Functional medicine

A rare complication of the AMS Advance™ male sling system for the treatment of stress urinary incontinence: A case report

Youssef Kadouri*, Idriss Ziani, Hachem Sayegh, Lounis Benslimane, Yassine Nouini

Mohamed V University, Faculty of Medicine and Pharmacy of Rabat Morocco, Ibn Sina Hospital, Department of Urology A, Morocco

Abstract

Radical prostatectomy is the most common reason for male stress urinary incontinence. It affects around 10% of operated patients and can have a major impact on the quality of life of patients and affect various daily activities. There is still insecurity about its therapeutic management. We report the case of a 72-year-old patient, who underwent a radical prostatectomy 10 years ago, complicated by moderate post-operative urinary incontinence motivating the placement of an Advance sub-urethral sling, who presents for dysuria with micturition burns, the urethral fibroscopy objectify the presence of an erosion of the urethra by the sling under urethral.

Introduction

Male stress urinary incontinence (SUI) is a common complication after radical prostatectomy, it is a situation that every urologist is regularly confronted with in daily clinical practice. It affects around 10% of operated patients and can have a major impact on the quality of life of patients and affect various daily activities. It is often secondary to a perioperative lesion of the sphincter or of its nerve.

Case presentation

We report the case of a 72-year-old patient, who underwent a robot-assisted prostatectomy 10 years ago, complicated by moderate post-operative urinary incontinence motivating the placement of an Advance sub-urethral sling, who presents for a few months dysuria with micturition burns. Cytobacteriological examination of the urine is negative, the ultrasound of the urinary tract is normal, the urethral fibroscopy objectify the presence of a fibrous formation transecting the urethra vertically, likely to an erosion of the urethra by the sling under urethral (Fig. 1). Our patient benefited from a conservative treatment which consisted of an endoscopic section by laser of the intra-urethral portion of the sling with preservation of the sub-urethral portion (Fig. 2). On the functional level, our patient is still continent, and he showed a clear improvement in his symptoms after treatment.

Discussion

Postoperative urinary incontinence results from a complex pathophysiology. The part linked to the sphincter involvement is secondary to a reduction in functional length of the urethra, ischemia, fibrosis and atrophy of muscle fibers and a defect in the support of the pelvic floor. The artificial urinary sphincter (AUS) is the gold standard treatment for post-prostatectomy urinary incontinence (PPUI) with a continence rate varying from 75 to 90%. However, implanting this complex device is only appropriate if the patient understands how to operate it and use the pump. Moreover, the patient must be prepared to consider the possibility of an additional intervention if the device malfunctions. While AUS treatment is unquestionable for severe cases of PPUI, it appears excessive to treat mild or moderate incontinence. As a result, the management of PPUI has evolved considerably over the past ten years with the introduction of minimally invasive surgical therapies, trying to fill the gap between conservative therapies (such as pelvic-perineal rehabilitation) and the more aggressive surgery of implanting an artificial urinary sphincter. The development of these new therapies such as peri-urethral injections, peri-urethral balloons and various sub-urethral slings, has considerably improved the management of this incontinence. These therapeutic alternatives are less restrictive than the urinary artificial sphincter and may have their place in some indications.

In 2006, Redher and Gozzi developed the Advance® trans-obturator sub-urethral sling (American Medical System, Minnetonka, MN, United States) in bulbous-membranous situation. It provides passive, static, ventral and permanent compression of the urethra and probably also a
dynamic type of support. Advance® reposition the sphincter complex in the pelvis and increase the functional length of the membranous urethra. This sling has a medium-term success rate varying from 76 to 91% according to a review of the recent literature, which also highlighted the low rate of complications with this technique. Some risk factors for failure of this sling have been individualized, such as a history of pelvic radiotherapy, a history of urethrotomy after prostate surgery, poor residual sphincter function, severe incontinence, or poor placement of the device. The selection criteria to identify ideal candidate patients for the AdvanceTM sling are not consensual, it seems to give better results in patients with mild or moderate urinary incontinence (urine loss less than 100 g per day and/or 4 protections per day) and in patients whose general condition does not allow the placement of an artificial urinary sphincter. The Advance TM sling provides an interesting therapeutic alternative since it is minimally invasive and often effective. It does not contraindicate the installation of an artificial urinary sphincter in case of failure.

The fitting of the sling is a short intervention, without technical difficulty of fitting, with a very low complication rate in the medical literature, the acute retention rate varies from 3 to 15.1% it is often transitory retention. The rate of perineal and/or scrotal pain is less than 19.5% dysuria is found in 4.5%–14% of patients, hematomas are present in 0.7–3.2% of cases And The urethral erosion rate is 0.3%. The predisposing factors for urethral erosion are dissection and devascularization of peri-urethral tissue, a poorly understood intraoperative urethral wound, excessive tension of the slings, local infection and postoperative urethral dilation. Postoperative symptoms of urethral erosion are: symptoms of overactive bladder, pelvic and urethral pain, recurrent lower urinary tract infections, urinary retention and hematuria. Urethrocystoscopy should be offered if urethral erosion is suspected.

**Conclusion**

Post prostatectomy urinary incontinence is a common complication. Currently, several methods are now available allowing the best choice of the most suitable intervention for each patient. The Advance® male sling turns out to be a safe, simple, minimally invasive and effective technique provided that reservations are made for mild to moderate urinary incontinence.
Author contribution

All authors have contributed to this work and have read and approved the final version of the manuscript.

Declaration of competing interest

The authors declare no conflict of interest.

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