Management of Anterior Urethral Stricture: A Survey of Contemporary Practice of Iranian Urologists

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Urethral stricture, a prevalent urological morbidity, predominantly affects older adults and is more prevalent in developing nations. It can result from chronic gonococcal urethritis or be idiopathic, iatrogenic, or congenital in developed countries[(1)]. Symptoms range from urinary stream disturbances to voiding difficulties, dysuria, or sometimes no noticeable symptoms[(2)]. Open urethroplasty is the standard treatment for anterior urethral strictures, with minimally invasive methods like urethrotomy and dilation considered for shorter strictures. However, these minimally invasive approaches have high recurrence rates and are temporary solutions[(3–5)]. Studies indicate a global trend among urologists, including a reluctance to adhere to recommended guidelines for open urethroplasty. This study assesses the attitudes of Iranian urologists towards managing urethral strictures.

The Men's Health Research Center of Shahid Beheshti University conducted a web-based survey among 527 practicing Iranian urologists from August 2021 to June 2022, with 376 participants ultimately included. The survey focused on various aspects such as years of experience, demographics, the adequacy of education on urethral stricture treatment, frequency of open urethroplasty procedures, and perceptions of neglect towards open urethroplasty in Iran.

The study population had a mean age of 46, ranging from 29 to 66 years (mean = 46.09, std = 6.43). A significant portion (64.36%) had over 10 years of experience. Most urologists attended Tehran University of Medical Sciences (22.87%), followed by Shahid Beheshti University of Medical Sciences (15.95%) for their residency. Only a small number (3.19%) specialized in pediatric urology. General urology was the preferred specialty (50.79%), with reconstructive surgery being chosen by only 1.32%. A minority (5.05%) believed urethroplasty should be the primary treatment. The majority (80.6%) felt open urethroplasty was underutilized due to lack of experience, with other reasons including difficulty (12.7%), lower success rates compared to minimally invasive methods (4.78%), and complications (1.86%). Only 6.64% reported adequate training during residency, while 80% agreed that urethroplasty is ignored.

A total of 224 participants (59.57%) treated only 6 to 10 patients with urethral strictures within a six-month period. Additionally, in a span of one year, two urologists (0.53%) conducted over 20 urethroplasties and 353 (93.88%) did not perform open urethroplasty at all. Urethral dilatation (87.5%, n = 329) and internal urethrotomy (64.9%, n=244) were the most frequently used procedures during the six months preceding the survey (**Table 1**). In treating a 34-year-old man with a 3.5 cm stenosis in the bulbar region of unknown cause, surgeons opted for urethroplasty using oral mucosa in 286 (76.06%) of cases and penile skin flap urethroplasty in 24 (6.38%) cases. Similarly, for a 26-year-old healthy man with a 1-cm stricture of the bulbar urethra, who had previously failed internal urethrotomy twice in the past two years, 266 (70.74%) of cases favored end-to-end urethroplasty, followed by internal urethrotomy in 43 cases (11.43%). Regarding diagnostic methods, urologists could choose and prioritize multiple options, with 98.67% (n = 371) selecting Retrograde-antegrade urethrography as their primary choice.

The findings reveal a notably low inclination among urologists toward open urethroplasty and a limited adherence to existing urethral stricture management algorithms. The scarcity of open urethroplasties contributes to a lack of experience in this method, exacerbating the overall non-expertise in the field. Many participants acknowledge a deficiency in proper training on urethroplasty. Additionally, when expressing their views on current guidelines, a majority leans toward minimally invasive management, suggesting a limited awareness of recent guideline advancements. In instances of longer strictures and repeated failures of minimally invasive procedures, there is a notable increase in urologists favoring urethroplasty as the primary treatment. However, the survey underscores that the length and location of the stricture hold greater importance than the number of previous unsuccessful procedures in determining the indication for urethroplasty. The number of failed attempts with minimally invasive approaches ranked second in influencing the decision for urethroplasty indication. In comparison to other studies, retrograde-antegrade urethrography was more frequently used for diagnosis among Iranian urologists. Furthermore, the survey did not identify any association between the institution of the residency program and the neglect of urethroplasty techniques among Iranian urologists.

This survey, with a response rate of approximately 71%, suggests a low likelihood of response bias. However, the majority of participants were educated in Tehran, Shahid Beheshti, and Iran universities, indicating a potential bias source. Future studies should include participants from other institutions to mitigate this bias. The survey highlights Iranian urologists' preference for minimally invasive procedures due to insufficient training and limited

Table 1. Number of strictures treated annually, type of procedure, and number of urethroplasties.

Variables	N (%)
Number of strictures treated annually	
None	14 (3.72)
6-10	94 (25.00)
11-20	271 (57.71)
1-5	47 (12.50)
>20	4 (1.06)
Procedures performed	
Internal urethrotomy	244 (64.89)
Urethral dilatation	329 (87.50)
Urethral stent	28 (7.44)
Meatotomy	315 (83.77)
Perineostomy	4 (1.06)
End-to-end urethroplasty	22 (5.85)
Penile skin flap urethroplasty	5 (1.32)
Urethroplasty with buccal mucosa graft	14 (3.72)
Penile fasciocutaneous flap urethroplasty	1 (0.26)
Number of urethroplasties performed annually	
None	353 (93.88)
1-5	17 (4.52)
6-10	4 (1.06)
11-20	0 (0)
>20	2 (0.53)
Other	22 (5.85)

experience in open urethroplasty, suggesting a need for improved training to enhance their expertise in managingurethralstrictures.

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