Male Urethral Strictures: A National Survey Among Urologists in Italy

Enzo Palminteri, Serena Maruccia, Elisa Berdondini, Giovanni Battista Di Pierro, Omid Sedigh, and Francesco Rocco

OBJECTIVE To determine national practice patterns in the management of male urethral strictures among Italian urologists.

METHODS We conducted a survey using a nonvalidated questionnaire mailed to 700 randomly selected Italian urologists. Data were registered into a database and extensively evaluated. Analysis was performed using SAS statistical software (version 9.2). Statistical significance was defined as $P \leq .05$.

RESULTS A total of 523 (74.7%) urologists completed the questionnaire. Internal urethrotomy and dilatation were the most frequently used procedures (practiced by 81.8% and 62.5% of responders, respectively), even if most urologists (71.5%) considered internal urethrotomy appropriate only for strictures no longer than 1.5 cm; 12% of urologists declared to use stents. Overall, minimally invasive techniques were performed more frequently that any open urethroplasty ($P = .012$). Particularly, 60.8% of urologists did not perform urethroplasty surgery, 30.8% performed 1-5 urethroplasties yearly, and only 8.4% performed >5 urethroplasty surgeries yearly. The most common urethroplasty surgery was one-stage graft technique, particularly using oral mucosa and ventrally placed. Diagnostic workup and outcome assessment varied greatly.

CONCLUSION In Italy, minimally invasive procedures are the most commonly used treatment for urethral stricture disease. Only a minimal part of urologists perform urethroplasty surgery and only few cases per year. The most preferred techniques are not traditional anastomotic procedures but graft urethroplasties using oral mucosa; the graft is preferably ventrally placed rather than dorsally. There is no uniformity in the methods used to evaluate urethral stricture before and after treatment. UROLOGY 83: 477–484, 2014. © 2014 Published by Elsevier Inc.

Urethral stricture disease is one of the oldest pathologies known in urology.[1-3] In the last decades, its management has undergone significant changes, passing from various minimally invasive but often unsuccessful procedures to definitive open urethroplasty as the procedure of choice.[1,4]

Although long-term results are excellent, urethroplasty can be technically demanding and time-consuming. Thus, the decision on how to treat urethral stricture often remains midway between a highly efficacious but complex surgical procedure and a minimally invasive but less effective approach. Despite the fact that multiple studies have demonstrated the long-term inefficacy of internal urethrotomy (IU) and urethral dilatations, these procedures remain by far, the most commonly performed treatments, probably because of their simplicity, ease of repetition, and lack of familiarity with the open urethroplasty.[5-9]

Currently, no consensus exists for the treatment of urethral stricture disease. Moreover, the number and types of procedures performed nationwide are yet to be ascertained in different countries.

Two interesting surveys among urologists in the Netherlands and the United States revealed that most of them have little experience with urethroplasty, and despite predictable failure minimally invasive techniques are often performed.[3,10]

We performed a similar survey in Italy to obtain information on the current strategies in the management of urethral stricture disease and to ascertain if there were any significant differences between Italy and other nations.

MATERIALS AND METHODS

A nationwide survey of practicing Italian urologists was performed by mailed questionnaires.

Financial Disclosure: *The authors declare that they have no relevant financial interests.*
Funding Support: *This work was supported by Pierre Fabre.*

From the Center for Urethral and Genitalia Reconstructive Surgery, Arezzo, Italy; the Department of Urology, San Donato Hospital, Milan, Italy; the Department of Scienze Ginecologico-Ostetriche e Scienze Urologiche, Sapienza University, Rome, Italy; the Department of Urology, Le Molinette Hospital, Torino, Italy; and Clinica Urologica I, Università degli Studi di Milano, Fondazione IRCCS Ospedale Maggiore Policlinico, Ca' Granda, Milan, Italy

Reprint requests: Enzo Palminteri, M.D., Center for Urethral and Genitalia Reconstructive Surgery, Via Dei Lecci 22, 52100 Arezzo, Italy. E-mail: enzo.palminteri@inwind.it

Submitted: July 15, 2013, accepted (with revisions): October 13, 2013

http://dx.doi.org/10.1016/j.urology.2013.10.043

The nonvalidated questionnaire (see Appendix) was based on a nationwide survey first performed in the United States and subsequently in the Netherlands.[3,10]

The survey elicited information on respondent demographics, number of urethral strictures managed yearly, diagnosis, treatment, and follow-up strategy of male urethral stricture disease.

A total of 700 board-certified, practicing urologists from the Italian Urological Association directory were randomly selected from each of the 3 wide areas of Italy (Northern, Central, and Southern Italy). The questionnaire was mailed to all of them in June 2009, and a total of 523 of 700 (74.7%) completed the questionnaire.

On receipt of the completed questionnaires, data were entered into a computer database and extensively evaluated. Analysis was performed on all completed and partially completed surveys using SAS statistical software (version 9.2). Statistical significance was defined as $P \leq .05$.

Responding urologists were classified by age group, geographic distribution, practice type, and field of interest.

RESULTS

Responders were divided into 4 groups according to their age: 102 of 523 (19.5%) in group 30-39 years, 155 of 523 (29.6%) in group 40-49 years, 210 of 523 (40.1%) in group 50-59 years, and 56 of 523 (10.8%) in group >60 years. The geographic distribution was as follows: 197 of 523 (37.7%) urologists in Northern Italy, 161 of 523 (30.8%) in Central Italy, and 165 of 523 (31.5%) in Southern Italy. The practice type was private in 43 of 523 (8.2%) urologists, government 432 of 523 (82.6%), and academic 48 of 523 (9.2%). The field of interest was endourology in 196 of 523 (37.5%) urologists, andrology 86 of 523 (16.4%), general urology 79 of 523 (15.1%), lithiasis 53 of 523 (10.2%), oncology 49 of 523 (9.4%), reconstructive surgery 22 of 523 (4.2%), pediatric urology 7 of 523 (1.3%), and others 31 of 523 (5.9%).

Table 1 lists the number of urethral strictures treated annually and also the type and number of procedures performed in the last year.

Table 2 lists the management of bulbar urethral strictures: when presented with a long (3.5 cm) primary bulbar urethral stricture (case 1) or a short (1 cm) bulbar urethral stricture refractory to IU (case 2), 53.3% and 26% of urologists, respectively, would continue to manage the stricture by repeated endoscopic and minimally invasive procedures, despite predictable failure. Almost 68.8% and 83.5%, respectively, would perform some type of urethroplasty.

Table 3 lists details on maximum stricture length, which IU is considered appropriate for and the duration of transurethral catheter after IU: most of urologists (374 of 523; 71.5%) considered IU to be recommended only for strictures no longer than 1.5 cm.

According to the published data, 342 of 523 (65.4%) of the responders thought that urethroplasty is the best option only after failed minimally invasive treatments. Only 177 of 523 (33.8%) would also consider urethroplasty as a primary treatment option.

Table 1. Urologists categorized by number of urethral strictures treated annually, type of procedures performed, and number of open urethroplasties performed in last year

Variables	No. of Urologists (%)
No. of stricture patients treated per year	
None	45 (8.6)
1-5	228 (43.6)
6-10	153 (29.3)
11-20	66 (12.6)
>20	31 (5.9)
Procedures*,†	
Dilatation	327 (62.5)
IU	428 (81.8)
• By Otis	• 222 (42.4)
• By Sachse	• 344 (65.8)
• With laser	• 75 (14.3)
Endourethral stent	66 (12.6)
Meatotomy	225 (43)
End-to-end urethroplasty	45 (8.6)
Perineostomy	32 (6.1)
One-stage urethroplasty using skin flap	47 (9)
One-stage urethroplasty using graft‡	111 (21.2)
Oral mucosa graft	88 (16.8)
• From cheek	• 72 (13.8)
• From lip	• 13 (2.4)
• From tongue	• 3 (0.6)
Skin graft	23 (4.4)
• From prepuce	• 14 (2.7)
• From extragenital area	• 7 (1.3)
• Other tissues	• 2 (0.4)
Graft location§	
• Ventral	• 59 (11.3)
• Dorsal	• 22 (4.2)
• Not available	• 30 (5.7)
Staged urethroplasty	36 (6.9)
No. of urethroplasties	
None	318 (60.8)
1-5	161 (30.8)
6-10	27 (5.2)
11-20	17 (3.2)
>20	3 (0.6)

IU, internal urethrotomy.

* The sum of the percentages is not 100% because many urologists answered to perform more than one procedure.

† Dilatation, IU, and endourethral stent are performed more frequently than any open urethroplasty technique ($P = .012$).

‡ The most preferred technique was oral mucosa graft than skin graft (16.8% vs 4.4%; $P < .001$).

§ Surgeons preferred ventral graft location compared with dorsal location (11.3% vs 4.2%; $P = .014$).

The method to evaluate a urethral stricture before performing surgery varied widely, and most urologists use many options: uroflowmetry was performed by 274/523 (52.4%) of responders, urethroscopy by 116/523 (22.2%) (particularly, 11.3% declared to use a rigid urethroscope and 10.9% a flexible urethroscope), retrograde urethrography and voiding cystourethrography by 85 of 523 (16.3%), ultrasonography by 57 of 523 (10.9%), urography by 11 of 523 (2.1%), urethral calibration by 11 of 523 (2.1%), and undeclared by 3 of 523 (0.6%). Regarding the methods to evaluate stricture treatment outcomes, uroflowmetry was performed by