Selective Management of the Urethra at Time of Pelvic Organ Prolapse Repair: An Assessment of Postoperative Incontinence and Patient Satisfaction

Christopher J. Chermansky,* Ryan M. Krlin† and J. Christian Winters‡,§

From the Department of Urology, Louisiana State University Health Sciences Center, New Orleans, Louisiana (CJC, JCW), and Glickman Urological and Kidney Institute, Cleveland Clinic Foundation, Cleveland, Ohio (RMK)

Abbreviations and Acronyms

MUS = mid urethral sling

OAB = overactive bladder

OSUI = occult stress urinary incontinence

POP = pelvic organ prolapse

POP-Q = pelvic organ prolapse quantification

SUI = stress urinary incontinence

TVT = tension-free vaginal tape

Submitted for publication September 13, 2011.

Study received institutional review board approval.

* Financial interest and/or other relationship with Astellas, Allergan and Contura.

† Nothing to disclose.

‡ Correspondence: Department of Urology, Louisiana State University Health Sciences Center, 1542 Tulane Ave. Rm 547, New Orleans, Louisiana 70112 (e-mail: cwinte@lsuhsc.edu).

§ Financial interest and/or other relationship with Astellas, Pfizer, Contura, Solace Thera, American Board of Urology, and Society for Urodynamics and Female Urology.

Editor's Note: This article is the fifth of 5 published in this issue for which category 1 CME credits can be earned. Instructions for obtaining credits are given with the questions on pages 2286 and 2287.

Purpose: Management of the urethra in women without stress urinary incontinence during pelvic organ prolapse repair can be approached selectively or with a prophylactic suburethral sling. We report on patient satisfaction and outcomes in patients who underwent selective urethral management during pelvic organ prolapse repair.

Materials and Methods: Patients undergoing repair of advanced apical and/or anterior compartment pelvic organ prolapse underwent prolapse reduction to screen for stress urinary incontinence. Patients with clinical, occult and urodynamic stress urinary incontinence underwent a sling procedure. Those without stress urinary incontinence did not undergo sling surgery. Patients completed responses to the UDI-6 (Urogenital Distress Inventory, PGI-I (Patient Global Impression of Improvement) and MESA (Medical, Epidemiological, and Social Aspects of Aging). Cost analysis of selective urethral management was completed.

Results: A total of 42 patients met the study inclusion criteria and 30 completed responses to all questionnaires. Patients were separated into prolapse repair only (14) and prolapse repair with sling (16) groups. In the prolapse repair only group 1 patient required a subsequent sling. Mean UDI-6, MESA urge and MESA stress scores were 3.71, 1.29 and 3.14 in the prolapse repair only group, and 2.31 ($p = 0.219$), 2.69 ($p = 0.244$) and 3.00 ($p = 0.918$) in the prolapse repair with sling group, respectively. The PGI-I revealed no statistical difference between the groups. A total cost savings of $55,804 was achieved using selective urethral management.

Conclusions: Patients undergoing prolapse repair only have continence and satisfaction outcomes that appear equivalent to those who underwent concomitant prolapse repair and sling. The decision to perform a concomitant sling at the time of prolapse repair should be tailored to the patient.

Key Words: urethra; prolapse; urinary incontinence, stress; suburethral slings; female

For women presenting with pelvic organ prolapse without symptoms or signs of stress urinary incontinence, various approaches have been reported in managing the urethra at the time of POP repair. Some groups advocate a concomitant anti-incontinence procedure in all patients with high stage POP regardless of the presence of symptomatic SUI.[1,2] Others support a selective approach of performing anti-incontinence procedures only in women who have symptoms or signs of SUI.[3,4] Occult stress urinary incontinence occurs in women with high stage pelvic organ prolapse who are

0022-5347/12/1876-2144/0
THE JOURNAL OF UROLOGY®

Vol. 187, 2144-2148, June 2012
Printed in U.S.A.
DOI:10.1016/j.juro.2012.01.065

clinically continent but demonstrate stress incontinence with prolapse reduction.

The incidence of OSUI is difficult to define due to lack of standardization, but prospective studies report an incidence of 36% to 80%.[5–7] Urethral kinking or compression of the prolapse against the urethra is thought to be the mechanism by which continence occurs in those with sphincteric deficiency. Thus, women with high stage prolapse and coexisting sphincteric deficiency may be clinically continent due to this urethral compression. The development of SUI after prolapse reduction which results in unmasking of the urethral sphincteric deficiency is the cause of OSUI.[8]

Performing a concomitant sling procedure has several advantages. A previously continent patient who experiences postoperative SUI is likely to consider the surgery a failure. Concomitant placement of a sling at POP repair is known to reduce the rate of postoperative SUI.[9] Furthermore, it has been reported that pubovaginal slings are protective against recurrent anterior compartment prolapse.[10] However, sling placement also has inherent risks.[11] Complications such as urinary retention, de novo urgency and mesh erosion have been reported after mid urethral sling procedures.[12] In fact, complication rates after sling surgery are higher in women with high stage POP.[13]

In our experience the majority of women who are asymptomatic or without OSUI will not leak after prolapse surgery alone. Thus, we advocate a selective approach to the urethra after preoperative assessment for OSUI with the prolapse reduced. We report our outcomes with patients who underwent selective management of the urethra at POP repair. Our primary end points are patient satisfaction and self-reported continence. In addition, we examine the cost variance between the groups as a secondary outcome.

MATERIALS AND METHODS

This study was granted institutional review board approval at Ochsner Medical Center and Louisiana State University Health Sciences Center New Orleans. A database search was performed for patients who underwent surgery for advanced apical and/or anterior compartment POP, defined as POP-Q stage 3 or greater. Chart reviews were then conducted to determine if a concomitant anti-incontinence procedure was performed at the time of POP repair vs POP repair alone.

All patients were evaluated preoperatively with a pelvic examination and supine stress test, standing if necessary to reproduce urine leakage. Prolapse was reduced with a single speculum blade when supine and vaginal packing when standing. In patients in whom clinical or OSUI was not observed, multichannel urodynamics with and without prolapse reduction using vaginal packing were performed (Life-Tech Inc., Stafford, Texas). Valsalva testing was performed at 150 ml and at 50 ml increments thereafter until SUI was noted or cystometric capacity was reached. A concomitant anti-incontinence procedure was performed if the patient had clinical, occult or urodynamic SUI.

Followup was obtained from chart reviews and patient questionnaires. Patients were excluded if postoperative followup was less than 1 year, if the prolapse was documented as POP-Q stage 2 or less preoperatively, or if the exact method of continence assessment could not be determined preoperatively. Subjects were contacted via telephone to obtain responses to the UDI-6, the PGI-I and the MESA. A PGI-I response of much better or very much better was used to define success. Response variables were compared between the sling and no sling groups using unpaired 2-sample t statistics. Cost variance of prolapse only repair vs prolapse repair with a concomitant anti-incontinence procedure was evaluated by obtaining the direct costs saved from decreased operating room time, anesthesia time and mid urethral sling kits via selective management compared to the cost of reoperation. This analysis was provided by the finance department of the Ochsner Medical Center.

RESULTS

A total of 42 patients met the study inclusion criteria. Of these patients 30 completed responses to all questionnaires. Of the 12 excluded patients 10 declined to complete the questionnaires and 2 died of unrelated causes. In addition, 11 of the 12 excluded patients had concomitant slings, and the patient who did not have a concomitant sling had no SUI when last seen at 8-month followup. The table lists the 35 prolapse repairs performed in the 30 patients. All but 2 patients underwent apical compartment repair. The table also lists the 3 types of suburethral slings used. Mean postoperative followup was 58.5 months (range 12 to 145). Patients completed questionnaires no earlier than 12 months after their POP repair. Patients were separated into 2 groups of those who underwent prolapse repair alone (14) and those who underwent prolapse repair and suburethral sling surgery (16).

Mean UDI-6 scores were 3.71 in the prolapse only group and 2.31 in the concomitant sling group

Prolapse repairs and anti-incontinence procedures

	No. Procedures
Abdominal sacrocolpopexy	18
Sacrospinous ligament suspension	4
Uterosacral ligament suspension	3
Iliococcygeus fascia suspension	2
4 Corners vault suspension	1
Anterior colporrhaphy	7
Pubovaginal sling	9
Retropubic mid urethral sling	4
Transobturator mid urethral sling	3