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Farnsworth B[1]
1. SYDNEY ADVENTIST HOSPITAL

MID VAGINAL HAMMOCK RECONSTRUCTION WITH POLYPROPYLENE MESH - OBJECTIVE AND FUNCTIONAL OUTCOME ASSESSMENT

Hypothesis / aims of study

A retrospective case review is performed of 59 patients who underwent a vaginal mesh implantation for recurrent or severe cystocoele. Patients were assessed prospectively for both objective and functional outcomes. Surgical complications were also documented.

Study design, materials and methods

59 patients underwent a vaginal mesh repair for recurrent or severe cystocoele using a standardized technique where a large monofilament Surgipro™ (Tyco, USA) mesh prosthesis was attached to the pelvic side wall at six points to recreate the midvaginal hammock. The Midvaginal hammock refers to an area of vaginal wall corresponding to the attachment of the pubocervical fascia. It is bounded anteriorly by the transverse sulcus of the anterior vaginal wall, posteriorly by the cervix or vaginal vault and laterally by the arcus tendineous fascia pelvis (ATFP) on each side. The Endostitch™ Device (Tyco, USA) was used to attach the mesh to the sacrospinous ligaments (SSL) posteriorly on each side, adjacent to the sacrum, as well as to the ATFP on each side 1-2cm anterior to the ischial spine. These attachments were made with non absorbable sutures (2/0 Surgidac™ Tyco, USA). Careful attention was paid to the mesh reconstruction of the pubocervical fascia adjacent to the bladder neck so that there was no compromise of the area immediately under the bladder neck known as the Zone of Critical Elasticity. Rather, the mesh was attached laterally at this point with extensions of the mesh placed under the pubic rami and obturator membrane on each side. POP-Q evaluation of the pelvic floor was made preoperatively and postoperatively at 1, 3 and 12 month intervals. Subjective assessment of general health, gynaecological health and sexual function were made utilizing validated questionnaires. Demographic details, operative data, intraoperative and postoperative complications were recorded. Ethics committee approval was granted to perform a retrospective audit of data collected prospectively as part of the normal quality assurance program. Patient satisfaction was recorded on a visual analogue scale.

Results

Patients were followed up for an average of 18.4 months (Median 18). One patient was lost to follow up after 7 months. In the remaining 58 patients the range of follow up was 13-25 months. The average age of the patients was 66 years (Median 67, Range 39-82). All patients had a symptomatic recurrent or severe (ICS Grade 2 or more) prolapse. 12% of patients were using hormone replacement therapy at the time of surgery. 70% had undergone a previous hysterectomy and 86% had undergone a previous vaginal repair procedure. 22% had undergone a stress incontinence procedure.

Objective surgical success was recorded in all but two patients. A poor functional outcome with persistent urinary symptoms occurred in 3 patients (5%). These three patients were noted to have a good objective surgical outcome as reported by the POPQ assessment.

Two patients (3.4%) required additional surgery in the immediate perioperative period to control bleeding. 5 patients (8.5%) required a blood transfusion. Voiding difficulty requiring catheterization beyond 48 hours occurred in 8 patients (13.5%). One patient required intermittent catheterization for a total of seven days.

Prior to surgery 24 patients (41%) complained of urinary urgency. Urgency was reported in only 9 patients (15%) after surgery. There were no reported cases of De-novo urgency. Prior to surgery 31 patients (53%) were sexually active and 14 of these (41%) complained of dyspareunia. Sexual activity was reported by the same number of patients both before and after surgery but the incidence of dyspareunia was noted to fall to 23% after surgery. 11 patients (18.6%) reported significant postoperative pain whilst in hospital and 8 patients (13.5%) were noted to have a temperature during their recovery. There were no visceral injuries. One patient developed a deep venous thrombosis. Two patients required minor surgery to excise a small superficial mesh erosion.

The preoperative incidence of stress incontinence was 13 patients (22%). Post operatively 4 patients developed de-novo stress incontinence. 11 patients (18.6%) went on to undergo a sub urethral sling procedure.

Interpretation of results

Good objective and functional outcomes were obtained in a retrospective review of 59 patients who underwent a standardized procedure using Surgipro™ Mesh for recurrent or severe cystocoele in 2002. The technique involved restoration of the normal posterior and lateral attachments of the pubocervical fascia to the pelvic sidewall using the ATFP and SSL for attachment on each side.

Concluding message

Despite the fact that a firm polypropylene mesh designed for abdominal hernia surgery was used in this study the functional and objective outcomes were excellent and complications minimal. Since these procedures were performed new soft, macroporous polypropylene meshes have become available which offer the potential for even better functional outcomes in patients with severe and recurrent prolapse.