

CHAPTER IV.

RETROSPECT.

THE foregoing paper was received by the Society with amiable attention, but called forth no discussion.

On its publication in the New York Medical Journal for March, 1873, it elicited no expressions of opinion or interest in the leading medical periodicals at home or abroad. The claim of curing gleet by division of Strictures, often not appreciable by straight bougies or bulbous bougies of the ordinary sizes, and, still more startling, the suggestion of the *radical cure* of Stricture were too improbable to warrant public consideration.

As time went on however, an increasing experience steadily strengthened my convictions on all the important points claimed. In addition to these I recognized more and more the necessity of ascertaining the normal calibre of the urethra in every case associated with urethral or vesical irritation; and also, the utter worthlessness of the meatus urinarius, as a guide to that calibre. The bulbous sounds, of which I had found a necessity of increasing the size up to 34 mm. were efficient explorers where the meatus urinarius was large, but were rendered useless for exhaustive examination, in all other cases, until after division of the urethral orifice.

Gradually I became convinced, that the nearer the meatus urinarius corresponded in size with the urethra behind it, the more nearly it approached the highest perfection, and that the fossa navicularis was the result of forcible dilatation, caused by a contracted meatus, (p. 33).

To measure the urethra, independently of the size of the orifice, seemed a great desideratum, not alone for detection of contractions or Strictures, but to harmonize the many conflicting statements by authorities in regard to the normal

urethral calibre. During the latter part of the year 1873, I devised an instrument which I termed the Urethra-metre, which promised to settle all the vexed questions in regard to urethral measurements. For the purpose of presenting this instrument to the profession (p. 77), and of discussing the views of Sir Henry Thompson (p. 70, et seq.) in regard to the methods of examination of the urethra for Stricture, and to combat what I believed to be a grave error of the English and French schools, in claiming an average standard for all urethræ, and still further, to demonstrate the possibility of the complete cure of Stricture (p. 81), I read a paper before the N. Y. Medical Journal Association in February, 1874. This was published in the N. Y. Medical Journal for April, 1874, as follows:

Urethrotomy, External and Internal combined, in cases of multiple and difficult Stricture; with Remarks on the Urethral Calibre.

In the early part of the year 1872, two cases of urethral Stricture presented in my service at the Strangers' Hospital, which were decided to be appropriate cases for the external or perineal incision, from the fact that the first was the subject of impassable Stricture at the bulbo-membranous junction, and that the second was suffering from a long, close, perineal Stricture, admitting only the finest whalebone filiform bougie, and also further complicated by the presence of several perineal fistulæ. The method of operation differed in some respects from that usually performed. The practice approved by authorities in such cases is to cut down upon a sound or other instrument which has been introduced through or down to the point of Stricture, and then from without to incise freely all Stricture-tissue until an instrument, sound or catheter, of the supposed normal dimensions of the urethra, can be readily passed through the urethra into the bladder. In the cases above alluded to, the modification of this procedure consisted in making the external perineal incision in great measure subsidiary to the operation of inter-

nal urethrotomy. This plan was determined on for the first case, with the idea of including in the same operation several Strictures which were present in the straight portion of the urethra, as well as the impassable one for which the perineal incision was demanded; and for the second, to avoid the necessity of laying open the scrotum in the division of the long Stricture, which was found to pursue a tortuous course through a mass of indurated tissue traversed by the perineal fistulæ.

The preliminary steps in this modified operation were taken as if the ordinary perineal section had been contemplated. An incision was then made down upon the anterior face of the Stricture, aiming to enter the urethra by as small an opening as possible, and through this opening, as a new point of departure, the endeavor was made, in the first case, to introduce a fine, soft, filiform guide through the posterior Stricture. Succeeding in this, the staff of Maisonneuve was entered at the meatus, and passed down through and past the perineal incision into the bladder; blades of the instrument, Nos. 2 and 3, were then slid down the staff in succession, cutting on the superior wall of the canal and dividing all remaining Strictures. A large silver catheter was then passed into the bladder. In the second case the same plan was pursued, with like result, as far as the contraction posterior to the incision was concerned, and a large bougie was passed from the incision into the bladder; but there still remained the long and close Stricture anterior to the perineal opening. A filiform guide was then passed from the meatus urinarius through the urethra and out of the perineal incision; the staff of the instrument of M. Maisonneuve was then screwed upon it and also passed through the urethra and out of the incision; this was followed by the blades Nos. 2 and 3 in succession; after which a full-sized catheter was passed through the entire urethra into the bladder.

The result of these operations proved highly satisfactory in both the cases alluded to, detailed accounts of which were published in the *New York Medical Record* of April 15, 1873.

Among the advantages which it seemed to me might be legitimately claimed for this modified perineal section, were—1. That it methodically included in the same operation all points of Stricture in the urethra, with only a limited division of the external urethral walls, and yet one sufficiently extensive for the free discharge of urine and of the fluids resulting from the operation. 2. That all divided Strictures, anterior to the perineal opening, were protected from contact with the urinary secretion after operation; thus obtaining the advantages of each operation, viz., external section and internal urethrotomy, and at the same time lessening the disadvantages if not the dangers of each as separately performed. With the view of illustrating still further the value of the procedure above described, and in order to call your attention to some important imperfections in the modes of procedure ordinarily pursued in the treatment of urethral Stricture, the following case is presented:

On the 31st day of July last, Mr. W. C. H., merchant, aged thirty-three years, presented at my office, with the history of a gonorrhœa thirteen years previous. This was severe in its accession, and, through the aid of strong injections, continued in a highly inflammatory stage for fully one month. It was supplemented by a free, almost painless muco-purulent discharge, which, in spite of a variety of treatment, internal and by injections, continued, in a greater or less degree, through all the succeeding twelve years and up to the present time. He had his first trouble in urination seven years ago, after excess in wine and sexual indulgence. This resulted in an attack of retention of urine, which was relieved after several hours' effort on the part of the surgeon, by the introduction of a flexible filiform catheter. From that time he had frequently been obliged to resort to the introduction of the catheter, but had never since suffered from retention. For the last two or three years he had been troubled with occasional attacks of intermittent (urethral?) fever, but was not aware that he had ever been exposed to any malarial influences.

He passed his water *guttatim*, but says that, occasionally,

he passes it in a fine, short jet, and that his condition in this respect has not varied materially for the last five years.

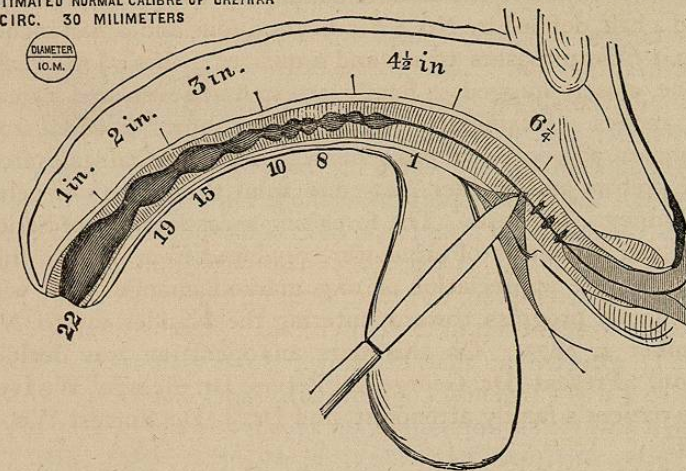
Examination showed the external genito-urinary apparatus fully developed; penis in flaccid condition, three inches in length, and three inches in circumference; from this I estimated the normal calibre of the urethra to be No. 30 F. Bulbous sounds detected a Stricture at the meatus, extending one one-third of an inch, measured by No. 22 F.; one at one inch, No. 19 F.; one at two inches, No. 15 F.; one at three inches, No. 10 F.; six distinct bands from three inches to four and a half, defined by No. 8 F.; beyond four and a half inches, No. 1 filiform passes to six and a quarter inches; $\frac{1}{2}$ m. whalebone, closely hugged, is finally arrested at seven and a quarter inches. Examination of the urine shows freedom from albumen, an occasional pus-globule, a few epithelial scales from the urethra and bladder, but none from the ureters or pelvis of kidney. No casts. The foregoing measurement of Stricture and condition of urine were reviewed from time to time without the appreciation of any marked changes, and with no further progress toward entering the bladder up to November 4, 1873. On this date an operation was decided upon. Present Dr. George A. Peters, Dr. George W. Ives, the patient's family attendant, and Dr. J. De Forrest Woodruff.

As the initial step in the anticipated operative procedure, ten grains of quinine and one-quarter grain of morphine were administered. The patient was then placed under the influence of ether, and the calibre and location of each of the Strictures were verified (as compared with the measurements already given) by the use of bulbous sounds and bulbous filiform bougies. It was then decided that the modified perineal section was indicated as affording promise of most rapidly and certainly restoring the urethra to its normal calibre.

No. $\frac{1}{2}$ whalebone filiform bougie was passed down to six and a quarter inches, beyond which it could not be persuaded. With this as a guide (which was skillfully managed by Dr.

Peters), I made an incision from a point just behind the scrotum to within an inch of the anus, cutting carefully down in line with the centre of the sub-pubic arch, until I came squarely upon the whalebone guide. At this point in the operation the knife was laid aside, and with No. 1 silver grooved-probe, entering the urethra through the incision from before backward, I passed it readily into the bladder. I then introduced the staff of the urethrotome of M. Maisonneuve alongside

ESTIMATED NORMAL CALIBRE OF URETHRA
CIRC. 30 MILLIMETERS



the probe into the bladder. A slight pressure accomplished this, when the probe was withdrawn, and the largest blade of M. Maisonneuve (capacity 22 F.) was passed, distinctly arrested at three points on its course, and, on withdrawal, a 20 F. catheter was introduced. No urine flowed, although the end of the instrument was felt to be free in the bladder. This was withdrawn and found to be obstructed by a clot, but contained urine. No. 24 was substituted, with precisely the same result. It was then concluded that the curved catheter passed up above the line of urine present. No. 24 straight catheter was then substituted, and the clear urine flowed freely through it. The straight catheter having been

closely embraced on entering, indicated some persistence of Stricture. I then introduced a straight, probe-pointed bistoury along it, and incised dense cicatricial tissue for fully an inch; withdrew the catheter, and passed No. 31 F. steel sound through the external incision back into the bladder.

The next step in the operation, after thoroughly incising the Stricture at the meatus, was the passage of the $\frac{1}{2}$ mm. filiform whalebone guide through the urethra, from the meatus down to and out of the perineal opening, then sliding down upon it the staff of a Maisonneuve (which was perforated at the extremity for this purpose),* it finally emerged from the perineal incision. The smaller blade of the urethrotome was then driven slowly down the staff, arrested abruptly at each Stricture, and required all the force which could be used without bending the shaft of the knife, before its passage through the spongy portion of the urethra could be effected. This was followed by a blade of the second size, with much the same results. A passage of the third and largest blade was then attempted, but this, after passing with great difficulty, through each of the Strictures, up to three inches, was finally arrested at that distance. After a thorough trial, in which I was efficiently supported by Drs. Peters and Woodruff, it was found impossible, on account of the density of the opposing Strictures, to divide them with this instrument. The staff of Voillemier's divulsor was then introduced through the Strictures and out of the perineal opening, and rapid divulsion made with the largest shaft (No. 30 F.). On examining the results of this last procedure, it was found that 28 F. bulbous sound was arrested at two inches. No. 26 passed, and defined the posterior face of the Stricture at two and a half inches; the same instrument was arrested again at four inches, finding slight resistance for half an inch, then passed freely down to the perineal incision. The (my) small dilating urethrotome was then introduced through the posterior Stricture, turned up to 30 F., and the narrow blade of the instrument drawn through it. This urethrotome was then adjusted to the

* The filiform traversing the entire length of the staff.

anterior Stricture, which was in like manner incised from four inches to four and a half (*i. e.*, about one-half inch). No. 31 F. steel sound was then easily passed down through the entire urethra into the bladder; thus evidencing—as much as the introduction of an ordinary steel sound can do—complete division of all the Strictures.

The patient rallied quickly from the effects of the ether, having been under its influence just one hour and three-quarters. The hæmorrhage occurring during the operation was slight, only two superficial vessels requiring ligature. At the end of a half-hour there was not the least oozing from either the wound in the perinæum or from the meatus; there was no complaint of pain subsequent to the anæsthesia; and, as I was leaving him, he emphatically expressed himself as feeling "*bully*."

From the date of the operation, November 4th, until the 10th, the patient, who was seen daily by either Dr. Ives or myself, had not the least untoward symptom. He had an average pulse of 76, and temperature not above $98\frac{3}{4}^{\circ}$. His urine, over which he had complete control, was passed *entirely through the perineal opening* for the first three days, after which a small portion found its way through the anterior section of the canal. A conical steel sound, No. 24 F., was now (six days after the operation) passed through the extent of the urethra, and followed easily by Nos. 25 and 26 F. A slight gush of blood followed No. 26 F., but stopped in a few moments. On the 12th passed Nos. 28 and 30 F.; patient, as on the previous occasion, doing well; says he has not had an ache or a pain since the performance of the operation. Hæmorrhage occurred on the next day, following the act of micturition; this was evidently from about the middle of the spongy portion. Dr. Ives was called; eight or ten ounces of blood were lost before it was completely arrested.

14th.—Tenth day after operation. Wound in perinæum closing healthily; passes water about equally through it and through the urethra anterior to it; feels well, eats well; walks about his room, or sits in his arm-chair, with equal

comfort. No further instrumental procedure was had until two weeks subsequently (December 28th), when he called at my office, saying that he felt quite well in every respect, that his stream was full size, and that only a few drops came through the perineal opening; he had gained several pounds in weight, and was looking in good condition. Examination of the urethra detects a recontraction of the Stricture at one and a half to two inches from the meatus, 17 F.; rest of canal apparently clear. Ordered ten grains of quinine.

December 4th.—Pass 17 F. easily, then 19 F., which was closely hugged.

6th.—Find the Stricture at from one and a half to two inches composed of two firm bands close together; introduce small dilating urethrotome; expand it to No. 28 F., with difficulty, on account of the great density of the Strictures; draw the blade of the urethrotome through them from behind forward, and pass 26 F. conical sound readily down into the bladder. No. 26 F. bulb passes down to the membranous urethra and returns, without giving any positive evidence of further recontraction at any point. Patient took ten grains quinine, and then started for home, three miles distant, in the cars, with directions to keep quiet for the remainder of the day.

Two days subsequently (December 8th) patient reports that there had been no hæmorrhage, no disturbance nor discomfort whatever following the operation, except slight smarting on urination: pass 25 and 26 F. conical sound with ease.

9th.—Patient calls to say that he had a smart chill, followed by fever and sweats, coming on about five hours after the introduction of the sound yesterday. Ordered five grains quinine to be taken three times a day.

12th.—Patient reports himself in good condition, having had no further trouble; a few drops of urine still exude from the perineal opening during micturition, but he passed *per urethram* a full and comfortable stream; 28 F. passes readily through the entire urethra.

15th.—Perineal incision completely closed; discharge

quite gone; patient makes a full and satisfactory stream: repeat passage of 28 F.

22d.—Pass 28 F.; 29 F. attempted, but finds resistance from three inches increasing to four and a half; smart bleeding followed the withdrawal of 29 F. Ordered ten grains of quinine.

29th.—Patient reports that, on the morning following the passage of 28 F. and the partial passage of 29 F. at his last visit, he had a succession of severe chills, and bleeding with stoppage of water about half the length of the penis, after each urination; finally a clot was expelled, and he had no further trouble. To-day a very sensible contraction is found at three inches, which permits only the passage of 23 F.

January 8th.—Examination with bulbous sound No. 24 finds a recontraction at one and a half inch; one at two and one-eighth, which arrests it; 17 F. only will pass, and is held on return at three inches. After which 23 F. conical sound is passed through the urethra without force, and followed with ease by 24 F.

13th, 14th.—Defined recontraction at two and a half to two and three-quarter inches; pass 24 F. and 25 F. with ease; from this date up to the present no examination has been made, and the patient, who appreciates the fact that there are features of rare interest and value to our profession in his case, has kindly consented to submit himself to an examination of his present condition in your presence.*

* In order to facilitate the examination and to relieve the patient from the annoyance of repeated explorations, a committee, consisting of Professor Alfred C. Post, Dr. James M. Minor, and Dr. L. De Forrest Woodruff, was appointed by the President of the Association to examine the case of Mr. —, presented by Dr. Otis. No. 17 F. bulbous sound was first carefully introduced by Professor Post in passing it down the urethra; this was distinctly arrested at the points of Stricture, at two and one-half and two and three-quarters, before mentioned, and also as distinctly defined on withdrawal of the instrument. The result was likewise confirmed by the remaining members of the committee. Dr. Otis then introduced, in full view of the Society and without force, No. 24 F. conical steel sound through the Strictures and into the bladder, the patient asserting that not the least pain was occasioned by this procedure. The removal of No. 24 F. was immediately followed by No. 25 F. with the same ease and free-

It will be worth our while to pass in review some of the more salient points in this case, several of which seem to me to be of great practical importance.

First in order seems to be the occurrence of an extraordinary number of distinct Strictures in the same urethra. One at the meatus, defined by bulbous sound No. 22 F.; one at one inch from the meatus, defined by bulbous sound No. 19 F.; one at two inches from the meatus, defined by bulbous sound No. 15 F.; one at three inches from the meatus, defined by bulbous sound No. 10 F.; six distinctly recognized bands from three to four and one-half inches, No. 8 F.; one apparently extending from four and one-half to six and one-quarter inches, permitting the passage of only No. 1 F. to six and one-quarter inches, and from this to seven and one-half inches, hugging one-third closely; three bands distinctly arresting the blade of the urethrotome when passing from the perineal urethral opening backward through the membranous portion of the canal: this makes in the aggregate *fourteen strictures*, distinctly defined and recognized by each of the gentlemen present and assisting in the original operation.

In order to appreciate the rarity of this point in regard to multiple Strictures, I will quote from a late edition of Sir Henry Thompson's work,* concerning the number of Strictures found in a single urethra: "Occasionally," he remarks, "several separate Strictures may be observed in the same subject. John Hunter records an instance where he met with *six* Strictures in one urethra: Lallemand mentions one with *seven*. Colot saw one with *eight*. Ducamp says there are rarely more than two, but that he has seen *four* or *five*. Boyer thought that *three* could exist together. A case is reported by Leroy d'Etiolles in which he found *eleven*; "but," Sir Henry further remarks, "it is necessary to state

dom from discomfort. The attention of the Society was then called by Dr. Otis to the interesting and important fact here demonstrated, that, while the bulbous sound No. 17 F. defined the Strictures distinctly, No. 25 F. steel sound failed to give any evidence of their presence.

* "Strictures of the Urethra," London, 1869, p. 68.

that this number rests only on the evidence afforded by the passage of an exploratory bulbous bougie (that is, a small gum-elastic sound with an olive-shaped extremity two or three sizes larger than the stem) on the person of a *living* patient. . . The Strictures," Sir Henry says, "to use the author's words, '*were for the most part in the spongy portion, about two and one-quarter lines distant from each other,*'—a condition," says Sir Henry, "which would perhaps be better described as *a series of irregular contractions* than by any statement of the exact number of the Strictures. Rokitansky speaks of *four*, and does not record a higher number as having come under his own personal observation." . . . "My own researches," he further states, "have not led me to recognize numerous independent Strictures in one urethra. *Three* or at most *four* distinct contractions I have seen, but such instances are very rare."

With the exception of M. Leroy d'Etiolles, Sir Henry Thompson does not inform us as to the methods of exploration in use by the various authorities he quotes, which, it seems to me, must greatly affect the value of their observations; and, in regard to the method of M. Leroy d'Etiolles, he casts an imputation of inaccuracy upon it by stating that the evidence of the existence of *eleven Strictures* in a single urethra, which he claims to have demonstrated, rests *only* upon the evidence afforded by the bulbous sound; and, as if this were not sufficient to discredit the possibility of eleven Strictures coincidently existing in the same urethra, he says, "even if they were defined by the bulbous sound, that they were not Strictures at all, in his opinion, but simply *a series of irregular contractions*" of the urethral calibre. John Hunter's statement that he met with *six* is accepted—even Colot's, who claimed to have seen *eight*; but M. Leroy d'Etiolles, who claims *eleven*, is *not* accepted as having recognized *Strictures*, but has been deceived by *irregular urethral contractions*.

Why, it may be pertinently asked, with his acknowledged skill and great experience, has Sir Henry Thompson only

been able to find *four* Strictures in a single urethra, and is evidently slow to accept the occurrence of a greater number in the practice of other surgeons? A satisfactory explanation may be found on page 147 of Sir Henry's work on Strictures of the Urethra,* where he gives directions for the exploration of the urethra with the view of ascertaining the presence or the absence of Stricture. "In order to effect this object," he says, "a flexible bougie of medium size, that is, from No. 7 to 9 of the English scale (16 to 18 French), is to be used, while as to form, it should be *rather slightly curved, and blunt, not conical at the point.*" . . . "Whatever the patient may say," he further remarks, "this rule is *always* to be adhered to. If a small instrument is employed, it might pass through the Stricture without giving any sign of its existence, and so fail to detect it; but, *if a No. 8 bougie (16 French) passes easily into the bladder, we may be satisfied that no Stricture or at most a very slight contraction only exists.*" †

"This bougie," he goes on to remark, "may be graduated in inches, for the purpose of noting at what distance from the external meatus obstruction is found."

Accepting this to be the best method of ascertaining the locality and calibre of the urethral Strictures (which I am very far from doing), I am only surprised that even Sir Henry was able to demonstrate the existence of *four* distinct Strictures in a single urethra; and, if the same method was pursued by Hunter, Colot, Ducamp, and others, I am sure the number they claim was found in *post-mortem* examination; for I do not hesitate to say that, with a straight or curved bougie, with simply a blunt end, such as advised by Sir Henry, no living surgeon could demonstrate the existence of more than three or four Strictures in any one urethra; and I will say, furthermore, that such a method is *unreliable and imperfect for the diagnosis of even a single Stricture.* Sir Benjamin Bell, who invented the ball-

* This is also repeated in his latest work on "Diseases of the Genito-urinary Organs," London, 1876, page 42.

† Am. Ed., 1869; p. 147.

probe, was aware of this fact, and M. Leroy d'Etiolles, who modified this invaluable instrument—resulting in the flexible, olive-shaped bulbous bougie—was, through its use, enabled to demonstrate on the living subject the presence of *eleven* distinct Strictures in the same urethra. Sir Henry Thompson distinctly states that, *if a No. 8 E. bougie (16 F.) passes easily into the bladder, we may be satisfied that no Stricture, or at most a very slight contraction exists.*

This teaching, it seems to me, is of the *utmost importance to combat as erroneous and leading to disastrous errors in the diagnosis and treatment of urethral Stricture.* I am the more strongly impelled to take this position from the perusal of a recent *brochure* on Strictures of the urethra, by Dr. T. B. Curtis, to whom, for this paper, the Civiale prize of two thousand francs was awarded during the past year. Dr. Curtis, the honored pupil of M. Guyon, of Hôpital Necker, and of M. Voillemier, may be safely accepted as mirroring truthfully the views of the French school of urethral surgery at the present time. In this paper he remarks, in regard to the treatment of Strictures by dilatation, page 46: "*The treatment shall be considered terminated when you shall have made to enter without effort No. 21. You will thus have restored to the canal the calibre of 7 millimetres (diameter), which represents the normal calibre of the canal of the urethra, which is more than sufficient for the purposes of micturition;*" and he goes on to say: "But the mission of the conscientious surgeon is not yet terminated. Although he may *have the right to send his patient away as cured,* he ought not only to have restored the strictured urethra to a calibre which can suffice for the passage of urine; *it is still his duty to put his patient in a position to give himself the consecutive treatment, without which all Strictures, by whatever manner treated, will relapse almost infallibly.*"* We have here laid down, on the authority of both the English and the French schools, the exact capacity of the human male urethra. Sir Henry Thompson, representing the English urethral interest, states it to be No.

* The *Italics* are my own.—F. N. O.