

1-YEAR OUTCOMES WITH GYNEMESH FOR ADVANCED CYSTOCELE REPAIR

Hypothesis / aims of study

The use of graft material for herniorrhaphy is commonplace as recurrence rates dropped significantly following the introduction of graft materials. Cystocele repair have documented recurrence rates of up to 20%. In an attempt to reduce cystocele recurrence, there is a growing trend in the use of autologous, heterologous or synthetic grafts to reinforce cystocele repair.

This retrospective study reviews the experience of two institutions with polypropylene mesh for cystocele repair. The recurrence rates and mesh related complications following implantation of polypropylene mesh are the primary outcomes evaluated.

Study design, materials and methods

A retrospective review was performed of cystocele repairs using polypropylene mesh from January 2003 to August 2004 with at least one documented postoperative evaluation. Patient age at repair, race, parity, menopause status, concomitant procedures performed, preoperative pelvic support evaluations and complications were reviewed. Postoperative failure was defined as cystocele recurrence of grade 2 or more (Baden-Walker) regardless of symptoms.

Patients undergoing repair at one site underwent vaginal paravaginal repair with a rectangular mesh placed transversely beneath the bladder and fixed to the bilateral arcuate ligaments using absorbable suture. Patients operated at the other site underwent a cystocele repair with a circular mesh placed under the bladder and fixed to the obturator fascia using absorbable suture.

Kaplan-Meier survival analysis was performed to evaluate the complication free survival.

Results

Forty-nine (49) patients were identified with one (1) lost to follow-up. Median follow-up was 7.7 months (range 1-19 months). The median age at repair was 61 years with a median BMI of 25.5. On preoperative evaluation of the pelvic floor, the median cystocele was grade 4 at the time of repair. Ten patients (21.8%) had previous cystocele repairs, and eleven (22.9%) had previous hysterectomy for various indications. Our patients were 87% Caucasian, 4% African American, and 9% Asian.

Four patients (8.3%) underwent isolated cystocele repair, all others underwent concomitant pelvic reconstructive and/or incontinence procedures. Thirty-three patients had placement of a minimally invasive pubovaginal sling

as part of their procedure. Concomitant hysterectomy was not found to be protective for cystocele recurrence ($p=0.23$).

During the study period, no cases of bladder or enteric erosions were noted at postoperative evaluation. There were no de novo lower urinary tract symptoms attributable to the mesh noted postoperatively. Vaginal mesh extrusion was noted in three patients with a rate of 6.3%. Postoperative asymptomatic recurrence of grade 2 distal cystocele was seen in two patients (4.1%).

Interpretation of results

Current pelvic prolapse repair surgical techniques have a high rate of recurrence, most commonly of the cystocele, necessitating subsequent reoperation. Innovation in the repair of cystocele will be valuable in pelvic reconstructive surgery and development of techniques involving heterologous graft will likely be an integral component. There has been extensive international experience reported using permanent polypropylene mesh; however, experience in the United States has not been published to date.

In our study, one patient developed a recurrent cystocele 6 months postoperatively, with recurrences in the posterior and apical compartments also noted at that time. In the immediate postoperative period she received steroid treatment due to newly diagnosed scleroderma. This patient underwent repeat cystocele, rectocele and vaginal vault fixation. The other patient was found to have asymptomatic grade 2 cystocele and has not required repeat surgical intervention. This study shows that in the short term permanent mesh had a significant reduction in the recurrence of anterior vaginal prolapse for patients with severe cystocele.

A major theoretic concern of vaginal placement of a permanent mesh is the risk of bladder or enteric erosion. With short term follow up this study population did not have any enteric or bladder erosion complications. These patients will continue to be followed to evaluate for late onset erosions.

The extrusion of mesh through the vaginal mucosa is a complication seen in other heterologous graft placement. In our data set, the extrusions were in the early patients and associated with cases of postoperative vaginitis. The addition of oral antibiotics postoperatively has prevented vaginitis; further study will evaluate if the decreased rate of extrusion is persistent in the treated population. Of the extrusions, two patients required return to the operating room for revision; the third patient was managed conservatively.

Concluding message

This study shows the use of polypropylene mesh in two different techniques during the repair of severe cystocele is effective with low recurrence rates, no visceral erosions and few vaginal extrusions. Further evaluation of this promising heterologous graft is warranted in a larger patient population with longer length of follow up.

