatment for several weeks, but the discharge not disappearing, although several operations had been performed with Otis's dilating urethrotome expanded to its fullest extent, forty-six millimetres, and a large bulbous bougie passed every second day to keep the incision open, without much benefit, the patient, being desirous of returning to his home in Massachusetts, promised to correspond with me, and, if no improvement took place, to return again at some future time for further treatment.

He wrote me a couple of times, saying that he remained about the same, with the exception of the stricture at four inches, which failed to admit his bulbous bougie so readily as formerly (which I had, contrary to my usual habit, requested him to pass occasionally).

He did return to the city early in the autumn for further treatment.

I operated on him again for the second stricture, which had recontracted, but still without satisfactory results.

I now determined to divide the stricture-tissue more deeply, feeling satisfied that my incisions had failed to completely sever the stricture, owing to the largest urethrotome being too small to divide it completely. After a little time, I devised the following means of increasing the size of Otis's dilating urethrotome: I took a piece of wood cut to the size and shape of the lower blade of the instrument, and with rubber tubing one-eighth of an inch in diameter, binding the wood firmly, and completely covering it. This gave me a perfectly smooth and even surface, and increased the size of the urethrotome seven millimetres by measurement.

With this addition I operated, dilating and dividing up to

fifty-three millimetres. There was very little hæmorrhage following this deep incision—certainly not more than two drachms. The patient had provided himself with a steel sound of forty-five millimetres calibre, which was introduced daily for about a week. The patient rapidly improved after this last operation, the discharge ceasing entirely. He has returned home, promising to communicate with me again if there should be any recurrence. On careful examination with bulbous sounds, I failed to detect the slightest contraction. Of course, it is too soon to speak as to the ultimate result in this case. I report it at this time simply on account of the very large size of the urethral canal, admitting No. 45 steel sound to pass readily into the bladder, by simply guiding it. *Should* such a thing recur again, such is my faith in the principles here enunciated and illustrated that, notwithstanding the dilatation hitherto attained, I should dilate and divide until all resistance ceased, and morbid symptoms disappeared; after this has been accomplished, it will be quite time enough to use medication, which, it is my growing conviction, by these procedures will be rendered unnecessary.

The cases narrated by no means exhaust the records which have accumulated in my possession, but I think at this time it is unnecessary to add more, as those that I have selected are not exceptional, but the average results I have obtained by internal urethrotomy. I am satisfied, from my own experience, that the operation fails sometimes, owing to its incomplete performance.

As to the future of these cases, that still remains in doubt; and, if hereafter I find that recontraction has taken place, I shall be pleased to report such fact.

To none of my patients on whom I operate do I advise the continued use of sounds; with what results, the few examples given may serve as illustration.

In common with all surgeons, I have occasionally met with strictures of small calibre, that it was desirable to divide, in order to allow the introduction of a sufficiently large urethrotome, to complete the division, for the purpose of effecting

a cure; and have felt the want of a sufficiently small and safe urethrotome suitable in these cases.

The best that we had was Maisonneuve's, which cuts from before backward, and is liable to get out of the urethra, thus making a troublesome and often dangerous false passage. To avoid this, Dr. Gouley has added a "bridged" tip, so that it threads over a whalebone guide, but the blade is not concealed, and is liable to wound the urethra where it should not. M. Horteloup, of Paris, has very recently devised a new urethrotome, or set of urethrotomes, comprising four instruments (*see Annales de Dermatologie et de Syphiligraphie*, tome vii., page 453), which have concealed blades—the smallest of which cuts to eleven millimetres, and the largest to twenty-three millimetres. There is a bulb projecting on the under surface of these instruments, where the blade is concealed. This is claimed to be a great improvement on Maisonneuve's but, like it, cuts from before backward, which is objectionable; another objection to this novelty is, that four separate instruments are required to effect the object, which is quite as thoroughly attained by the single one, which I now propose to describe. Let me premise that this instrument was manufactured from my plans, and under my direction, by Messrs. Shepard & Dudley, of New York.

The drawings for it were made over a year ago, and the instrument has been in my hands for a long time. I have waited for suitable cases on which to test it previous to making it public, in order to remedy any existing defects that might be disclosed in its use. I offer it simply as an adjunct to Dr. Otis's dilating urethrotome, believing that it is better and safer than any of the existing small urethrotomes in cases requiring its use. It consists of a handle to which is attached a steel canula, eight inches long, containing a concealed knife, which may be projected to the extent of twenty millimetres. The instrument terminates in a "bridged" tip, which screws on the canula; there are two of these tips accompanying each instrument, pointing in opposite directions for the purpose of enabling the operator to use the knife either on the upper or under surface of the urethra, as he may deem advisable, this still being a question *sub judice*.

The blade is concealed in the end of the canula, and is projected by turning the screw in the end of the handle to the right. The end of the canula where the knife is projected through the slot is of solid metal, rendering firm support to the blade, and adding greatly to the strength of the instrument. To the handle is attached a scale, with an index, such as is used by Dr. Otis on his instruments, which enables the operator to know and govern the exact limits of his incision. The diameter of this instrument at its tip is two and two-thirds millimetres. The canula is a little more, but considerably less than three millimetres, bringing the instrument down to about the calibre of Maisonneuve's. It is operated in this manner: After having passed one of Otis's long whalebone guides through the stricture into the bladder, the tip of the instrument is threaded over it, and passed through the stricture. The knife is then projected by turning the screw in the handle to the right. The instrument is then slowly withdrawn; as soon as all resistance ceases, the blade is withdrawn into the canula, by reversing the screw in the handle, viz., to the left.

This will prevent the possibility of wounding the healthy portion of the urethra; in other words, the knife cuts only where the operator wills it.

The advantages of this instrument are, that it cuts from behind forward; consequently there is no danger of getting out of the urethra. It combines simplicity with strength, is easily cleansed and kept in order, and last, but not least, is not more costly than any urethrotome of small calibre hitherto offered to the profession.

An examination of the accompanying woodcut, which represents the knife half closed, will render more minute descriptive details unnecessary.

Its special applicability was most manifest in the case of Mr. F., already described. It will be remembered that

this patient had a stricture in the membranous portion of the urethra, which had been ineffectually divulsed, while three situated anterior to it had been successfully cut without subsequent contraction. It is a well-known fact that the division of strictures in the deep urethra is attended with greater danger from hæmorrhage than those made in other parts more anterior. Hence the importance of confining the forme within strict limits of morbid structure. This instrument enables the operator so to appreciate the parts to be cut that all divisions necessary to be made reduce the danger to a minimum. Thus, in Mr. F.'s case, when the stricture already divulsed had recontracted until a small whalebone guide could only be passed through it, upon this the urethrotome was threaded, and the stricture divided to twenty millimetres, after which Otis's dilating urethrotome was readily introduced, and the canal enlarged to thirty-two millimetres. So little hæmorrhage followed that no artificial means were required for its arrest, and, after thirty-six hours confinement in bed, he returned to his accustomed business. Since then the patient has remained perfectly well, and free from inconvenience.

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