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Poon C[1], Zimmern P[1]
1. The University of Texas Southwestern Medical Center

CHALLENGES POSED BY RECURRENT OR PERSISTENT STRESS INCONTINENCE (SUI) AFTER PUBOVAGINAL SLING (PVS) SURGERY IN A TERTIARY REFERRAL CENTER.

Hypothesis / aims of study

1. To identify specific mechanisms of failure after PVS.
2. To assess the global efficacy of repeat sling surgery after prior failed PVS.

Study design, materials and methods

Records of 15 neurologically intact women who presented to our center between 1/00 – 12/03 with recurrent or persistent SUI after PVS were reviewed retrospectively. Mean follow-up duration from repeat PVS was 24 months (6-50). Work-up included detailed history, life impact and symptom severity assessment using short forms of the Incontinence Impact Questionnaire (IIQ) and Urogenital Distress Inventory (UDI) (score 0-3), quality of life (QOL) assessment (visual analog scale 0-10, 10 = worst), physical exam with supine stress test, multichannel urodynamic studies (UDS) (filling cystometrogram, differential Valsalva leak point pressure (VLPP) determinations, pressure-flow/EMG studies), and standing voiding cystourethrogram (VCUG) with lateral resting and straining views. All patients underwent a sling "takedown," urethrolysis and autologous fascial PVS using a 5 x 2 cm rectus fascia or fascia lata graft. Mean follow-up was 18 months (6-70). Follow-up assessment consisted of regular visits at 6 weeks, 6 months, 12 months, then annually with questionnaire, physical exam, VCUG (6 months), and non-invasive flows. Primary outcome measurements were symptom and QOL questionnaire results. The Wilcoxon signed ranks test was used to compare questionnaire scores pre- and post-operatively.

Results

Mean age at presentation was 63 (42-84). Eight patients had undergone anti-incontinence surgery prior to the failed PVS including bladder neck suspension (7) and PVS (1). Graft material utilized in the failed sling included autologous fascia (5), allograft (5), synthetic (1) and unknown material (4). Bone anchors were utilized in 10. Time to onset of incontinence after PVS was immediate (11), at 1-3 months (3) and at 2 years (1); time to presentation for evaluation was a mean of 48 months (5-100) after surgery. One patient underwent sling "tightening" 18 months after the failed PVS and another had 3 periurethral injection procedures (fat x 2, collagen x 1). UDI question 2 (urge incontinence), question 3 (SUI) and QOL scores were consistent with severe incontinence and impaired QOL with mean scores of 1.9 ± 1.2, 2.6 ± 0.8 and 8.8 ± 1.8, respectively. All patients were using pads, with 10 patients using ≥ 3 pads/day. UDS demonstrated SUI with cough and/or Valsalva in all patients (mean VLPP 47 ± 20 cmH_2O). VCUG demonstrated a severely distorted bladder base and neck (4) (Figure 1A) and significant bone anchor abnormalities such as malposition or dislodgement from bone (5) (Figure 1B). At last follow-up, a significant decrease in questionnaire scores was observed, with mean scores for UDI question 2: 0.8 ± 0.6 ($p=0.04$), question 3: 0.9 ± 0.8 ($p=0.01$), and QOL: 2.2 ± 1.6 ($p=0.005$).

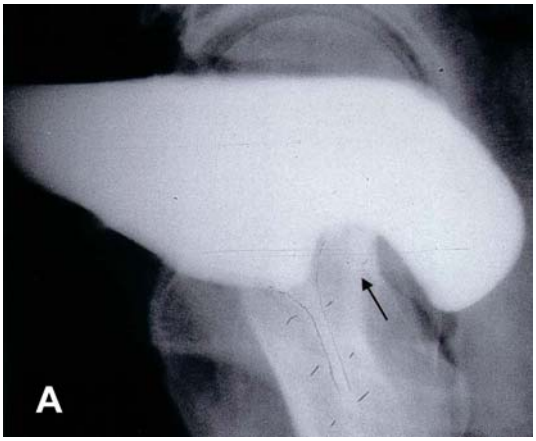

Figure 1: Examples of abnormalities on VCUG in patients with SUI after PVS. A, bladder base and neck distorted by sling graft. Intraoperatively, the graft was found fixed just distal to the right ureteral orifice. B, malpositioned bone anchor.

Interpretation of results

Literature addressing the mechanism(s) by which recurrent or persistent SUI after PVS occurs and results of repeat surgery in this population is lacking. This case series of failed PVS indicates that SUI (objectively demonstrated on UDS) occurred immediately after sling surgery in nearly 75% of patients. Based on the time of onset of incontinence and abnormalities observed on VCUG (bladder/urethral distortion and bone anchor malposition), technical failure needs to be considered a likely mechanism of failure. Satisfactory results were obtained in all patients with a sling takedown, urethrolysis and repeat "traditional" autologous fascial PVS.

Concluding message

As the trend for PVS as primary treatment for SUI continues, tertiary female urology referral centers will likely see an increasing number of patients presenting with SUI after sling. In this study, careful history-taking and thorough investigations allowed for more precise identification of the mechanisms of failure of PVS. This, in turn, allowed for directed intervention and operative planning, achieving satisfactory results based on questionnaire analysis after repeat "traditional" autologous PVS.