The safe and speedy treatment of urethral stricture by means of laminaria digitata / by Henry Albert Reeves.

THE

SAFE AND SPEEDY TREATMENT

OF

URETHRAL STRICTURE,

BY

MEANS OF LAMINARIA DIGITATA.

BY

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BY THE SAME AUTHOR.

Preparing,

EAR DISEASES AND INJURIES:

THEIR

CAUSES, DIAGNOSIS, AND TREATMENT.

PREFACE.

THE object of this pamphlet is to bring before the notice of the profession a method of treating permeable organic strictures of the urethra, which I have found, and which promises to be, of great practical value. It offers the following important advantages:—It is much safer than the methods of burning, cutting, or splitting, and much speedier than the plan of gradual dilatation, as a stricture barely admitting a No. 2 can be dilated to No. 8 or 10 in an hour, or but little more. The following pages consist of a re-arrangement and amalgamation of two papers read before the Hunterian and Clinical Societies, and contain some of the cases already published in the medical journals. As I have had several letters from medical men in various parts of the kingdom, inquiring about the "Laminaria Dilator," its mode of application, &c., and where it is to be obtained, and as I think that a mode of treatment which is at once *safe and speedy*, and which avoids the risks and delays contingent on other methods of practice, should be at once made known, I have not deferred publication until my stock of cases became more numerous, but have given them all, though few, thus early, as it is my confident belief that the

same uniform success which it has been my lot to obtain, will also be secured by others who will do me the honour to try the instrument. The "Laminaria Dilator" is made by Messrs. Mayer & Meltzer, of Great Portland Street, W.

36, Gordon Square, W.C.

THE

TREATMENT OF URETHRAL STRICTURE BY MEANS OF LAMINARIA.

When one considers the commonness of stricture of the urethra and the serious consequences to which it, if untreated, may lead, one cannot wonder that the natural anxiety of the patient to be rid of that which may possibly become a serious malady, or the desire of the surgeon to prevent the evil consequences which he knows must ensue in neglected cases, is doubtless the starting-point of these varying modes of treatment. From among these there are some that stand out prominently on account of their general adoption, and their results vary as much as the principles involved in their application. Conspicuous among them are the following,—1st. Gradual dilatation: 2nd. The immediate treatment, or splitting: 3rd. Internal division by knife: 4th. Caustics. I propose to consider these *seriatim*, and to indicate those points in them which I consider objectionable or unsatisfactory, and in criticising them, I would not be understood to be actuated merely by the desire of finding fault and seeking to substitute something which I may be pleased to consider better; but, with a view similar to that which animated the promoters of the various treatments I am about to review—viz., the wish to relieve suffering *safely and speedily*.

First, then, though I consider that the system of *gradual*

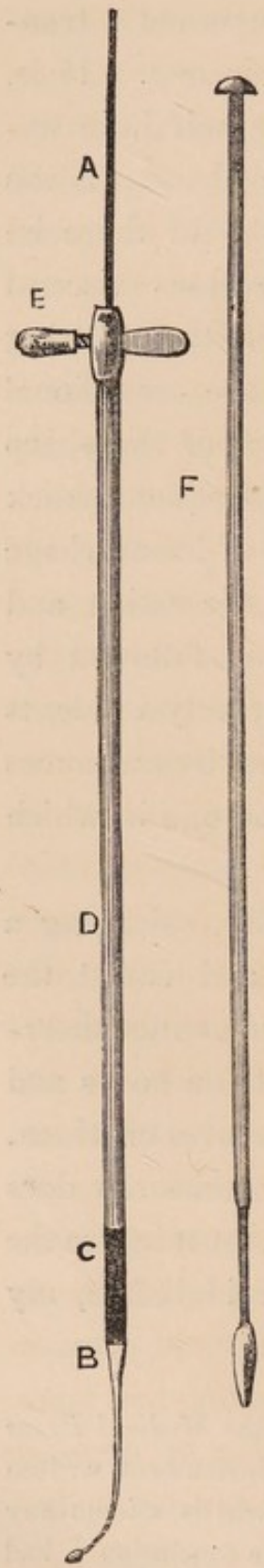
dilatation is the best in principle of all these methods, yet the time occupied in dilating a stricture from a small to a large size is, in my opinion, greatly too long, as it is seldom that we can dilate a stricture from a No. 1 or 2 to 10 or 12, in much less than six weeks or a month. I include in this class the use of the bougie à boule, or the bougie olivaire. My experience of them agrees with that of most other surgeons, viz., that the results are not more speedy or satisfactory. By the use of the Laminaria Dilator, a similar amount of dilatation can be effected in from half an hour to one hour and a half, according to the porosity of the laminaria used. Besides, there are occasions when individuals, especially sailors, in whom strictures are very common, cannot spare the time necessary for so lengthy a process, and their need for relief being urgent, they must have recourse to some speedier method. Under these circumstances the plan usually adopted is that of *immediate treatment or splitting*, and although this proceeding has been of great practical value, still, as every surgeon knows, there are serious risks attending its use, and the mode though speedy, is not free from danger. I think that in the treatment of permeable organic stricture there should be *no mortality*, although I have heard that in the hands of those who have modified and adopted the treatment of M. Perrève, the mortality is not great. Nevertheless, I am strongly of opinion that *not one single death* should be caused by and due to the use of a dilating instrument in these cases, and therefore the instance would be a very exceptional one and extremely favourable in all particulars before I should adopt the immediate treatment. Moreover, let us imagine a very favourable case for this method, one in which the stricture tissue surrounds the urethra. Would the immediate dilator expand it in its circumference? No. By

its construction, only or chiefly on its upper and under surfaces, and in doing so would most likely rupture the mucous membrane of the urethra, and also superadd a traumatic stricture to an already existing organic one. It is, in fact, as other surgeons in common with myself have endeavoured to show, viz., that only in exceptional cases is the plan of *immediate treatment* applicable. Should there be cystitis, or kidney mischief, or any other serious visceral complication, though chronic in its character, the splitting treatment is contra-indicated. Further, the occasional necessity of giving chloroform in consequence of the sharp pain caused by the operation, the not very infrequent shock and rigors following it, the casual occurrence of hæmorrhage and urine extravasation, and the fact that ulceration and suppuration of the urethral mucous membrane followed by pyæmia, are complications not unheard of, are surely accidents serious enough to make us carefully weigh the circumstances of the case before us and judge whether it be one in which this mode of treatment is applicable.

There is another instrument for rapidly enlarging a strictured urethra, devised by Dr. Aspray, and called the screw dilator. I have no experience of it and cannot therefore express an opinion, but from experiments on corks and on india-rubber, I find it leaves some ugly grooves on them. It appears to act in the same manner that a corkscrew does on a cork, and I should be inclined to think, must injure the mucous membrane.* However, as I have said before, my experience of it is *nil.*

* Since writing the above I have read an account in the *Medical Press and Circular* of November 18, 1868, of Dr. Aspray's instrument, written by himself. He says, "Little pain is caused, and there is seldom any abrasion of the mucous membrane." This justifies the conclusion I had come to—viz., that the screw must lacerate the mucous membrane, at any rate sometimes.

But little need be said concerning the treatment by internal incision, or by caustics. I cannot see why they should ever have been required in cases of permeable stricture, and the fact that they are now rarely if ever used, would tend to show that the generality of the profession think so too. I have known of severe hæmorrhage after the former method, and of intolerable pain following the latter.



To avoid these dangers, and at the same time to secure rapid dilatation, I have devised an instrument, which I have called the "Laminaria Dilator." It is simple in its construction, and in practice has given me extreme satisfaction. It consists of a small probe-pointed catheter, or solid wire A, two inches from the end of which is attached a grooved collar B, into which the distal bevelled end of the laminaria C, fits; over this slides a hollow tube D, which is also grooved at its distal end to receive the proximal bevelled end of the laminaria. To this tube, at right angles, is fixed a screw E, which secures it tightly to the catheter, so as to prevent slipping on withdrawal. The instrument may be made with less curvature, or nearly straight, and a shorter one used for penal strictures; but *one* has served me well enough, and can always be used if the size and length of the laminaria be adapted to that of the stricture. However, some surgeons may prefer to have two or three different sizes by them. F is an elastic probe-pointed

bougie,which ismuch thinner behind the expansion,and should be graduated into inches. This I use to diagnose the seat and length of the stricture. The method of using the instrument is as follows :—After desiring the patient to pass water before me, so as to get an idea of the size of the stream, I introduce a probe-pointed bougie a size smaller than that indicated by the size of the stream, and pass it on until I meet with an obstruction. Directly the passage of the bougie is impeded, I make a notch in it at the meatus, and then gently push or insinuate it through the stricture. I know at once when the obstruction is passed, because then the thin part of the bougie is in the stricture, and the feeling of resistance has gone. Then I attempt to withdraw the instrument, and of course meet with some resistance, and at once make another notch on the bougie at the meatus. On withdrawing it, which is easily done, as I always use a bougie about the size of the stricture, the seat and length of the stricture is known. The former, by the distance from the probed end to the notches, and the latter by the space between the notches. I then fit to the dilator a piece of laminaria of the length and thickness required, and pass it into the stricture, and leave it there for from half an hour to an hour or even more if necessary, of course dilating the anterior stricture first, if there be more than one. The expansion of the laminaria will vary according to its density or porosity. Before adjusting it to the instrument, I dip it in hot water, then wipe and oil it. The last may be done when it is adjusted, as the instrument should also be greased and warmed. After leaving it in the required time, which will be longer for small strictures, and *vice versâ*, it must be withdrawn with a slight rotatory motion, and a No. 8, 10, or 12 catheter passed and retained for two or three hours, and again passed and retained for an hour the

next day; it may then be passed every other day for a week, and kept in a quarter of an hour. This may be gradually diminished until it is only necessary to pass it very occasionally, so as to prevent the re-contraction of the canal.

The *objects* of this instrument are *rapid and safe* dilatation of the stricture, and its *advantages* are numerous. *First,* there is no risk; *secondly,* a vast amount of time is saved; *thirdly,* it is not necessary to keep a patient in bed more than a few hours. This is of course a great boon to private patients, and in hospital practice must be a vast saving to the funds of the institution, as one may discharge the patient in two or three days; *fourthly,* the mucous membrane of the urethra is not, I believe, lacerated; and *fifthly,* the degree of dilatation can be regulated by the time during which the laminaria is retained. Thus, this instrument has verified the hopes which I had concerning it, as it dilates strictures *equably, rapidly,* and *safely.*

Two years ago, when surgeon to the Westminster Dispensary, I tried the treatment by the ordinary laminaria bougies, introduced by Dr. Sloan of Ayr, and used by Mr. Colles of Dublin and others; but in the two cases which were submitted to their use, there was so much difficulty in withdrawing them, on account of their swelling behind the stricture, that I, in common with other surgeons who have tried them, discontinued their use. But believing the principle to be good, I thought, that if a simple instrument were devised, by means of which only enough laminaria could be introduced to fit the stricture, its benefits would be secured, without its disadvantages.

I need, here, only say that my cases have fully realized my anticipations, and have been quite as satisfactory to my patients as myself. I regret that the observations are not

more numerous, but I have now given, as I mean in future to give, *all* the cases, so that the profession may judge of the merits of the instrument from the successful as well as the unsuccessful cases, should there be any.

CASES.

Case 1.—Edward B—, æt. forty-two, was admitted into the London Hospital in December last, under the care of my colleague Mr. Couper, who kindly transferred this and the following case to me. His father suffered from gout, and he has had rheumatism. When fourteen years old he fell astride a jib-boom, but no ill effects followed. Has had gonorrhœa frequently, but not during the past twenty years. Ten years ago noticed difficulty in passing his water, but three years since he had retention and applied for relief to a neighbouring surgeon, who passed a catheter and afterwards split the stricture. He states that this proceeding was followed by bleeding and hurt a good deal, but that it cured (?) the stricture. He got on pretty well until three weeks before he came to the Hospital, when a small instrument was passed, and was followed by bleeding. On admission the bladder was found much distended and there was a very tight stricture in the membranous portion of the urethra, and the propriety of tapping the bladder was entertained, but Mr. Couper succeeded in passing a No. 3, through which 16 oz. of offensive urine were withdrawn. Three days later I had charge of the case, and with some difficulty, as the passage was tortuous, introduced a No. 2 laminaria dilator. This was kept in 50 minutes, and when

withdrawn a No. 10 catheter was passed easily and retained two hours. The man was discharged next day with a No. 10 elastic catheter, and when I last saw him, that is, a week after he went out, No. 12 was admitted easily. The cystitis had almost disappeared.

Case 2.—A sailor, æt. forty-four, who was also admitted early in December. He has had gonorrhœa several times, and has undergone treatment for stricture on several occasions at various places, and has been cut and burned. For some months past has suffered from cystitis. He has also had some of the tropical diseases, as ague and yellow fever. He applied to the Hospital for retention, and after warm baths a small catheter was introduced. About ten days after his admission he came under my care, and although Mr. Couper had, some days before, passed No. 5, on my attempting to do so, neither No. 5, 4, 3, nor 2 could be admitted. I should mention that he had two strictures, an orificial one and one at the posterior part of spongy portion of urethra. After leaving him quiet for a couple of days, I introduced a No. 2 dilator, or rather, the same instrument with a No. 2 laminaria, which was tightly grasped by the anterior stricture. This was left in for three-quarters of an hour, then withdrawn and the meatus admitted a No. 10. The anterior inch of this man's urethra had been divided from without, and the posterior stricture had previously been burned, so I had to deal with two strictures of the worst form—viz., organic ones made traumatic by incisions and caustic. I introduced a No. 2 dilator into the posterior stricture, and this was effected at the man's suggestion (who had passed instruments on himself) by twisting the penis so as to render the canal straighter. It was left in an hour, then withdrawn, and a

No. 10 catheter tied in for two days. In future I should not leave an instrument in so long, as it aggravates cystitis should there be any, or may perhaps set one going. This detained him in Hospital some time. His strictures were highly contractile, so much so that if an instrument were not passed frequently the passage would soon narrow. He can now pass a No. 11 with comfort and facility.

Case 3—was that of an out-patient who had suffered for eight years from a stricture following gonorrhœa. He had been treated by gradual dilatation, but as usual, the canal had again narrowed. A No. 3 laminaria was attached to the instrument and left in the stricture, which was situated at the junction of bulbous and spongy portions, and allowed to remain in forty minutes, when it was withdrawn and No. 10 passed. He now passes for himself a No. 12, and has been cautioned to do so occasionally to prevent the return of the contraction.

Case 4.—James W—, an old dispensary patient, having heard of this instrument, applied to me to treat him with it. I gladly acceded to his request, and passed a No. 3 laminaria into his stricture and dilated it within an hour to No. 8, a week after No. 12 passed, and he continues to pass it himself occasionally.

Case 5.—A medical friend sent to me a gentleman, æt. twenty-nine, who had suffered some time from a stricture, situated at junction of spongy and membranous portions of urethra. He had an anxious expression of countenance, was very dark under the eyes and complained much of lumbar pain. His sexual desires were not so strong as before he noticed the stricture, and he said that he could not

thoroughly void the semen, that some was always retained behind the stricture and dribbled away afterwards. He seemed in a very desponding mood, and, after re-assuring him, I passed a No. 2 laminaria into the stricture, which dilated up to No. 8 within an hour. He complained of a little itching as the laminaria began to swell, but this subsided shortly after. In two days No. 10 was passed, and at the expiration of a week No. 12 was easily admitted. When the cause of his troubles was removed, he soon returned to his usual health and spirits, and his satisfaction was very great.

Case 6.—William D—, a porter in the employ of a friend. He had long had stricture, and having been rather a free drinker, had neglected it. Urine slightly albuminous. Seat of stricture, same as in previous case. I introduced a laminaria equal to about ~~four~~ one and a half, and left it in an hour and ten minutes. When it began to expand he felt a slight tingling, but this soon subsided, and when the instrument was withdrawn, No. 9 was passed, and in a week, No. 11. He would not have a larger one introduced, and as he can pass an elastic No. 11 easily, there is no occasion for it.

In the two last cases it will be observed that there was a slight itching sensation in the urethra. This I think was due to the salt contained in the laminaria, which was set free as the latter expanded, and coming in contact with a chronically inflamed and granular membrane, caused a little tingling. But this is a very trivial matter when the advantages of this method of treatment are considered.

In conclusion, I would say that I shall be glad if my professional brethren will give this instrument a fair and impartial trial, and I have little doubt but that they will

meet with the same success that I have had. I do not think that it is a panacea for all kinds and degrees of stricture, but that which I have found an useful instrument and likely to be of great practical value, I can honestly recommend to their notice, and all I ask is, that they will give it "a fair field and no favour."

THE END.

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