CLINICAL CASE

Management of post-radical prostatectomy male urinary incontinence with a transobturator sling (AdVance®)


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KEYWORDS
Stress urinary incontinence; Post-radical prostatectomy; Transobturator sling; Mexico.

Abstract Urinary incontinence (UI) is a disorder that in general affects 1 to 39% of men. It has various etiologic causes and the main one is UI secondary to radical prostatectomy (RP). Stress UI (SUI) secondary to RP continues to be a problem with a significant impact on patient quality of life. Treatment depends on whether the UI is mild, moderate, or severe. Severe UI requires more intense methods that simulate urethral sphincter activity. The options are the transobturator sling or artificial urinary sphincter implantation, accepted as the gold standard. A 68-year-old man had onset of lower urinary tract symptomatology in 2006. Study protocol reported a prostate-specific antigen (PSA) value of 7.02 ng/ml and a free PSA fraction of 17%. The histopathologic study (HPS) of the prostate biopsy specimens reported prostate cancer (CaP). RP was performed and the HPS reported a Gleason score of 4 + 4 = 8 and stage pT2c disease. The patient later presented with moderate SUI that did not improve with medical treatment. Cystourethrography revealed dilation of the bulbous urethra and cystoscopy showed an integral sphincter, so surgical management with transobturator sling (AdVance®) placement was decided upon. It is suggested that in the majority of cases all of the following should be carried out prior to surgery: a complete medical history, physical examination, laboratory studies, international UI scale questionnaire, cystoscopy, and urodynamics study. Sling placement is currently indicated in the management of mild to moderate UI and external artificial sphincter is indicated in moderate to severe cases. SUI management after RP continues to be a challenge for the urologist, despite the available therapeutic options. The urethral sling has become a useful and less expensive treatment option, with a lower complication rate compared with the artificial sphincter, especially in patients with UI that is not severe.

Introduction

Urinary incontinence (UI) is a condition that generally affects 5% to 69% of women and 1% to 39% of men. The etiology in each sex varies and the most frequent causes in men are advanced age, lower urinary tract symptoms (LUTS) plus infections, functional and cognitive deterioration, neurologic disorders, and radical prostatectomy (RP) as the principal cause.

Stress urinary incontinence (SUI) secondary to RP continues to be a problem that has a significant impact on patient quality of life. The rate of UI after 12 postoperative months is reported to be from 5% to 30%. SUI after RP is mainly due to intrinsic sphincter deficiency and less often to detrusor instability or pure extrinsic sphincter deficiency.1

Among the initial treatment options for low-grade UI that can be implemented are pelvic floor exercises, electric stimulation, or drug therapy. A possibility is the injection of bulking agents to thicken the urethra, as well as the artificial sling described by Kaufman in 1970; he was the first to report on and utilize synthetic material as a sling or balloon compression devices. In cases of severe UI more intense methods that simulate urethral sphincter activity are necessary. An option prior to the artificial sphincter is the transobturator sling (AdVance®). Its application is easier and it has satisfactory success results. And finally, when total continence is desired, the option accepted as the gold standard is the artificial urinary sphincter.1,2

Case presentation

A 68-year-old man presented with lower urinary tract symptoms in 2006. Evaluation protocol produced a prostate-specific antigen (PSA) of 7.02 ng/mL and a free PSA fraction of 17%. The histopathologic study (HPS) of the prostate biopsies reported prostate cancer. RP was performed and the HPS reported a Gleason score of 4 + 4 = 8 and stage pT2c disease. The patient later presented with moderate SUI that did not improve with medical treatment.

Cystourethrography showed dilation of the bulbous urethra (figs. 1 and 2) and cystoscopy revealed an integral sphincter, leading to the decision of surgical management with the placing of a transobturator sling (AdVance®) (figs. 3 to 6). The postoperative progression was adequate.

Discussion

We know that in the case of post-radical prostatectomy (PRP) SUI, the external artificial sphincter is the gold standard and has a continence rate of 73% to 90%. Nevertheless, there have been important complications and re-interventions up to 57% in the follow-up of these patients. Among the complications are erosions, infections, UI, and mechanical problems of the sphincter requiring re-intervention, all of which imply greater cost to the patient and surgical procedures for non-physiological urinary emptying. Therefore it is necessary to contemplate a less invasive alternative to the external artificial sphincter, such as the transobturator...
The first pioneers to carry out these types of transobturator sling procedures in which the posterior urethra has a more proximal relocation and thus better continence were Rehder and Gozzi. They conducted studies on cadavers and then on male patients and they had an incontinence cure rate of 40%, an incontinence improvement rate of 30%, and a minimal morbidity rate.4

It is suggested that prior to surgery in the majority of cases a complete anamnesis, physical examination, laboratory studies, international urinary incontinence scale questionnaire, cystoscopy, and urodynamics study should be carried out. Currently, transobturator sling placement is indicated in the management of mild to moderate UI and external artificial sphincter is indicated in moderate to severe UI.5,7 An important point to consider is that in case of sling failure, external artificial sphincter placement can be offered.1,4,8

Conclusions

The management of PRP SUI continues to be a challenge for the urologist despite the current therapeutic options. A determining factor for treatment success is the experience of the surgeon in managing the different treatment modalities. The urethral sling has presently become a useful and less expensive treatment option with a lower complication rate compared with the artificial sphincter, especially in patients that do not present with severe UI.

Conflict of interest

The authors declare that there is no conflict of interest.

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References