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# OUTCOMES OF ARTIFICAL URINARY SPHINCTERS: PERINEAL VERSUS TRANSVERSE SCROTAL INCISION

Hypothesis / aims of study

Artificial urinary sphincter implantation is an effective and established tool in the armamentarium against iatrogenic stress urinary incontinence. Traditionally, cuff implantation is performed using a perineal (P) dissection. Recently, the single incision transverse scrotal (TS) technique was introduced and proved to have success at treating incontinence with a shorter operative time and with no difference in the complication rate at one year follow up[i].
We compared the outcome of artificial urinary sphincters placed using the conventional perineal technique and those placed using the transverse scrotal incision.

Study design, materials and methods

A total of 48 men underwent artificial urinary sphincter placement for post surgical stress urinary incontinence from January 2000 to April of 2003. All forty-eight of these patients had records available for retrospective review. Etiology of urinary incontinence included post-prostatectomy (34), post–prostatectomy and pelvic radiation (6), post pelvic radiation (3), post-cystoprostatectomy (4), or post TURP (1). Twenty-one patients underwent implantation using a perineal approach while 27 patients had implantation using the transverse scrotal technique by a single surgeon. Information regarding preoperative incontinence, etiology of incontinence, previous procedures, urodynamic findings, urinary symptoms, operative approach and time, estimated blood loss, cuff size, reservoir pressure, postoperative continence and complications, and overall satisfaction was collected in chart review of clinic visits, operative notes and by self administered questionnaires, ICS male short form[ii] and Incontinence symptom index (ISI).

Results

Overall both groups were similar with respect to age, previous procedures, and estimated blood loss. Mean age was 65.8 in the P group and 66.3 in the TS group (p= 0.80). Seventeen patients in the P group underwent 24 preoperative procedures and 20 patients in the TS group underwent 30 previous procedures. The number of prior anti-incontinence procedures including collagen (p=0.37) and male sling (p=0.19) were equivalent. Mean estimated blood loss in the P group was 51cc and in the TS group it was 60cc. Available preoperative urodynamic results demonstrated a mean valsalva leak point pressure of 46.8 cm water in the perineal and 36.8 cm water and in the transverse scrotal group.
Confounding factors such as previous pelvic radiation were similar in each group, 4 patients in the perineal group and 6 in the transcrotal group received radiation.
The number of pads used per day preoperative for P patients was 5.47 and in the TS patients it was 7.2 pads per day (p=0.133). At a mean follow up of 32.3 months total, 35.6 months (SD=0.61) for the P group and 19 months (SD=0.26) for the TS group, post-op daily pad usage was 0.82 and 0.64 in the P and TS groups, respectively (p=0.43) Additionally, there was no difference in the number of erosions or revisions The only significant difference between the two groups was the results of the Voiding score in the ICS questionnaire (Table I).

| TABLE I<br>Questionnaire Results | | | | |
|---|---|---|---|---|
| **Tool** | **Sub-score** | **Perineal** | **Transverse Scrotal** | **p value** |
| **ICSmale** | Voiding | 1.41 | 3.77 | **0.046** |
| | Incontinence | 9.00 | 7.22 | 0.37 |
| | Frequency | 2.69 | 2.33 | 0.38 |
| | Nocturia | 1.46 | 2.00 | 0.189 |
| | QOL | 1.15 | 1.11 | 0.90 |
| **ISI** | Severity | 13.58 | 11.7 | 0.49 |
| | Bother | 1.76 | 2.05 | 0.71 |

Interpretation of results

Preoperative symptoms are similar in both groups and outcomes with respect to post operative pad usage and ISI questionnaire results were statistically not different. We were unable to further interpret operative time because concomitant procedures performed for several patients in each group and operative time for AUS implantation was not noted separately.

Concluding message

The artificial urinary sphincter has dramatically altered the treatment of post-prostatectomy incontinence. This retrospective review demonstrates that either approach is equally efficacious in treating iatrogenic stress urinary incontinence. Moreover this retrospective review demonstrates that either approach has similar early patient outcomes with respect to pad usage, subjective bother/severity and disease specific quality of life.

[i] Wilson, S.K., Delk, J.R., Henry, G.D., Siegel, A.L.: New surgical technique for sphincter urinary control system using upper transverse scrotal incision. J Urol, 169:261, 2003.

[ii] Donovan, J.L., Peters, T.J., Abrams, P., Brooke, S.T., de la Rosette, J.J.M.C.H.: Scoring the short for ICSmale SF questionnaire. International Continence Society. J Urol 164(6):1948-55, 2000.