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Penile Urethral Stricture: A Case Report

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ABSTRACT

We report the case of a 21-year-old patient, who had a stricture of the penile urethra. After failed endoscopic urethrotomy, he had resection of the stricture with end to end anastomotic urethroplasty. We describe this surgical technique and analyze epidemiological, therapeutic and prognostic characteristics of anterior urethral strictures.

Keywords

Anterior urethra, Stricture, End to end anastomosis.

Introduction

Urethral strictures have always been a challenge for urologists, because of their frequent recurrence. The male urethra is divided into four segments: prostatic and membranous segments forming the posterior urethra of 3 cm long, the bulbar and penile segments forming the anterior urethra of about 15 cm. [1] In anterior urethral strictures, there is an intrinsic fibrosis of the corpus spongiosum, while the urethral continuity is conserved [1, 4].It is therefore appropriate to use the term "stricture" of the anterior urethra instead of "stenosis".

We report here-in a clinical case of a young patient aged 21, who had a stricture of the penile urethra and describe the surgical technique of end to end anastomosis. We also analyze the main epidemiological, therapeutic and evolutionary aspects of anterior urethral strictures.

Case Report

Mr. AR, aged 21, had a history of multiple traumas following a road accident that dated two years, impact points consisted of head and lower limbs of which he was hospitalized and probed in intensive care for two months. The patient reported dysuria for 6 months that deteriorated progressively with occurrence of acute urinary retention that required cystostomy after failed urinary probing. Clinical examination revealed a firm consistent area on the proximal penile urethra estimated at 1 cm. Digital rectal examination was remarkable. The patient did not have erectile dysfunction. He had no urinary infection on urinalysis and culture. Urethrocystography revealed a stricture of the penile urethra during retrograde injection with an image of complete halt of contrast medium (Fig 1). Micturition was impossible after injection of contrast medium via supra pubic catheter that was thereafter clamped.

The patient was informed pre-operatively of risks of surgery such as sexual disorders.

Endoscopic urethrotomy failed: the stricture was impassable.

A metal urethral sound was lowered through the cystostomy up to the defect zone; there was no obstacle when

passing through the posterior urethra. We decided to do termino-terminal urethrorrhaphy.



Figure 1. Retrograde film of urethrocystography: stricture of the penile urethra.

Surgical Technique: Resection of the stricture with end to end urethroplasty.

A penile-scrotal midline skin incision was performed (Fig 2), centered on the disrupted area marked with the help of two urethral metal sounds, one introduced by urethral meatus to locate the distal end, and the other via bladder neck to locate the proximal limit. The extent of the stricture was estimated to be 0.5 cm. The corpus spongiosum was liberated on either side of the defect area with traction facilitating spongio-cavernous cleavage.

Resection was performed by a transversal excision through the healthy urethra on either side of the stricture. Urine flow through posterior urethra after filling of the bladder was remarkable. Spatulating both ends lead to no tension (Fig 3), allowing termino-terminal urethroplasty to be performed starting with 3 points on the rear, insertion of a Foley 16 CH catheter, and finally three anterior points were performed with 3-0 absorbable suture (Fig 4 and 5). A twolayer closure was done. Drainage of urine was by the urinary catheter that was removed after 21 days.

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Follow-up

The patient was seen in consultation at 1, 3, 6 and 12 months. On voiding: urine flow was remarkable after removal of the bladder catheter at day 21. Uro-flowmetry performed after a month: maximum flow rate (Qmax) was at 32 ml/s with a voiding volume of 260cc. A follow-up urethrocystography performed after3 months, showed an anterior urethra of good calibre with no stricture nor fistula. The patient had no micturition disorder.

Sexually: the patient had an erectile dysfunction in the first two months, with decrease insensitivity and paraesthesia on the ventral side of the penis. He recovered gradually his erection as from the 3rd month. Evaluation by IIEF scores (International Index of Erectile Function) at 6 months revealed normal erectile function (23/25). There was neither penile curvature nor ejaculation disorder. Ejaculate volume was the same as before surgery.



Figure 2 . peno-scrotal midline skin incision.



Figure3 .Tension-freeextremities.



Figure 4. 3 anterior suture points were performed after insertion of a Foley 16CH catheter.



Figure 5.termino-terminal urethroplasty.

The patient is satisfied, without sexual or micturition disorder a year later.

Discussion

Male urethral strictures have an estimated incidence of 0.6% [2]. According to Santucci and al., they necessitated 1,500,000 consultations/ year and 5,000 hospitalizations/ year in the United States between 1992 and 2000[2].

The most common aetiology of anterior urethral strictures is often iatrogenic trauma (Table 1) [3].

In some cases, urethral trauma is not immediately recognized, it presents lately. This was the case of our patient in which several factors were involved: iatrogenic trauma, ischemia and infection related to prolonged catheterization. [1].

Table 1. aetiologies of anterior urethral strictures.

Aetiologies of anterior urethral strictures
Post-trauma :
• iatrogenic lesions: urinary catheter, penile surgery, endoscopy
• blunt trauma, skateboarding
• penetrating trauma: gunshot, knife stab
• penile fracture, foreign body
Post-inflammatory
Congenital
Lichensclerosus
Idiopathic
There are various therapeutic means for anterior urethra

strictures (Table 2). Endoscopic urethrotomy and instrumental dilatation are indicated in short and fragile strictures. [5].

 Table 2.therapeutic means for anterior urethral

 strictures

Main therapeutic means for anterior urethral strictures.
Endoscopic urethrotomy
Stricture resection and termino-terminal urethroplasty
Urethroplasty with free graft
Urethroplasty with pedicle flap

Although urethrotomy has early excellent results with a success rate of 60-90% at 12 months, the success of this minimally invasive technique significantly decreases after3 years [6].

Resection of the defect zone with end to end urethrorrhaphy is the most effective treatment of strictures of the anterior urethra. Barbagli and al reported a significantly higher rate of success of end to end urethrorrhaphy (90%) compared to that of graft or augmentation urethroplasty (60% and 81%) with a mean follow-up of 53 months [7].

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However, this end to end urethrorrhaphy technique is possible in short strictures in which the anastomosis can be performed without tension [8].

The termino-terminal penile urethra urethrorrhaphy we performed has an advantage over bulbar and posterior defect repair because of:

-an easier exposure and dissection,

-respect to bulbo-spongiosus muscle and therefore fits physiological role in bulbar urethra discharge during ejaculation and micturition,

-Respect to neurovascular bundles that are closely-by and vulnerable during surgery of posterior urethra.

Dogra and al reported an incidence of erectile dysfunction after termino-terminal urethrorrhaphy of about 20%. They also observed erectile function recovery in 96% of patients within 6 months of surgery [9].

Conclusion

Termino-terminal urethrorrhaphy is the most effective treatment for short anterior urethral strictures as it provides better long-term results compared to endoscopic urethrotomy. It seems to have fewer sexual complications in penile urethra location compared to bulbar or subsequent locations because it spares neurovascular bundles and bulbo-spongiosus muscle. **Conflict of Interests**

The authors declare no conflict of interest.

Authors Contribution

All authors mentioned have contributed to the development of this manuscript. All authors also declare to have read and approved the final manuscript.

References

1.Chapple C, Barbagli G, Jordan G, Mundy AR, Rodrigues-Netto N, Pansadoro V. Consensus statement on urethral trauma.BJU Int 2004 Jun;93(9):1195-202.

2. Santucci RA, Joyce GF, Wise M. Male urethral stricture disease. J Urol 2007;177:1667-74

3. Andrich DE, Mundy AR. What is the best technique for urethroplasty? Eur Urol 2008;54:1031-41.

4. Bertrand, L.A, Warren GJ, Voelzke BB, Elliott SP, Myers JB, Mc Clung CD. Lower urinary tract pain and anterior urethral stricture disease: prevalence and effects of urethral reconstruction. J Urol, 2015.193: 184.

5.Summerton D.J., Djakovic N., Kitrey N.D., Kuehhas F.E., Lumen N.,Serafetinides E. Guidelines On Urological Trauma. Eur Urol 2012 Oct;62(4):628-39

6. Gómez R, Marchetti P, Castillo OA. Manejo racional y selectivo de los pacientes con estenosis de uretra anterior. Actas Urológicas Españolas 2011;35(3):159—166.

7. Barbagli G, Guazzoni G, Lazzeri M. Onestage bulbar urethroplasty: retrospective analysis of the results in 375 patients. EurUrol. 2008 Apr; 53(4):828-33.

8. Jordan GH, Schlossberg SM: Surgery of the penis and urethra. In: Wein AJ, Campbell-Walsh Urology. Vol 1. 9th ed. Philadelphia, Pa: WB Saunders Co; 2007; pp. 1023-97.

9. Dogra PN, Saini AK, Seth A. Erectile dysfunction after anterior urethroplasty: a prospective analysis of incidence and probability of recovery--single-center experience. Urology .2011 Jul; 78(1):78-81