

Can Urethral Stricture be Treated Under Local Anesthesia?

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Abstract

Objectives : to evaluate the ability to treat mid urethral stricture under local anesthesia.

Material and Methods

A total of 15 patient aged 19 to 72 years old with lower urinary tract symptoms (LUTS) mainly poor stream and incomplete emptying , High post void residual urine on Ultra sound (Mindray DC30 hospital type) and low Q max (uroflow metery) , diagnosed as urethral stricture by urethrogram less than 1.5 cm were included in this study. Starting by insert 10-15 ml of lidocaine gel 5% in side urethra and waiting for 20 minutes then Checking cystoscopy done by C Mack karl stroz to diagnosis the urethral stricture and identifying urethral stricture then to passed hyderophilic guide wire (indovasive nano glide straight tip size 0.032) to bladder and confirm its position in bladder with Ultra sound (Mindray DC30 hospital type) then gradually dilated the urethra with flexible dilators (indovasive from 6 fr to 24 fr) then rescope the patient to ensure potency of urethra with C Mack and finally inserted foley catheter 16 -18 fr keep it for 10 -14 days, and follow up patient with International Prostate Symptoms Score, PVR assessment by Us and Q max by flowmetry.

The study was approved by the ethical committee of the Iraqia Med school Written informed consent was obtained from all patients participating in the study. Patients were provided with a direct phone number to call in case of any bothersome adverse effects during the post operative period after dilation.

Data were entered and analyzed using SPSS version 25.

The IPSS symptoms score, PVR values and Q max were compared the study group before and after dilation Student paired-samples t-test using Numbers version 10.1 for MacBook pro2020.

Results

There were significantly decrease in overall PVR before and after (mean PVR before dilation $218.6 \pm cc$ and after dilation $12.8 \pm cc$ $p < 0,000000000027$) and IPPSS before and after (mean IPSS before $20.5 \pm cc$ IPSS after $9.33 \pm cc$... $p < 0,00000000000031$) . And significantly increase in Q max before and after (mean Q max before $7.43 \pm cc$... after $20.2 \pm cc$ $p < 0,0000000000055$) . All patient tolerate the dilation with no complication apart from little discomfort from foley which vanished with time.

Conclusion Mild urethral stricture can be treated under local anesthesia successfully with frequent dilation can avoid patient GA or Spinal anesthesia.

Introduction

Scaring that involves epithelium and corpus spongiosum in ant urethra ¹. Urethral stricture disease can develop throughout the entire length of the male urethra and can be caused by a large variety of etiologies. To date, urethral stricture disease in men, though relatively common, represents an often poorly managed condition [1]. The terminology describing male urethral anatomy is often used incorrectly and thus needs clarification. In fact, the male urethra consists of the following segments (from bladder neck to meatus urethrae): the posterior urethra, containing the prostatic urethra and the membranous urethra, and the anterior or spongy urethra (embedded in corpus spongiosum), containing the bulbar urethra (between the membranous urethra and the penoscrotal angle) and the penile urethra (between the penoscrotal angle and the meatus urethrae). Etiology of urethral stricture disease , involves the following: idiopathic, iatrogenic, external trauma, infection, and lichen sclerosus. In 2013, a comparative analysis showed that urethral strictures in India are proportionally more caused by an external trauma and less by an iatrogenic cause, when compared to the USA and Italy Meanwhile, in the Western World, the most important stricture etiology is iatrogenic⁴. In developing countries primarily face infectious strictures

after venereal infections or after a nonspecific urethritis (Etiology and current clinical characteristics of male urethral stricture disease: experience from a public teaching hospital in Senegal).

As regards lichen sclerosus, a skin condition with an important predilection for the anogenital region, its urethral involvement is a well-known aspect of the disease and potentially gives rise to urethral strictures at the penile or bulbar site (Lichen sclerosus and isolated bulbar urethral stricture disease).

Treatment urethral stricture can be treated by Dilation, endoscopic treatment and Open Reconstructive Treatment
2. We will discuss and focus on dilation as an option for treatment of urethral stricture.

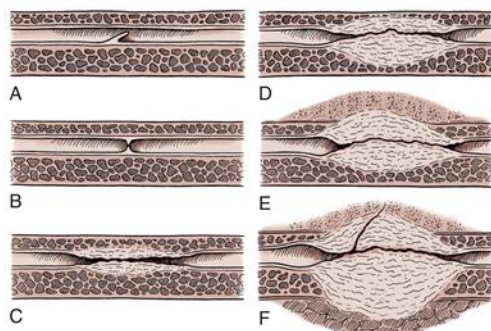


FIG. 18.13 The anatomy of anterior urethral strictures includes, in most cases, underlying spongiofibrosis. (A) Mucosal fold. (B) Iris constriction. (C) Full-thickness involvement with minimal fibrosis in the spongy tissue. (D) Full-thickness spongiofibrosis. (E) Inflammation and fibrosis involving tissues outside the corpus spongiosum. (F) Complex stricture complicated by a fistula. This can proceed to the formation of an abscess, or the fistula may open to the skin or the rectum. (From Jordan GH. Management of anterior urethral stricture disease. *Probl Urol* 1987;1:199-225.)

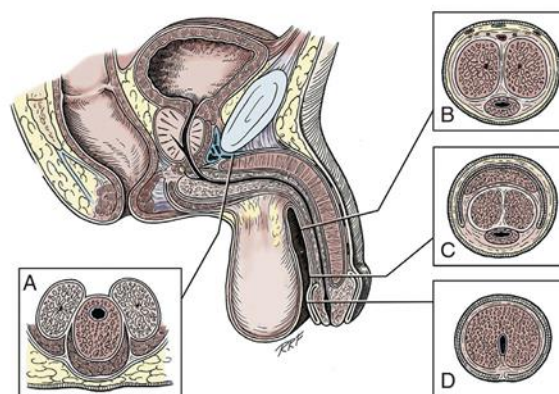


FIG. 18.5 Diagrammatic cross sections of the anterior urethra. (A) The bulbous urethra. The urethra is eccentrically placed in the corpus spongiosum. Proximally, the corpora cavernosa have split into individual crura, with the urethra lying against the triangular ligament. (B) In the shaft of the penis, the urethra is more centrally placed in relation to the corpus spongiosum, and the corpora cavernosa are intimately fused, separated only by septal fibers. (C) At the coronal margin, the urethra remains relatively centrally placed, and the corpora cavernosa are fused, again separated by septal fibers. The spongy tissue of the corpus spongiosum has become incorporated as the deep tissues of the glans. (D) The fossa navicularis widens in caliber and is totally surrounded by the spongy erectile tissue of the glans penis. The urethra here is relatively ventrally placed in relation to the body of the corpus spongiosum. (From Jordan GH. Complications of interventional techniques of urethral stricture disease: direct visual internal urethrotomy, stents and laser. In Carson C, ed. *Topics in clinical urology: complications of interventional techniques*. New York: Igaku-Shoin, 1996:86-94.)

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Discussion

When dealing with a short urethral stricture, an internal urethrotomy is typically the method of choice because it may be performed as an outpatient operation and has a short operative duration. Studies on the use of lidocaine gel for local urethral anesthesia have been conducted, but the findings have been inconclusive [2–6]. In the majority of these trials, the procedure was considered to have been well tolerated; however, the anaesthetic technique did not find acceptance in clinical practice. However, Verla et al. reported that three of the 18 patients who were given topical anaesthetic did not make it through the procedure because of the excruciating discomfort [2]. In addition, Ye et al. reported that urethrotomy under local urethral anesthesia resulted in severe and acute pains during the incision of the fibrous scar tissue, and the majority of patients were unable to tolerate the discomfort [7]. This was the case even though the patients had been given anesthesia to numb the urethra.

There are many different treatment alternatives that have been researched and documented, and these treatment options vary based on the localization, length of stricture, density of fibrous tissue in the area of stricture, choice of patient or surgeon, and experience of surgeon (8,9). The internal urethrotomy is the method that is recommended the vast majority of the time since it is easy, affordable, and has a high rate of repeatability (10,11). According to the findings of a number of studies, the success rate following an internal urethrotomy ranges from 32 percent to 90 percent, whereas the recurrence rate ranges from 38 percent to 75 percent (11, 13). It has been reported that laser urethrotomy and dilatation have respective success rates of approximately 60 percent and 70 percent of the time (14, 15). There have been some attempts made, but clinical data is relatively limited, to determine which surgical approach is the most effective and cost-effective in the treatment of male urethral strictures. These attempts have been made in an effort to determine which surgical approach is most effective in treating male urethral strictures (16). It is difficult to compare the efficacy of dilatation and internal urethrotomy as the initial treatment for urethral strictures because there are few randomised, prospective trials comparing the two treatments. This makes it difficult to determine which treatment is more effective. The findings of the investigations indicate that both methods generate results that are equivalent; however, the effectiveness of both methods reduces as the length of the stricture increases. As a consequence of this, the authors only recommend these treatments for strictures that are shorter than 2 centimeters in length and between 2 and 4 centimeters in length; strictures that are longer than 4 centimeters should be treated with primary urethroplasty (14). Despite the lack of data to support the assertion that internal urethrotomy is superior to dilatation, a large number of urologists have a strong intuition that it is (17). Urethral dilatation is a management method that has been used all the way back to the sixth century B.C., so it's been around for quite some time (9). They eliminate the necessity for an anesthetic to be supplied intravenously, spinally, or generally in the procedure. It is a simpler, less invasive surgery that has the possibility of being carried out in an office environment, and it involves a lower level of surgical expertise as well as a smaller amount of surgical equipment (18, 19). Even if there is a significant possibility that adverse effects will occur, blind urethral dilators are nonetheless widely used for the procedure of urethral dilatation at the present time. Dilatation of the urethra with a guidewire lowers the risk of complications that are often associated with dilatation procedures that are performed blindly.

It is more common for a flow rate of less than 10 mL/second to be related with symptoms and with the secondary effects such as recurrent hematuria or recurrent urinary tract infection and with characteristics of overt bladder blockage on ultrasonography; however, this is not always the case. Symptoms and secondary effects include things like recurrent hematuria or recurrent urinary tract infection. If the patient experiences any difficulties as a result of the stricture, it should be addressed; however, if the patient does not, the patient should be monitored. When the patient's flow rate is less than 5 milliliters per second, irregularities such as those described in the previous paragraph have a much increased likelihood of occurring, and the patient may be at increased risk for acute retention. However, acute retention is a lot less prevalent than one would assume considering the severity of the

constriction of the urethra that is seen in such a condition. This is the case because acute retention causes the urethra to become significantly more constricted (21). Even though the patients' symptoms of having trouble urinating are not very bothersome, it is nevertheless recommended that they receive treatment for their condition. However, the predominant symptom that all of our patients demonstrated was trouble voiding, and this was the case even though none of them were suffering from a severe case of urine retention when the procedure took place. In order to lessen the likelihood of recurrent stricture, it has been suggested by a few authors that, following an internal urethrotomy, one should next undergo a brief dilatation (7, 8). In addition to that, we used this procedure for the dilatations that we carried out on these patients. In spite of the fact that the technique took a little bit longer than blind dilatation, we emerged from it feeling a great deal more confident in our capabilities.

Conclusion

Mild urethral stricture can be treated under local anesthesia successfully with frequent dilation can avoid patient GA or Spinal anesthesia and may be considered an alternative method for urethrotomy, you can offer your patient

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