

REPAIR OF RECURRENT VAGINAL VAULT PROLAPSE USING SACROSPINOUS LIGAMENT FIXATION WITH MESH INTERPOSITION AND REINFORCEMENT

Hypothesis / aims of study

Our goal was to study the efficacy of performing the repeated sacrospinous ligament fixation with mesh interposition and reinforcement in women with recurrent vaginal vault prolapse.

Study design, materials and methods

From August 1998 through December 2002, a total of 15 patients with repeated history of uterovaginal prolapse or vaginal cuff prolapse after previous sacrospinous ligament fixation were recruited. All patients had severe vaginal vault prolapse or uterus prolapse greater than stage III according to the ICS grading system on maximum valsalva maneuver. The sacrospinous ligament fixation was performed with a mesh interposition between sacrospinous ligament complex and vaginal apex. The surgical results and complications were evaluated.

The sacrospinous ligament fixation with a mesh interposition adopted the Miyazaki's technique with some modifications. The anterior and the posterior vaginal wall both are opened to the level of the vaginal cuff apex and the rectovaginal space is entered. With the Miyo hook, two 1-0 polypropylene sutures placed on the sacrospinous-coccygeal complex are used for anchoring the single thickness of 2 x 10 cm rectangular prolene mesh (Ethicon ®) at mid-length. After secure the mesh to the sacrospinous-coccygeal complex, the anchored mesh is then brought to double fold. And the ventral and dorsal pieces of the prolene mesh are tailed and use for reconstituting the anterior and posterior vaginal wall. The anterior and posterior colporrhaphies are accomplished with complete covering of implanted mesh. All patients were examined 1 month, 6 months, and subsequently, on annual basis after the operation. Prolapse is classified according to the ICS ordinal stages of pelvic organ prolapse.

Results

The mean age was 55 years. The mean follow up was 2.9 years (range, 1.0-5.5 years). Repeated sacrospinous ligament fixation was performed for all patients. Eleven were performed unilaterally to the right and four to the left. The average time for sacrospinous fixation was 20 minutes. The average blood loss for sacrospinous fixation was 75 ml. No major complication except one accidental rectotomy was observed. It was repaired intra-operatively and without sequel. The concurrent pelvic surgeries included vaginal total hysterectomies, anterior colporrhaphies, posterior colporrhaphies and tension free vaginal tape procedures. No recurrent of apical prolapse was observed. However, two patients developed stage I prolapse on anterior vaginal wall (cystocele) and required no further repair. In addition, the clinical measurement for mean vaginal length was 8.1 cm postoperatively; the mean genital hiatus length was 4.5 cm; the mean perineal body was 3.4 cm. Minor post-operative complications were observed included bearing down sensation in two patients, and gluteus pain and posterior vaginal wall mesh protrusion in one respectively. The patient had tape protrusion due to sharp edge of the implanted mesh was trimmed and repaired surgically.

Interpretation of results

Sacrospinous ligament suspension is effective in managing vaginal vault prolapse. However, recurrent vaginal vault prolapse after sacrospinous ligament suspension has been reported. Factors responsible for the recurrence after sacrospinous ligament fixation are attenuation and subsequent weakening of the supporting ligament due to aging and menopause, inherent weakness of the supporting tissue, avulsion of sutures from the supported vagina tissue and inadequate repair. We adopted the concept of mesh interposition and reinforcement for sacrospinous ligament fixation. The operative time is not long, the apical support is effective, the complication is minor and the surgical route is unified. These have convinced us that reinforcing a mesh on sacrospinous ligament fixation procedure using the vaginal approach is the operation of choice for recurrent vaginal vault prolapse after failure of previous apical

repair. Repeating sacrospinous ligament vaginal vault fixation is difficult occasionally, with scarring in the pararectal space distorting anatomical plans and increasing the risk of rectal injury. Four of fifteen patients (27%) had encountered difficulty in opening the scarring pararectal space. An alternative approach would be to perform sacrospinous ligament fixation at contralateral side.

Concluding message

Repeated sacrospinous ligament fixation with mesh interposition and reinforcement is a safe and effective procedure for the correction of recurrent vault prolapse. A long term follow up is necessary to detect any late complication.