

Cystocele Repair by Autologous Rectus Fascia Graft: the Pubovaginal Cystocele Sling

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Purpose: The autologous rectus fascia pubovaginal sling has been a safe and effective means of correcting stress urinary incontinence. We tested the feasibility of using a larger graft to correct cystocele with or without stress urinary incontinence.

Materials and Methods: Between January 2006 and October 2010, 30 patients with symptomatic cystocele underwent the pubovaginal cystocele sling procedure, including 14 with and 16 without concomitant stress urinary incontinence. The technique is a modification of the standard pubovaginal sling procedure. A large trapezoidal (major base 6 cm, minor base 4 cm and height 5 cm) rectus fascia graft is used with 4 instead of 2 sutures to suspend the graft corners. The 2 sutures at the level of the mid urethra are tied above the rectus muscles in a tension-free manner while the 2 sutures at the level of the cervical fold are tied with tension. Data on anatomical outcomes (Baden-Walker classification), functional outcomes (PFIQ-7), post-void residual urine volume and urinary tract infection were prospectively collected.

Results: At a mean followup of 62.6 months (range 46 to 98) there was no recurrence in the anterior compartment. There was 1 recurrence involving the apical and posterior compartments. All patients reported a statistically significant improvement in PFIQ-7 score. When present preoperatively, post-void residual urine volume, urinary tract infection and stress urinary incontinence ceased in all cases. The only complication was donor site wound dehiscence without fascial involvement.

Conclusions: The autologous pubovaginal cystocele sling seems to be a safe, effective technique to correct cystocele with or without stress urinary incontinence.

Key Words: urinary bladder; prolapse; cystocele; autografts; urinary incontinence, stress

PELVIC organ prolapse is a significant health issue in females worldwide.¹ In the United States more than 300,000 surgeries for POP are performed each year with anterior colporrhaphy the most common operation for cystocele/anterior compartment prolapse repair.² However, failure rates of 40%

to 60% have been reported following this procedure as it uses weakened tissue and addresses only midline defects with no apical support.³ To avoid failures related to using weak native tissue synthetic grafts have been introduced and the AMSC procedure has gained popularity. AMSC

Abbreviations and Acronyms

AMSC = abdominal mesh sacral colpopexy

HWS = Baden-Walker halfway classification system

PCS = pubovaginal cystocele sling

PFIQ-7 = Pelvic Floor Impact Questionnaire—short form 7

POP = pelvic organ prolapse

PVR = post-void residual urine volume

SUI = stress urinary incontinence

TMS = transvaginal mesh surgery

UTI = urinary tract infection

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Study received institutional ethical committee approval.

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provides the highest cure rates for apical/vaginal vault prolapse but this benefit must be balanced against a long operative time, a long time to return to activities of daily living and an almost 20% risk of de novo SUI.^{4,5}

Following the success of AMSC for apical prolapse repair TMS has increasingly been performed for cystocele repair. In comparison with anterior colporrhaphy TMS has higher short-term rate of successful treatment but also a higher rate of surgical complications and postoperative adverse events, the latter mainly due to mesh exposure.^{4,5} In fact, in 2008 and 2011 the United States FDA (Food and Drug Administration) issued 2 Public Health Notifications on serious complications associated with TMS. The latest update warned that surgical meshes represent a source of concern since serious complications associated with their use for transvaginal POP repair are not rare.⁶

Therefore, the ideal procedure for cystocele repair should avoid the use not only of weakened autologous tissues but also of synthetic meshes. It should be able to correct SUI when present, rather than cause de novo incontinence. With this in mind we tested the possibility of correcting cystocele with or without SUI using a modified pubovaginal sling procedure that involves a large trapezoidal autologous rectus fascia graft.

MATERIALS AND METHODS

Between January 2006 and October 2010, 30 consecutive patients referred to 1 of us (LC) for surgical correction of HWS degree 2 to 4 symptomatic cystocele were scheduled for the PCS procedure. Of the patients 19 had a pure cystocele/anterior compartment defect, 10 had combined anterior and apical compartment prolapse and 1 had

prolapse of all 3 compartments but the posterior defect was minor (HWS degree 1), thus, requiring no treatment. The HWS classification of prolapse was performed with the patient in the gynecologic position with a full bladder. Before surgery all patients underwent urodynamic testing with and without cystocele repositioning.

All surgical procedures were performed using spinal anesthesia. The patient was placed in the dorsal lithotomy position, and the suprapubic and genital areas were draped. A Foley catheter was inserted. Inverted U colpotomy was performed on the anterior vaginal wall approximately 1 cm from the urethral meatus. The plane between the pubocervical fascia and the anterior vaginal wall was developed by blunt and sharp dissection until reaching the cervical fold medial and the paracervical spaces lateral (fig. 1, A).

Meanwhile, via a Pfannenstiel incision another surgeon harvested a large trapezoidal (major base 6 cm, minor base 4 cm and height 5 cm) rectus fascia graft (fig. 1, B). Care was taken to mobilize the rectus fascia from the overlying tissue widely enough to leave at least 3 cm from the edges of the graft. This allowed for more easily sliding the major base toward the minor base during closure. Even wider mobilization of the major base side, particularly on the midline, was noted to make the sliding process easier. Conversely there was no need to mobilize the fascial edges from the underlying muscles.

The Retzius space was entered. The endopelvic fascia was cleaned bilaterally to pass the Raz needle under direct vision, thus, avoiding the large veins beneath (fig. 2, A). The surgeon index finger was kept at the level of the mid urethra and subsequently of the paracervical space, indicating the place for correct passage of the Raz needle. Four instead of 2 woven polyester 1-zero stitches were passed. The proximal part with the needle was kept on the vaginal side to anchor the 4 corners of the graft (fig. 2, B). The distal part was passed above the rectus muscles before closing the fascia. The gap in the fascia of the rectus muscles was closed starting from the 2 corners of the major base. The 2 sutures were tied together in the

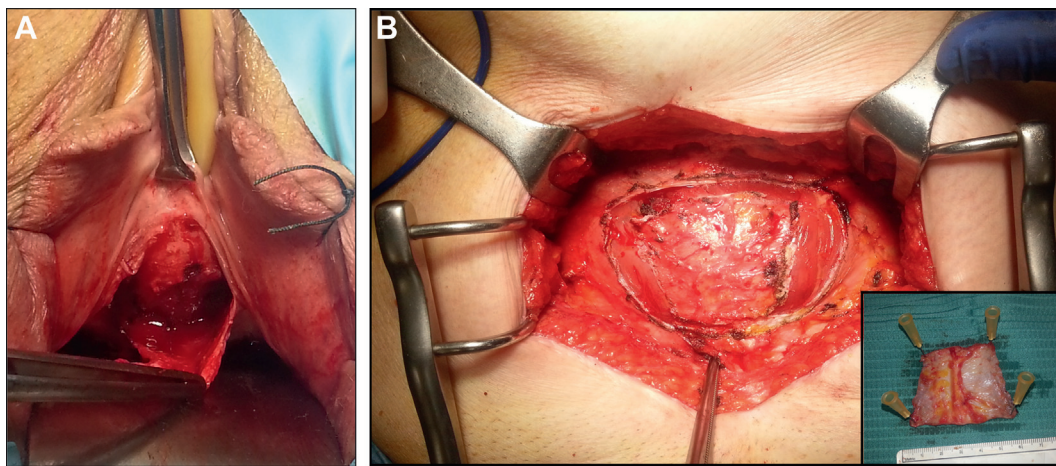


Figure 1. A, after inverted U colpotomy approximately 1 cm from external urethral meatus blunt and sharp dissection is done to develop plane between pubocervical fascia and anterior vaginal wall until reaching cervical fold medial and paracervical spaces lateral. B, large trapezoidal (base 6 cm, apex 4 cm and height 5 cm) rectus fascia graft is harvested via Pfannenstiel incision.

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