

ABSTRACT

Introduction: Pelvic organ prolapse is a major health problem affecting 50% of parous women over the age of 50. The lifetime risk for pelvic floor surgery for prolapse is likely to be between 10 and 20% and a large number of patients require repeat surgery for recurrence. Cochrane review showed that mesh use at the time of anterior repair reduce the risk of recurrence. In our first study we prospectively evaluate the impact of mesh insertion during anterior repair on sexual function and quality of life. Mesh insertion may be associated with significant and in some cases serious adverse events. To justify its use, it seems necessary to identify women at high risk of prolapse recurrence. There is evidence indicating that levator ani avulsion injury is closely associated with prolapse recurrence. The aim of our second and main study was to demonstrate in a prospective randomized way that levator avulsion may be used to identify patients at high risk for failed native tissue prolapse surgery.

Methods: The first study prospectively evaluated with validated questionnaires the impact of mesh insertion on quality of life and sexual function. The second study is a single-center, prospective, randomized interventional trial of two standard surgical procedures for post-hysterectomy vaginal vault prolapse in women with levator ani avulsion injury: Prolift total and unilateral sacrospinous vaginal fixation with native tissue vaginal repair. The primary outcome was anatomical failure based on clinical and ultrasound assessment.

Results: Significant decrease of quality of life questionnaires scores and significant increase of PISQ-12 scores occurred after anterior repair with mesh insertion. The incidence of de novo dyspareunia after mesh repair was 4%. In the second study, at one-year follow-up we found one anatomical failure on clinical examination in the Prolift group (3%), and 22 failures in the native tissue vaginal repair group (65%), (Chi-Square: $p < 0.001$).

Conclusions: Mesh insertion during reconstructive surgery do not deteriorate sexual function. Despite this finding, because of mesh-related complications, mesh should be use in indicated situations as in women at high risk of recurrence. At one-year follow-up, native tissue repair as vaginal sacrospinous fixation in patients with prolapse and avulsion levator injury has a high anatomical failure rate as 65% compared to 3% failure rate for procedure using synthetic mesh. This is the first study to demonstrate in a prospective and randomized way that ultrasound diagnosis of levator avulsion Injury identifies patients at high risk of prolapse recurrence after native tissue reconstructive surgery. To decrease recurrence risk, levator avulsion injury may be an indication for the use of synthetic materials in pelvic floor reconstructive surgery.

KEY WORDS: Pelvic organ prolapse, mesh, ultrasound assessment, levator ani avulsion, sexual function, quality of life