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Sacrocolpopexy with Subtotal Hysterectomy for Recurrent Genital Prolapse After Laparoscopic Repair of Anterior Vaginal Wall and Uterine Prolapse by Lateral Suspension with Mesh

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Abstract

Sacrocolpopexy was the first laparoscopic technique used to treat POP. It may be associated with life threatening vascular injuries at the level of the promontory. Lateral suspension with mesh represents an alternative which avoids dissection of the promontory. However, the risk of recurrence exists after each technique of POP reconstructive surgery. This case report and video shows that sacrocolpopexy is feasible in case of recurrent POP after previous hysteropexy by lateral suspension with mesh.

Keywords: Laparoscopic Surgery; Mesh; Pelvic Organ Prolapse; Recurrent Prolapse; Sacrocolpopexy

Abbreviations

POP : Pelvic Organ Prolapse

POP-Q : Pelvic Organ Prolapse Quantification System

Manuscript

Introduction and Aim of The Video

Sacral colpopexy/hysteropexy is considered the gold standard for the treatment of apical vaginal and uterine prolapse. It was the first technique described to treat Pelvic Organ Prolapse (POP) by laparoscopy. Results are similar to abdominal sacrocolpopexy [1]. However, dissection of the promontory during sacrocolpopexy may be challenging, especially for obese patients, and associated with rare but potentially serious morbidity, with case reports of life-threatening vascular injuries, vertebral osteomyelitis, and nerve injuries [2]. An alternative technique with lateral suspension of apical prolapse was first described by Kapandji in 1967. This technique consisted of fixing the anterior vagina and isthmus of the uterus with a mesh to the anterior superior iliac bone, avoiding dissection of the promontory and thereby reducing the risks associated with sacrocolpopexy [3]. The technique was progressively modified and performed by laparoscopy by Cornier and Madelanat [4] and later on by Dubuisson et al. [5]. Published data showed similar results to those of sacrocolpopexy in terms of safety and efficiency, with low complication rates and no serious adverse events. However, recurrence of POP can occur after any POP reconstructive surgery with rates of reoperation close to 10% [6,7]. The goal of our video is to show that sacrocolpopexy is feasible after previous lateral hysteropexy with mesh in case of POP recurrence.

Case Report

Our video shows the case of a 68 years old patient gravida 3 para 2 with history of appendicectomy by laparotomy during childhood, varicose veins surgery, conization for cervical dysplasia at age 25, and fibromyalgia. She also suffered from chronic constipation. Five years ago, she had POP reconstructive surgery conservative of the uterus by lateral suspension with mesh, posterior colporraphy, and Burch colposuspension, for pelvic organ prolapse stage 3 of the three compartments and stress urinary incontinence. She consulted our clinic for recurrent POP causing pelvic discomfort and dyspareunia. On clinical examination, there was an apical defect with uterine prolapse and a cervix overpassing the hymen for 1 centimeter (POP-Q stage 2). Preoperative

urodynamics did not show any occult urinary incontinence and ultrasonography described a normal uterus with thin endometrium and no myometrial pathology. Endometrial biopsy and cervical cytology were both normal.

Results

Preoperative prophylactic antibiotics (Mefoxitin 2g intravenously) was administered intravenously at induction of anesthesia, and patient was placed in the dorsal lithotomy position. We used a Hohl uterine manipulator (Karl Storz Company Tuttlingen Germany) to expose the uterus by an assistant sitting between the legs of the patient. We performed insufflation with a Veress needle through the umbilicus followed by introduction of a 12-mm trocar (Ethicon® D12 XT) 150 mm long in the umbilicus for the 10 mm optique. Under laparoscopic control, we introduced two lateral 5mm trocars and one 10 mm suprapubic port for the instruments. Both ureters were identified at the beginning of the intervention. To help identification of the bladder, it was filled with 200 ml of fluid before starting dissection. The laparoscopic procedure started with dissection of the uterovesical pouch with bipolar forceps and monopolar curved scissors. Dissection was helped by mobilization of the uterus and exposure of the anterior vaginal wall with a metallic malleable parallel retractor introduced into the vagina by the assistant. Previous lateral suspension mesh was clearly identified and carefully dissected. Standard supracervical hysterectomy with bilateral adnexectomy was performed. Previous mesh material was partially removed in the vesico-vaginal space.

The peritoneum over the sacrum was then opened and the vertebral longitudinal ligament dissected, with careful identification of iliac vessels and middle sacral artery. Peritoneum was opened parallel and medial to the right ureter until the right uterosacral ligament. The rectovaginal space was dissected with the help of a vaginal malleable retractor. Dissection was performed up to the level of levator ani muscles on both sides of the rectum. A posterior mesh (Gynecaregynemesh® PS non-absorbable Prolene® soft mesh 25X25 cm, Ethicon Endo Surgery, Inc., Cincinati, OH, USA) was tailored by the surgeon and fixed to both levator ani muscles and posterior vaginal fascia with absorbable tackers (Absorba Tack® fixation device by Covidien). An anterior mesh was then tailored in the same product (Gynecaregynemesh®) and fixed to the anterior vaginal fascia with the same tackers. Both meshes were sutured together at the level of the pericervical fascia by non-absorbable 0 polyester sutures (Ethibond® suture 0, Ethicon Endo Surgery, Inc., Cincinnatti, OH, USA). One of the long arms of the two meshes was cut, so that only one arm was fixed to the promontorium with a non-absorbable polyester suture (Ethibond® suture 0). Reperitonisation was performed with 2.0 Polyglactin suture (Vicryl® 2.0 Ethicon Endo Surgery, Inc., Cincinnati, OH, USA) with a purse string over cervix and bladder, and a running suture up to the promontory. The uterus was removed by morcellation.

After cleaning the abdominal cavity and checking both ureters, the procedure was completed. For the 12-mm trocar incision, we closed the fascia before closing the skin. The postoperative period was uneventful. During postoperative control at 6 weeks and one-year, anatomical result was good, and patient was very satisfied.

Discussion

Pelvic Organ Prolapse (POP) is a very common problem affecting up to 50% of women and the prevalence increases with age [8]. The lifetime risk of undergoing POP reconstructive surgery is close to 10 % with 10 to 30 % of women who will require reoperation for recurrence [9-11]. In case of recurrence it is important to master alternative techniques. We believe every urogynaecologist should be able to perform various POP surgeries, by laparoscopic or by vaginal approach. Our video illustrates the feasibility of sacrocolpopexy after a previous laparoscopic hysteropexy by lateral suspension with mesh. The opposite is also possible by performing a lateral suspension in case of recurrence of POP after sacrocolpopexy. As the route of the suspension is different in both techniques, dissection may be less difficult than when performing the same procedure a second time. In this case, we performed a subtotal hysterectomy because uterus was slightly enlarged at laparoscopy, and we believed it could increase the risk of recurrence. Histology confirmed multiple small myomas which were not seen during preoperatvive ultrasonography. Medical litterature is still controversial regarding uterine preservation during POP surgery [12]. While uterine preservation is a viable option for the surgical management of uterine prolapse, the evidence on safety and efficacy is currently lacking. Preserving the uterus has the advantage of reducing the operative time and limiting the risk of mesh erosion. When hysterectomy is performed and morcellation necessary, it is mandatory to exclude neoplasia preoperatively and in case of doubt to use a morcellation bag.

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