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Original research

Long term subjective cure rate, urinary tract symptoms and dyspareunia following mesh augmented anterior vaginal wall prolapse repair

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HIGHLIGHTS

- We interviewed 79 women 79–104 months after anterior pelvic floor repair with mesh.
- 11 (13.9%) reported recurrence of prolapse, mostly in the posterior compartment.
- 6 needed a corrective procedure and one had her mesh removed due to dyspareunia.
- 11 (13.9%) reported lower urinary tract symptoms other than prolapse.
- Overall, long term patient centered outcomes were positive.

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ABSTRACT

Introduction: The aim of this study was to assess patient-centered long term outcomes following anterior vaginal repair with mesh.
Methods: In January 2015, we identified 124 women who underwent anterior pelvic floor repair with mesh between January 2006 and February 2009. Patient records were reviewed and demographic, clinical, intra-operative and post-operative follow-up data retrieved. Telephone interviews were conducted to access information on clinical outcomes. Associations between baseline characteristics and long term symptoms were assessed by multivariable logistic regression models.
Results: Seventy-nine women were reached and consented to participate. Patients were interviewed 79–104 months after surgery. Their mean age at the time of surgery was 62.48 ± 9.53 years; all had stage III cystocele with a mean POP Q point Ba of 5.32 ± 1.47. Twenty-four (30%) had a previous hysterectomy and 26 (33%) had a previous pelvic organ prolapse or stress urinary incontinence operation. At telephone interviews, recurrence of prolapse symptoms was reported by 11 (13.9%) patients, mostly in the posterior compartment. Only 6 needed a corrective procedure. One patient had her mesh removed due to dyspareunia. Eleven (13.9%) reported lower urinary tract symptoms other than prolapse, as follows: stress urinary incontinence (1), overactive bladder (8) and dyspareunia (2).
Conclusion: Long term rates of recurrent prolapse, dyspareunia and lower urinary tract symptoms were low for patients who underwent anterior vaginal wall mesh augmentation surgery for symptomatic cystoceles.

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1. Introduction

The cumulative risk for pelvic organ prolapse (POP) surgery by age 80 is 12.6%. The age specific annual risk progressively increases and reaches 3.8 per 1000 women at age 70 [1,2]. Clinically significant anterior vaginal wall prolapse, defined as bothersome prolapse with symptoms of anterior vaginal bulging, is a major treatment challenge for the surgeon due to the high recurrence rate, of up to 65% [3].

POP has been traditionally treated by surgical techniques that use native tissue to repair the pelvic floor defect. Anterior colporrhaphy has been widely performed to treat anterior vaginal wall prolapse. However, prolapse of the anterior compartment is particularly challenging since short-term re-operation rates for prolapse of another compartment, or failure of the first surgery, were reported to be as high as 40% [3–5].

This high failure rate with conventional colporrhaphy for POP has led to an increasing use of synthetic materials to reinforce and support the damaged pelvic floor tissue. Randomized trials of native tissue repair versus mesh augmentation have shown that anatomical cure is higher for mesh procedures [4,5]. Overall, the anatomical cure rate for transvaginal mesh is reported as 79–95% [6–8]. Moreover, these data are supported by a recent Cochrane review that reported a decreased risk of recurrent cystocele compared to anterior colporrhaphy [9] and by the FDA systematic review on this matter [10].

The success of mesh augmentation procedures has mainly been assessed anatomically, according to Pelvic Organ Prolapse Quantification (POPQ) scores. Most studies did not evaluate lower urinary tract symptoms (LUTS), functional patient-centered outcomes and quality of life (QoL) [6–8]. However, although surgeons tend to focus on anatomical outcomes to define surgical success, patients are more concerned with functional outcomes [11]. In addition, only few studies have examined long term outcomes [12,13].

A number of reports have shown that anatomical improvement in the anterior compartment does not necessarily lead to patient-assessed benefit [9,14–16]. Others reported good functional outcomes after anterior compartment mesh augmentation surgeries [14]. The use of mesh for anterior prolapse was shown to be associated with an increased risk of repeat surgery of any type, though 5-year risks for recurrent prolapse surgery were similar following native tissue and vaginal mesh surgery [17].

The aim of this study was to assess long term patient-centered outcomes, specifically, recurrent prolapse, recurrent surgery, stress urinary incontinence and dyspareunia in women who underwent mesh-augmented vaginal repair of anterior prolapse.

2. Material and methods

2.1. Study design

We conducted a survey of long-term outcomes after anterior vaginal repair using the partially absorbable mesh Gynecare Prolift (Ethicon, Summerville, USA). Some of the women had undergone additional procedures, as indicated, and according to the surgeon's preference. The local institutional review board approved the study.

2.2. Study population

Patients with symptomatic cystoceles who underwent anterior vaginal mesh augmentation surgery between January 2006 and February 2009 were identified from hospital records and offered to participate in the study. The study was conducted in January 2015. Data regarding demographic and clinical characteristics, perioperative details and immediate postoperative complications were retrieved from patient files.

Prior to surgery all women had undergone routine clinical histories, and general and gynecological physical examinations. Pelvic statistics were evaluated according to the POP-Q system, as recommended by the International Continence Society [18]. Indication for primary surgery was a diagnosis of POP-Q stage III and IV cystocele. All patients underwent a standardized procedure performed by an experienced surgeon. The postoperative procedure at our medical center comprises assessment at 1–3 months after surgery in a dedicated follow-up clinic and continued follow-up with primary care physicians thereafter, with return to the clinic only upon patients' request.

2.3. Surgical technique

All patients were administered first generation Cephalosporin 1 g intravenously, one half hour before surgery. An iodine antiseptic wash was applied to the area prior to the onset of surgery. Procedures were performed under general anesthesia, except for two which were with regional anesthesia. The detailed surgical technique was as published before [19]. In short, a 50 mL saline hydrodissection at the mid-line of the anterior vaginal wall was performed. A longitudinal incision was made followed by a sub fascial lateral dissection towards the pelvic side wall up to the iliac spine and then to the mid-portion of the sacrospinous ligament. The needle guide and the mesh arm were passed to this point thereafter. The other pair of arms was passed through the obturator membrane for the anterior compartment reconstruction. The mesh was placed and flattened, and the vaginal wall was re-sutured using one layer, running, absorbable sutures.

2.4. Data analysis

Patients were interviewed by telephone regarding possible long term adverse outcomes, mesh-related complications and pelvic floor symptoms. The primary outcome measure was a composite of recurrent prolapse (any compartment); stress urinary incontinence (SUI); overactive bladder (OAB) syndrome, defined as urgency with or without incontinence, usually with frequency and nocturia; and dyspareunia. A secondary outcome measure was recurrent surgery. Concomitant hysterectomy was not performed and posterior vaginal wall repair was performed only for posterior wall prolapse.

2.5. Statistical analysis

Data on continuous variables with normal distribution were presented as mean ± SD, and compared between study groups using Student's t-test. Continuous variables not normally distributed and ordinal variables were presented as median with inter-quartile range (IQ range) and statistical analysis was done using the Mann–Whitney test. Categorical data were shown in counts and percentages and the differences were assessed by chi-square test. Fisher Exact test was used when appropriate.

Associations between baseline characteristics and long term symptoms were assessed by a multivariable logistic regression model. Variable selection in multivariable modeling was based on clinical and statistical significance. We reported final parsimonious models. A second multivariate model was constructed for the prediction of repeat operations. Two-sided p-value of <0.05 was considered significant.