



Elective Modified Laparoscopic Oophoropexy for Recurrent Ovarian Torsion

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Abstract

Adnexal torsion is a known cause of acute pelvic pain and delay in the diagnosis and surgical treatment reduces the chances of preserving the ovarian function. Recurrent adnexal torsion results in multiple hospital admissions and surgical interventions. Procedures to reduce the risk of recurrence have been described in the literature including oophoropexy which is fixing the ovarian ligament or ovarian tissue to adjacent ligaments or structures with or without shortening of ovarian ligament. We describe a modified approach of laparoscopic oophoropexy which was performed for a young lady who has completed her family and presented with three episodes of adnexal torsion.

Background

Adnexal torsion was first described in 1891 as partial or complete rotation of the ovarian pedicle on its long axis which could compromise venous and lymphatic drainage [1]. It has been estimated to be the fifth most common gynecological emergency with a reported prevalence of 2.5% to 7.4% [2-4]. Ovarian torsion can occur in females of all ages including children [4,5] however; pregnancy and subfertility treatment [6-9] the presence of ovarian/cyst or mass [10] hyperstimulated ovaries [11] may all predispose to this emergency with a torsion recurrence rate reported to be around 10%. [12] Adnexal torsion is frequently suspected in women with acute pelvic pain, but rarely confirmed due to the difficulty in achieving the diagnosis [4], however; prompt diagnosis is dependent on clinical history and a high index of suspicion with only 44% of cases were reported to be confirmed pre-operatively [13]. Transvaginal ultrasound remains the first-line investigation; however MRI may be more useful in pregnancy [4]. The absence of radiological suggestion of adnexal torsion should not rule out the diagnosis especially if symptoms are persistent and severe enough to decide on performing surgery [4]. Prompt intervention to preserve ovarian function should be laparoscopic wherever possible and de-torsion is the treatment of choice to preserve the adnexa in prepubescent girls and women of reproductive age whose families are not complete regardless of the colour of the ovary at the time of surgery to retain normal ovarian function [4], first described by Mage et al. in 1989 [14]. As the trend toward conservative management increases, more cases with recurrent adnexal torsion would arise. Different methods were described to avoid recurrent ovarian torsion including laparoscopic oophoropexy using an extracorporeal suturing technique fixing the ovarian ligament to the back of uterus [12] using the trocar site closure needle to fix the ovary to the abdominal wall [15], shortening (plication) of the ovarian ligament [16], oophoropexy to the uterosacral ligament [17], plication of the ovarian tissue to multiple ligamentous attachments such as the round and broad ligaments to provide an added support by increasing the number of suspension angles [17], or using the "Hotdog in a Bun Technique" where the utero-ovarian and round ligaments are used as the bun while placing the fallopian tube as the hot dog in between with or without shortening of the ovarian ligament [18]. Here we are describing a procedure of elective modified laparoscopic oophoropexy by unilateral salpingectomy for family planning and fixation of the ovarian ligament to the round ligament in two places in a young woman who has completed her family and presented with recurrent adnexal torsion after previously losing one torsted adnexa in order to preserve her only remaining ovarian function.

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Case Presentation

A 29 year old lady, a mother of two had suffered with three occasions of acute ovarian torsion. She underwent open right salping oophorectomy in 2014 for gangrenous large torsted right adnexa. This was followed by laparoscopic untwisting of left adnexa and ovarian cystectomy a year later (Figure 1). Finally she had a third left adnexal torsion eight months later when she presented with vomiting and acute severe left sided abdominal pain requiring different analgesia with a 7 × 6 left



Figure 1: Left ovarian torsion (second time) with large left ovarian cyst.



Figure 2: Left ovarian torsion (third time) with large ovarian cyst.



Figure 3: Left modified oophoropexy post left salpingectomy.

ovarian cyst on pelvic ultrasound scan (Figure 2). She underwent emergency laparoscopy and de torsion of left adnexa with left ovarian cystectomy. Due to the extensive oedema from the torsion during the procedure which might increase the risk of bleeding, deferred elective modified left laparoscopic oophoropexy was planned to be performed three months later to reduce the recurrence of adnexal torsion. The patient was using depo provera injections twelve weekly for contraception (medroxyprogesterone acetate 150 mg injectable suspension, Pfizer Limited, Kent, UK). She was advised regarding the possible associated risk of developing functional ovarian cysts [19] with this kind of contraception which might contribute to the recurrent ovarian torsion [10]. She decided that her family was complete and she would like to be sterilised and stop the hormonal contraception.

Salpingectomy for family planning was discussed with her and explanation about its ovarian cancer prevention was highlighted [20,21]. Laparoscopic left salpingectomy was performed on the day for family planning using ligasure scalpel (ligaSure Precise TM, Medtronic, UK) followed by modified oophoropexy using 2/0 Ethibond Excel with intracorporeal knot application; where the round



Figure 4: Left modified oophoropexy.

ligament was sutured to the ovarian ligament in two places (Figures 3 and 4). The patient was discharged home same day and was followed in the gynaecology clinic two months later with full recovery. She did not experience any more ovarian incidents since more than two years.

Results and Conclusion

Elective modified laparoscopic oophoropexy is a safe and easily performed procedure in women presenting with adnexal torsion and who would like to be sterilised at the same time. Salpingectomy and fixing the ovarian ligament to the round ligament would provide simple and reliable approach for oophoropexy in order to conserve the ovarian function and prevent further torsion.

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