

COMPARISON OF THE ARTIFICIAL URINARY SPHINCTER AND THE PERINEAL MALE SLING IN THE MANAGEMENT OF POST-RADICAL PROSTATECTOMY STRESS INCONTINENCE

Hypothesis / aims of study

Post-radical prostatectomy incontinence remains as a persistent complication with a variable incidence of 9-48%, depending on severity and method of data collection [1]. The artificial urinary sphincter (AUS) remains the 'gold standard' of surgical therapy; however, various male sling procedures have been described [2,3]. To our knowledge there has not been any information presented that compares the outcome of the 2 procedures. This study was undertaken to assess the results of the 2 procedures in 2 cohorts of simultaneously treated men with stress incontinence. We herein compare the AUS to a perineal sling procedure to determine how preoperative characteristics and postoperative outcomes differ.

Study design, materials and methods

The AUS procedures all involved bulbar urethral cuff placement. The sling procedure consisted of inserting a silicone coated polypropylene mesh secured by 3 pairs of bone screws, with attached sutures, into the inferior pubic rami, through a perineal incision. We retrospectively reviewed patient records including history, physical examination, cystoscopy records and preoperative urodynamics to determine the preoperative characteristics of these patients with post-radical prostatectomy incontinence. Follow-up visits, urodynamics (as required), and a nurse-administered telephone survey were used to assess clinical outcomes. In addition, the International Prostate Symptom Score (IPSS) and the International Consultation on Incontinence Questionnaire: Short Form (ICIQ-SF) were sent to the patients postoperatively by mail. The study was carried out with Institutional Review Board approval.

Results

During the period of February 2002 to October 2003, 37 men underwent 19 artificial urinary sphincters and 18 slings. No differences were seen in preoperative age, radiation, or prior injectables. Urodynamic parameters such as capacity, postvoid residual, detrusor overactivity and valsalva leak point pressure were similar in both groups preoperatively. A statistical difference was seen in previously treated bladder neck contractures (42% in AUS vs. 6% in male sling: $p = 0.02$). Severity of incontinence, as determined by number of pads/day (6 in AUS vs. 3.5 in male sling: $p=0.01$), was worse in the AUS group. Mean follow-up was 14.3 months for AUS and 11.3 months for the slings patients. Postoperatively the mean number of pads/day was 1.5 for AUS and 1.33 for the sling ($p=0.84$). The decrease in the number of pads/day was greater in the AUS group versus the sling group (4.63 versus 2.56) ($p=0.012$). None of the AUS patients required revisional surgery during the follow-up period whereas 4 (22%) in the sling group required tightening. Improved continence, as defined by ≤ 2 pads/day, occurred in 79% of AUS patients and 89% of sling patients. The preoperatively recorded IPSS scores were the same (5) in each group. All of the patients in both groups completed the postoperative mail survey. The postoperative IPSS scores were also statistically similar ($p=0.26$), 1.82 in the AUS and 2.47 in the sling groups. Similar results were also seen in the ICIQ-SF. Out of a total score of 21, the AUS patients scored an average of 7.47 and the sling 9.52 ($p=0.26$).

Interpretation of results

Both procedures appear to be of benefit in the management of post-radical prostatectomy incontinence. The ideal patient for a male sling may have milder incontinence than the male requiring an AUS for post-prostatectomy incontinence.

Concluding message

Overall success was similar in both groups despite the more severe incontinence seen in the AUS patients preoperatively. The AUS has a proven track record with many publications confirming its benefits. This is the first study that compares it to a relatively recent innovation,

the bone-anchored perineal sling. The high revision rate in the sling patients may suggest a learning curve for this new technique.

References

1. Surgical treatment of urinary incontinence in men, 2nd International Consultation on Incontinence, 2002; pp. 785-821.
2. Questionnaire based results of the bulbourethral sling procedure. J Urol, 1999; 162:1972.
3. The male sling for stress urinary incontinence: a prospective study. J Urol 2002; 167:597.