

Robot Assisted Modified Abdominohysteropexy as a Uterus Conserving Surgery for Pelvic Organ Prolapse

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Abstract

In terms of long the remaining life and complications, treatment of Pelvic Organ Prolapse (POP) is more complex in young women.

Two types of methods are generally used in reconstructing the pelvic floor structure: those using bio tissue alone and those using artificial structures such as mesh. POP has been shown to frequently recur following reconstruction with bio tissue alone. In contrast, the patients who undergo reconstruction using mesh experience mesh-associated complications. This case report describes the successful treatment of a young woman with POP who refused to use mesh and underwent surgery. This surgical procedure was effective, simple, safe, and cost effective and may be useful in treating patients with POP who desire uterus preservation.

Introduction

Pelvic Organ Prolapse (POP) results from herniation of pelvic organs (including the bladder, rectum, uterus, vaginal vault, and viscera) into vagina. The degree of POP is highly variable [1] and most women with POP are asymptomatic [2]. Patients with symptomatic or higher than stage 3 prolapse, however, require treatment. In general, POP is more common in elderly multiparous women who maintain a sedentary lifestyle. And the treatment is frequently consisting of pelvic reconstruction plus hysterectomy. However, POP also occurs in younger women with collagen problems [3] or other many unknown causes. Treatment of POP may be more complicated in younger women and those who wish to have additional children.

Various surgical procedures have been performed to conserve the uterus. The choice of surgical correction for POP is dependent on the patient's condition and on the preferences of the operator and the patients [4-7]. Two types of methods are generally used in reconstructing the pelvic floor structure: those using biotissue alone and those using artificial structures such as mesh. POP frequently recurs, however, following reconstruction with biotissue alone [4]. In contrast, the patients who undergo reconstruction using mesh experience mesh-associated complications [8-10]. In July

2011, the U.S. Food and Drug Administration (FDA) published a safety alert, entitled "Update on Serious Complications Associated with Transvaginal Placement of Surgical Mesh for Pelvic Organ Prolapse", informing providers and patients that "serious complications associated with synthetic mesh for transvaginal repair of POP are not rare" [9,11].

This report describes the successful treatment of a young woman with POP who underwent surgery for POP without mesh or hysterectomy.

Case Summary

A 36-year-old multigravida woman presented with a prolapsed organ. The patient experienced feelings of residual urine and constipation and reported difficulties defecating and voiding without manual reduction. She was depressed and deprived of a social life and a sex life. A 5x4cm-sized mass protruded through her vagina when she was in a sitting position, with the mass also observed when she was in a supine position after manual reduction (Figure 1A). She was diagnosed with a fourth degree prolapsed uterus. Although she had no plans to have additional children, she wanted to preserve her uterus and strongly refused to reconstruct using mesh.

To treat her condition, she underwent a robot-assisted laparoscopic modified abdominohysteropexy (Figure 1). After being placed in the lithotomy position, the patient received general anesthesia. Her bladder was filled with 400ml normal saline and the location of the upper margin of the bladder was confirmed. Using a colpotomizer, the prolapsed uterus was elevated to a normal anatomical position and the uterus tilted to the right side. Her right round ligament was gathered and sutured to shorten its length (Figures 1B, 1C). The anterior fundal surface of the uterus was fixed to the posterior surface of the right-side rectus muscle fascia of the abdominal wall at a level that did not interfere with the extension of the bladder (Figure 1D), followed by suturing with absorbable suture material. To help the patient endure stronger abdominal pressure, the uterosacral ligaments on both sides were gathered and sutured to each other. The uterosacral ligament was centered to reinforce and obliterate the Douglas pouch (Figures E, F). Posterior perineorrhaphy was performed to narrow the vaginal outlet. This procedure is termed modified abdominohysteropexy with posterior perineorrhaphy (We named it Park's AHPP).

Figure 1: Surgical findings and description of the procedures.



Figure 1A: POP in this patient in the supine position.

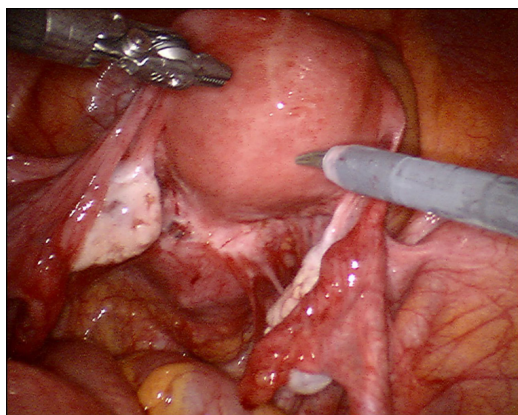


Figure 1B: Elevation of the prolapsed uterus to a normal anatomical position and tilting of the uterus to the right side.

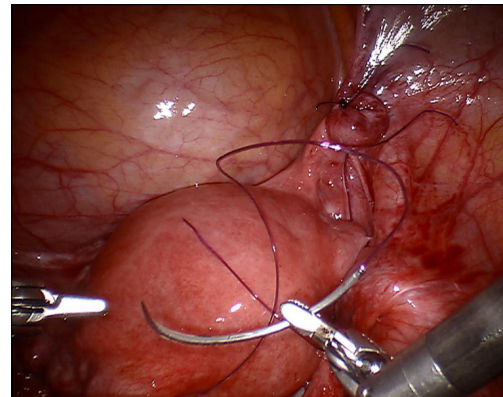


Figure 1C: Gathering and suturing the patient's right round ligament to shorten its length.

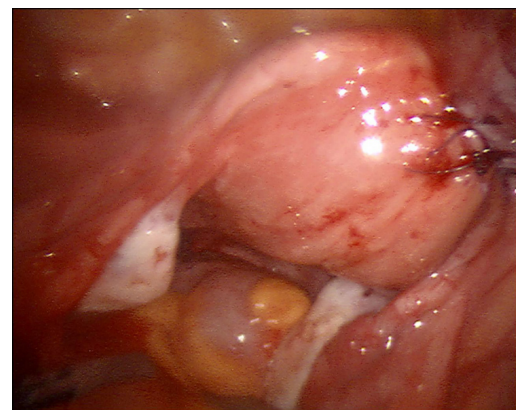


Figure 1D: Fixation of the anterior fundal surface of the uterus to the right side rectus muscle fascia at a level that does not interfere with bladder extension.

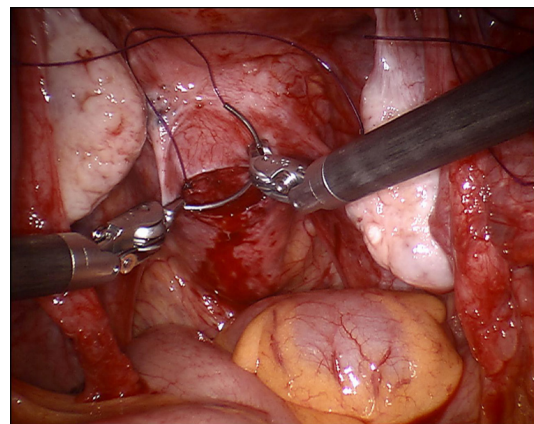


Figure 1E: Gathering and suturing of uterosacral ligaments on both sides to each other.

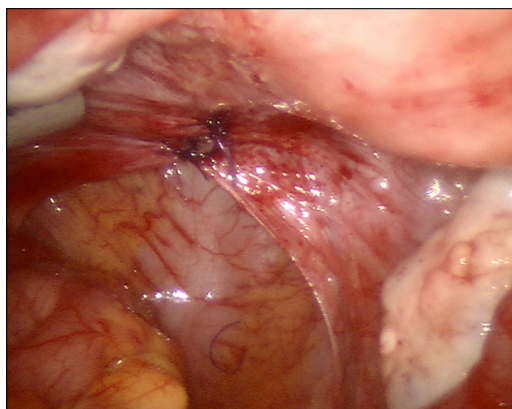


Figure 1F: Obliteration of the Douglas pouch.

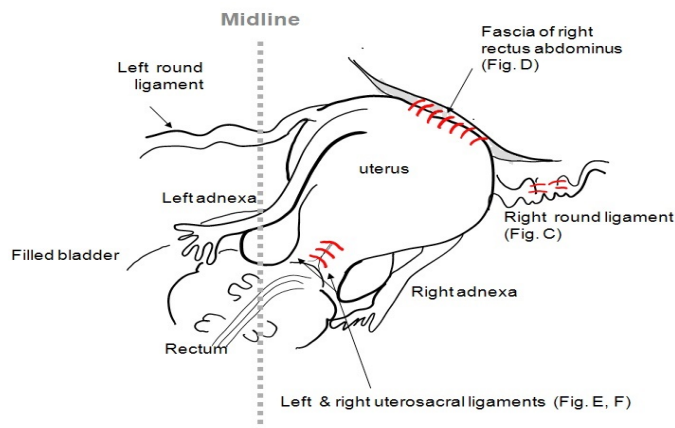


Figure 1G: Illustrated the procedure.

Follow-up examination 28 months later showed that her uterus was fixed well and the length of her vagina was 7.5cm. She reported feeling no discomfort, reported her sex life was good, and she had been able to return to work. She had no symptoms other than a 4 kg increase in weight she attributed to her relief of stress from POP. Her satisfaction with the procedure was very good.

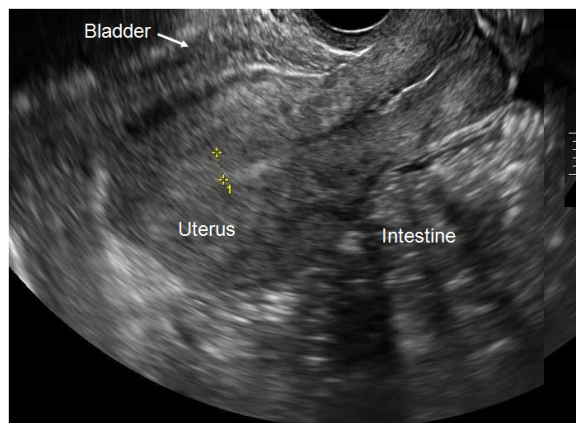


Figure 2: Sonogram findings at follow-up 18 months after surgery.

Conclusion

Following surgery, such as cesarean section or myomectomy, many patients are asymptomatic and are unaware that their uterus had adhered to the abdominal wall. Because patients with these types of adhesion do not have POP, we corrected POP in our patient by making an adhesion between her uterus and abdominal wall at the proper level. To enable her to better withstand abdominal pressure, we also reconstructed her perineum and narrowed her relaxed vaginal wall. This surgical procedure was effective, simple, safe, and cost effective and may be useful in treating patients with POP who desire uterus preservation. Also, since this is a single case study I would suggest making a recommendation that further studies be carried out to assess its effectiveness in a larger population.

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Conflicts of interest

No potential conflict of interest relevant to this article was reported.

Financial Disclosures

None of the authors reported financial disclosures.

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