

EFFICACY AND URINARY CONTINENCE RATES FIVE YEARS AFTER SIMPLE SLING INCISION FOR RELIEF OF POST-PUBOVAGINAL SLING BLADDER OUTLET OBSTRUCTION

Hypothesis / aims of study

Latrogenic bladder outlet obstruction with secondary voiding dysfunction is a known complication of sub-urethral sling surgery. Multiple surgical techniques to relieve post-sling obstruction have been described including a midline simple sling incision (SSI) [1]. We examine the efficacy and long-term urinary continence rates (greater than 60 months) in patients following this procedure for urinary retention after a suburethral sling.

Study design, materials and methods

With IRB approval, a retrospective review of thirteen women undergoing midline SSI for post-pubovaginal sling obstruction was completed. For standardization purposes only patients with fascia lata slings were included in the analysis. To avoid the debate of defining post-pubovaginal sling obstruction, only catheter dependent women following sling surgery were included in the analysis.

Surgical technique involved general anesthesia and a midline vaginal incision. The sling was identified in the midline and a simple midline releasing incision was made in the sling below the urethra.

Urinary continence was gauged through the use of the Groutz-Blaivas anti-incontinence surgery response score (G-B score). G-B scoring includes incontinence episodes/day, pads/day and whether or not patients consider themselves cured, improved, or failed [2]. Wilcoxon rank sum testing was used to compare pre-incision and post-incision post void residuals (PVR). G-B scores were compared as binary categories at 3 month (mean 111 days) and 5 year (mean 60.8 months) follow-up periods using McNemar's statistical analysis.

Results

Thirteen women underwent midline SSI for catheter dependent urinary retention following pubovaginal sling surgery (Mean age 69 years). 11 patients (age 73.4 years) were available for long-term follow-up (Mean 60.8 months). SSI was completed an average of 65 days from the original sling (36-235 days). No perioperative blood transfusions were required and average total anesthesia time was 55.6 minutes. All patients were discharged on the first post-operative day.

Table: Groutz-Blaivas anti-incontinence surgery response score as end point at 3 months and 5 years after simple sling incision.

| <i>Endpoint</i> | <i>3 months after SSI (N=11)</i> | <i>6 years after SSI (N=11)</i> | <i>P-value</i> |
|--|--------------------------------------|-------------------------------------|----------------|
| <i>Leakage episodes/day</i> | | | |
| 0 | 7 (64%) | 7 (64%) | 1.0 |
| 1-2 | 3 (27%) | 3 (27%) | |
| 3 or more | 1 (9%) | 1 (9%) | |
| <i>Pads worn/day</i> | | | |
| 0 | 8 (73%) | 5 (45%) | 0.3 |
| 1-2 | 2 (18%) | 4 (36%) | |
| 3 or more | 1 (9%) | 2 (18%) | |
| <i>Patient outcome</i> | | | |
| Cured | 3 (27%) | 5 (45%) | |
| Improved | 7 (64%) | 5 (45%) | 0.3 |
| Failed | 1 (9%) | 1 (9%) | |
| <i>Groutz-Blaivas score</i> | 1 (0, 2.5) | 1 (0,2) | 0.6 |
| - the sample median is given for Groutz-Blaivas score with the first and third quartile in parenthesis | | | |

Interpretation of results

Mean preoperative PVR at least one month following the obstructing sling surgery was 289 cc (75-500). At mean follow-up of 111 days after SSI, mean PVR decreased to 50 cc (5-210 cc). This was a statistically significant difference ($P=0.003$). At 60.8 months follow-up, no patient required catheterization.

5 patients wore no pads at the 60.8 months follow-up period. There was no statistical difference in leakage episodes/day ($p=1.0$), pads/day ($p=0.3$), or patient perceived condition ($p=0.3$) when comparing the 3 month and 5 year follow-up periods [see table]. Overall G-B score was statistically unchanged ($P=0.6$) between the 3 month and 5 year follow up periods.

Concluding message

Midline simple sling incision is a safe minimally invasive technique for resolution of post pubovaginal sling obstruction. It provides relief of catheter dependent obstruction while preserving urinary continence in the majority of patients. Urinary parameters remained statistically unchanged and the benefit appears to be durable over a five-year follow-up period.

References:

1. Early results of pubovaginal sling lysis by midline sling incision. *Urology*. 2002;59:47-51.
2. A simplified urinary incontinence score for the evaluation of treatment outcomes. *Neurourol Urodyn* 2000; 19:127-135.