Editorial Comment

Therapeutic options in pT1a prostate cancer vary from watchful waiting to immediate radical therapy. Because of (sometimes falsely) pathologically confirmed small tumor volume, conservative follow-up is not uncommon. These autors report on the clinical course of 144 patients with pT1a prostate cancer. This cohort is impressively low-risk with 71% Gleason score smaller or equal to 5. Still, a 25% 5 year progression rate was observed. The relative risk (RR) was increased in patients with initial PSA > 10 (RR 3.3, 40 % 5-year progression rate), Gleason score 6 or more (RR 2, 54 % 5-year progression rate) or postoperative PSA > 2 (RR 3.2, 44 % 5-year progression rate).

These figures caution anyone to recommend watchful waiting if more than 1 risk factor is involved.

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NEUROLOGY & FEMALE UROLOGY

Recurrent pseudodiverticula of female urethra: five-year experience

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Objectives: To report our experience of transvaginal diverticulectomy with pubovaginal sling placement in a series of 32 women with recurrent urethral pseudodiverticula.
Methods: A total of 32 women underwent surgical repair from January 2000 to June 2007. Of the 32 women, 12 had undergone other concomitant previous urethral surgery, predominantly for stress urinary incontinence. Transvaginal excision of the diverticulum and concomitant pubovaginal sling placement were performed routinely. The women were evaluated postoperatively for symptom relief, anatomic result, and postoperative continence status at 1, 6, and 12 months and annually thereafter. Pelvic magnetic resonance imaging was repeated after 1 year.
Results: The mean follow-up was 4.3 years. In all cases, the voiding urethrogram after catheter removal showed a good urethral shape with an absence of urinary leaks. At the postoperative urodynamic investigation, 27 patients had an unobstructed and 5 an equivocal Blaivas-Groutz nomogram. Three patients (20%) reported a persistent degree of stress urinary incontinence, including 2 with grade 1 stress urinary incontinence and 1 with mixed incontinence. Two patients presented with clinically evident diverticulum recurrence, and in 1 patient, an intraurethral diverticulum, was found at the 1-year magnetic resonance imaging examination.
Conclusions: A pubovaginal sling added routinely to all diverticulectomy procedures offers significant support to the urethral repair and/or prevention of urinary incontinence, including in recurrent cases, and does not increase the risk of erosion into the urethra or fistula formation.

Editorial Comment

The authors review a very large series of recurrent urethro-diverticula (32 women). Of note is that aside from performing the actual diverticulectomy all patients underwent a concomitant suburethral sling. With a good

length of follow-up (mean = 4.3 years) they found that 80% of the patients were dry with 3 patients reporting persistent stress urinary incontinence. There was no notation that the synchronous suburethral sling increased the risk of erosion or fistula formation. In addition, the surgeons felt that the pubovaginal sling well buttressed the urethral repair and helped limit stress urinary incontinence.

This manuscript is very impressive with regards to the number of patients treated with recurrent urethral diverticula. The patients all underwent an autologous fascial sling but still had a 20% persistent degree of stress urinary incontinence. Almost half the patients (n = 15) had stress urinary incontinence preoperatively. Their patient population suffered no de novo incidence of stress urinary incontinence with patients reporting stress incontinence being from the population sub group that had the malady preoperatively. That they had a 0% de novo incidence of stress urinary incontinence is worth noting in view that other authors report 10 - 20% new onset incidence of stress urinary incontinence after a urethral diverticulectomy (1). It is worthwhile reviewing the paper by Kobi, et al. secondary to their discussion of prediction of new onset stress urinary incontinence before and after urethral diverticulectomy and their comments on a prophylactic operation and comparing it to this work. The authors only used a Martius flap four times in their operation. Some surgeons would be more inclined to use a Martius flap to a greater degree on this impressive re-do population. I think it is worthwhile to note than when using the Martius flap, most surgeons may place the Martius flap between the urethral proper and the pubovaginal sling. It has been noted previously that the use of the Martius flap will not impact the long-term cosmetic appearance of the external vagina (2).

References

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Urethral sphincter morphology and function with and without stress incontinence

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Purpose: Using magnetic resonance images we analyzed the relationship between urethral sphincter anatomy, urethral function and pelvic floor function.
Materials and Methods: A total of 103 women with stress incontinence and 108 asymptomatic continent controls underwent urethral profilometry, urethral axis measurement with a cotton swab, vaginal closure force measurement with an instrumented speculum and magnetic resonance imaging. Striated urogenital sphincter length was determined and its thickness was measured in the proximal sphincter, where its circular shape enables estimation of striated urogenital sphincter area. A length-area index was calculated as a proxy for volume.
Results: The striated urogenital sphincter in women with stress incontinence was 12.5% smaller than that in asymptomatic continent women (mean +/- SD length-area index 766.4 +/- 294.3 vs. 876.2 +/- 407.3 mm(3), p = 0.04). The groups did not differ significantly in striated urogenital sphincter length (13.2 +/- 3.4 vs. 13.7

+/- 3.9 mm, p = 0.40), thickness (2.83 +/- 0.8 vs. 3.11 +/- 1.4 mm, p = 0.09) or area (59.1 +/- 18.4 vs. 62.9 +/- 24.7 mm(2), p = 0.24). Striated urogenital sphincter length and area, and the length-area index were associated during voluntary pelvic muscle contraction with more urethral axis elevation and increased vaginal closure force augmentation.
Conclusions: A smaller striated urogenital sphincter is associated with stress incontinence and poorer pelvic floor muscle function.

Editorial Comment

The authors reviewed two populations of women, one with stress incontinence and one without stress incontinence and had the two groups undergo urodynamic testing, physical examination as well as magnetic resonance imaging. Parameters evaluated included striated urethral sphincter length, thickness, area, and volume estimates as well as the relation of the sphincter size determined and pelvic floor metrics.

Conclusions noted included the smaller the striated urethral sphincter, the greater association with female stress incontinence and lesser pelvic floor muscle function.

The authors, upon review, also found that their population of stress incontinent women had a higher body mass index than those that were continent. In addition, other pertinent findings included that aging was correlated with a shorter striated urethral sphincter and a longer vesical neck and those plagued with incontinence had a smaller striated urethral sphincter. The authors have a very interesting discussion section, including their observation that the increase in the actual area of the sphincter associated with maturational process is most likely secondary to an increase in connective tissue and a decrease in the striated muscle cells. Though larger in diameter, its' shortness of length may be one of the factors towards an increase in incontinence. Numerous authors have also noted the role of striated urethral sphincter and its effect on voiding function. Reviews on the use of terazosin on females with voiding dysfunction have noted that perhaps when the medication fails; it may be secondary to the striated urethral sphincter as opposed to the bladder neck area (1). Perhaps this may explain the anecdotal observation of women with voiding dysfunction from a pelvic floor spasms or failure of relaxation being usually younger in age. In addition, when one reviews the actual physics of work being defined as work equals force times length it may make intuitive sense that the shorter striated sphincter zone, though bulkier, may allow the bladder to expel urine much easier in a stress situation in view that it requires less actual work to overcome the sphincteric resistance secondary to the lesser length.

Reference

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