Treatment of Strictures of the Male Urethra.

Read in the Section on Surgery and Anatomy at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY JULIUS ROSENSTIRN, M.D.

SURGEON CALIFORNIA SURGICAL HOSPITAL (PRIVATE).

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TREATMENT OF STRICTURES OF THE MALE URETHRA.

To give you an elaborate description of all the different devices to relieve suffering man from strictures of his urethral canal would be very tiresome indeed. Fortunately, the ten minute limit precludes any such wild desire on my part, and I shall give you simply a brief aphoristical record of my personal views and conclusions, drawn from a rather ample experience. Urethral strictures are attacked either by gradual dilatation, rapid dilatation, divulsion, electrolysis, internal or external urethrotomy or both combined, either the perineal or high section or urethrectomy with or without urethroplasty. The treatment of strictures varies according to their size. Strictures of large caliber as over No. 14 or 15 French, (French measure is the only rational one and should be universally adopted) should nearly always be treated by gradual dilatation. Metallic sounds are the best for the purpose. Use antiseptic precautions. Clean the glans and prepuce well with soapsuds, then with ether and alcohol, finally with solution of 1 to 1,000 bichlorid or 5 per cent. carbolic acid. Wash out the urethra through soft catheter with solution of Condy's fluid 1 to 50, then cocainize urethra with 5 per cent. solution. Sterilize your sound, lubricate with 10 per cent. borated glycerin, and you are ready for introduction. Never push the sound into the bladder but stop at the membranous part.

I had a good many troublesome cases of cystitis come to me, where the patients dated the commencement of their suffering back to the first introduction

of an urethral sound. I leave the instrument in ten to fifteen minutes, to stimulate absorption of products of inflammation in the urethral wall, by pressure massage. After two or three days' rest, during which time, in irritable cases, salol, salicylate of soda, boracic acid or quinine can be given in full doses night and morning, you introduce the same size again and will be able in most instances to use immediately afterwards the next size. For some strictures of large caliber in the pendulous portion of the urethra, of older date and unyielding in character, internal urethrotomy is recommended. I have never in my own experience found it necessary, and believe it is well to remember that a vast majority of these so-called large calibered strictures are physiologic narrowings and ought to be left severely alone. Another exception must be made for true stricture of the meatus and fossa navicularis, which can be quickly and safely cut at the floor by a short, convex, blunt-tipped tenotome. I lay particular stress on the expression "true strictures," for as Keyes says, "meatotomy and anterior urethrotomy have run riot in the profession and have led to much unnecessary surgery and some positive injury." Strictures of small caliber, that allow the passage of a sound, should also be treated with gradual dilatation. I rarely try the introduction of metal sounds below No. 7 or 8. Injuries to the urethral walls and false passages are, in the majority of cases, traceable to such attempts. Flexible bulb-tipped bougies should be used. If even the smallest size does not pass readily, a prolonged pressure can be exercised by fixing and holding it against the stricture, for several hours.

If that does not succeed, the filiform whalebone bougies should be tried, either the straight, angular, or screw-tipped. Sometimes by introducing successively several filiform bougies, side by side, one is made to pass. If one should only enter the stricture and not pass it, the bougie can be tied there and left twenty-four hours *in situ*, after which time it often

passes. Should no pressing symptoms exist at the time, you can leave the filiform bougie for one or two days, after Lefort's method of "dilatation—immediate progressive," with the certainty almost, that other bougies can be passed alongside and may be used as a guide for a tunneled catheter or for soft and metal bougies. If expediency is necessary, the introduction of a tunneled catheter can be tried over the guiding filiform at once, or the whalebone bougie may be used for a guide to perform external urethrotomy. Every careful and persevering effort should be employed to succeed in gradually dilating even these refractory strictures. Internal urethrotomy of the posterior urethra with the Maisonneuve or Teevan's instrument from before backward, or from behind forward with the old Civiale, or Sir Henry Thompson's modification, or Roser's urethrotome and our own Otis' instrument is an operation I most heartily dislike. I consider it dangerous and unsurgical and believe it will be abandoned like the discision of the cervix uteri by the uterotome. I used it formerly, also, in the few strictures of the anterior urethra that resisted dilatation, where I now leave a bougie *a-demure* for about twenty-four hours with antiseptic washings and obtain excellent results; and in the exceptional cases where, in spite of the most careful asepsis, rigors and urethral fever followed each and every introduction of a dilating instrument, the patient refusing external urethrotomy; or in cases with multiple strictures where I performed external urethrotomy on the most central one, cut the others internally and plugged the urethra in front of the opened part for several days with iodoform gauze. Fortunately, I never met with a serious accident from internal urethrotomy, but the possibility of infecting the deeper strata of the wounded urethra, the danger of uncontrollable hemorrhage always gives me a feeling of uncomfortable insecurity when I am forced to undertake it.

External urethrotomy with Symes' staff and Teale's

probe gorget, as described by Treves in his admirable book, should be the operation of choice in all strictures of the deeper urethra where gradual dilatation is impossible. Perineal section takes its place where no instrument, however small, can pass the stricture. I performed it twice after Wheelhouse's method, the urethra being divided over the end of his staff, the urethral walls held apart by long threads drawn through it, the central opening found either by the eye or probing, and cut into on the probe gorget. I prefer this method to Cook's operation, where "you go it blind," having as a guide only your index finger in the rectum, pressed against the apex of the prostate gland. With all these manipulations and operations the strictest asepsis and antisepsis must be exercised, together with internal administration of drugs for rendering the urine sterile or even give it some antiseptic properties. For external and internal urethrotomy, as well as perineal section, the introduction of a full-sized metal bougie immediately after the operation and at regular intervals of a few days afterward, till dismissal, must not be neglected. It insures better than anything else the healing and closing of the wounds. I was forced on one occasion to apply retrograde catheterization. Four years ago the son of a dear friend and colleague, out hunting, dragging his gun after him, received its entire load of shot into the perineum and adjoining parts, lacerating the scrotum and penis in a frightful manner. The boy remained on the ground six or eight hours before he was found; there was retention of urine, relieved only by puncture of the bladder and aspiration, until I arrived about two days after the accident. It was impossible to see anything in the swollen and lacerated parts. I opened the enormously distended bladder and drew a soft rubber catheter from behind forward carefully through the remnants of the urethra and united the lacerated parts over it. It was done easily and should be practiced in all cases where after a thorough search the posterior

opening of the urethra can not be found. Urethrectomy, excision of parts of the urethra, on account of very callous and fibrous indurated urethral and peri-urethral tissue, has been successfully practiced after Guyon by quite a number of European and American operators. In cases of traumatic stricture, Guyon excises the hardened peri-urethral tissue, and insists upon the removal of the entire circumference of the indurated part of urethra, in opposition to others who leave the upper wall. He deems it unnecessary to unite the cut ends of the urethra, but sews the surrounding parts with a double row of buried continuous catgut sutures and adds an external row of deep and superficial silkworm-gut sutures. He leaves a permanent catheter for three or four days; the results are excellent.

Urethrectomy has been combined with urethroplasty—the substitution of the removed part of the urethra by transplantation of some other piece of mucous membrane. Pieces from the inner layer of the prepuce, after Meusel, have been used most frequently, but various other sources are made to serve, from the prolapsed uterus of lovely woman down to the esophagus and bladder of the guinea pig. The methods of divulsion or forced catheterization are most reprehensible and unsurgical. They possess all the faults of internal urethrotomy with the additional ones, that the wounds, made by the operation, are rough and lacerated and unknown in their extent.

No general definite conclusions have been arrived at as to the therapeutic value of electrolysis. My own experience would not justify as great an enthusiasm as most of its advocates demonstrate, or as severe a condemnation as comes from the members of the opposing faction. In a few cases a very careful employment of this method seemed to ease and hasten the progress of gradual dilatation; in a great many others no effect could be attributed to its application. I have not as yet used Deno's water electrode

for this purpose, an instrument that is reported to permit the application of forty to sixty milliampères without pain and with great success.

The surgeon called upon to treat stricture of the male urethra will be impressed with the fact that the great therapeutic maxim of our craft, *nil nocere*, should be foremost in his mind.

Gradual dilatation is always a safe method and should be employed whenever feasible, although it lacks the great desideratum of permanency in its curative effects. I doubt very much that internal urethrotomy is any more lasting. I have seen a great many relapses after this treatment which, together with its many objectionable features, gives external urethrotomy or one of its allied modifications the decided preference in all instances unsuitable for gradual dilatation.