

Ovarian Ligament Plication as a Treatment for Patient with Elongated Ovarian Ligament with Recurrent Abdominal Pain in the Absence of Ovarian Torsion

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Abstract

Elongated ovarian ligament can lead to adnexal torsion. Several cases of ovarian torsion have been reported where the ovarian ligament was elongated, and ovarian detorsion and ovarian ligament plication were done. In our case, a young girl presented with recurrent left lower abdominal pain, especially after exercise, with normal ovaries found on ultrasound. Laparoscopy was performed given recurrent pelvic pain and found elongated left ovarian ligament with normal ovaries. Considering the possibility of recurrent torsion and detorsion of the ovary due to elongated left ovarian ligament, left ovarian ligament plication was done. The patient remained pain-free till 1 year of follow-up. No such case has been reported in the literature where the ovarian ligament plication was performed without torsion. Hence, elongated ovarian ligament could cause recurrent pelvic pain due to possible torsion, and a simple, easy procedure of ovarian ligament plication can help relieve pain.

Keywords: Elongated ovarian ligament, ovariopexy, plication, torsion

INTRODUCTION

Ovarian ligament plication is an adjunctive treatment in patients with ovarian torsion with the elongated ovarian ligament.^[1] Utero-ovarian ligament plication for elongated and lax ligament is an effective method for decreasing mobility of the ovary and subsequent risk of ovarian torsion.^[2] Ovarian torsion is an emergency as, if left untreated, it may lead to ovarian necrosis.^[3] The majority of the cases of ovarian torsion occur in the presence of ovarian or para-ovarian masses.^[1] We report a case of recurrent abdominal pain, especially after exercise, with elongated ovarian ligament and relief of pain with ovarian ligament plication in the absence of ovarian torsion or ovarian mass.

CASE REPORT

A 14-year-old unmarried girl presented with on and off lower abdominal pain in the lower left quadrant for the past

3 months. The pain gets aggravated with physical activity and relieved spontaneously. She had regular menstrual cycles with no associated dysmenorrhea. Ultrasound whole abdomen and pelvis done was not suggestive of any abnormality. Diagnostic laparoscopy was performed given recurrent pelvic pain which showed elongated left utero-ovarian ligament (~5.6 cm length) and normal right utero-ovarian ligament (~2.8 cm) with bilateral normal ovaries [Figure 1]. No abnormality was found in the uterus, bilateral tubes, or rest of the abdomen. Considering the possibility of repeated spontaneous ovarian torsion and detorsion in view of the presence of long left utero-ovarian ligament in the absence of any ovarian mass or ovarian torsion, with a history of pain on the left side of abdomen, left ovarian ligament plication was done laparoscopically using vicryl 2-0 [Figure 2]. Three-port

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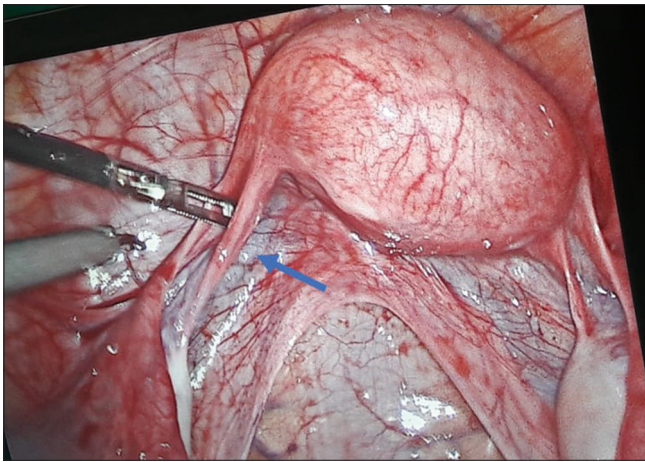


Figure 1: Elongated left ovarian ligament

laparoscopy was used which improves the cosmetic outcome in a young patient. The postoperative period was uneventful, and the patient was discharged after 24 h. The patient was followed for 1 year with no further episodes of similar pain. Informed consent was taken from the patient and mother for publication purpose.

DISCUSSION

Ovarian torsion accounts for 2.5%–5% of all gynecological emergencies in the reproductive age group females.^[1] Usually, the right infundibulopelvic ligament is longer and the sigmoid colon restricts the left ovarian mobility. Recurrent right ovarian torsion is more common than the left side.^[3,4] Rangaram *et al.*^[1] reported a case of left adnexal torsion associated with left corpus luteal cyst. In our case, recurrent abdominal pain was also on the left side and left ovarian ligament was elongated. The majority of the cases occur in enlarged ovaries such as polycystic ovaries, ovarian cysts, para-ovarian cysts, or hyperstimulated ovaries preventing the return to the normal position after torsion.^[3,5] Most of the cases with ovarian cysts or polycystic ovaries do not undergo torsion, which indicates the probability of other causes for the torsion. Further, torsion may occur in the presence of normal ovaries.^[5] Hence, hyperlaxed mesovarium or mesosalpinx with or without connective tissue disorders may play a role in its occurrence. Recurrence of ovarian torsion is more common in the absence of anatomic abnormality.^[3] Ovarian torsion in adolescents or premenarcheal girls who have elongated infundibulopelvic ligament can occur without any ovarian cyst or mass.^[6-8] In our case, ovaries were normal and the patient is an adolescent female. The risk of torsion increases with an increase in the size of ovarian mass or if the ligament is longer than normal. The normal length of the right ovarian ligament is 2.2 ± 0.6 cm, whereas the length of the left ovarian ligament is 2.3 ± 0.8 cm.^[9] Tamir

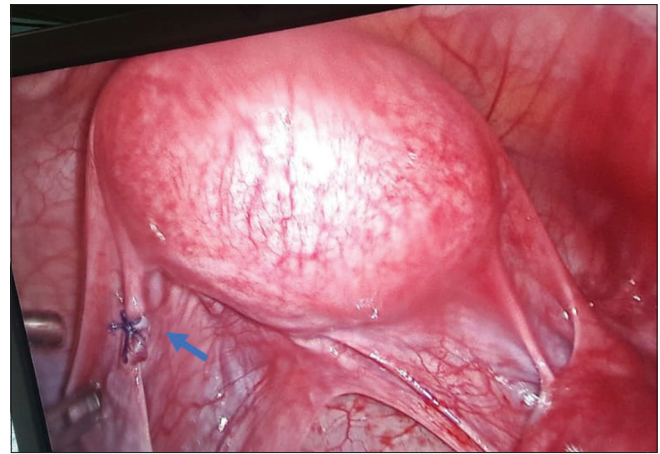


Figure 2: Left ovarian ligament after plication

Yaniv *et al.*^[9] found a correlation between increased ovarian ligament length and ovarian torsion, which is the basis of ovarian ligament plication or oophoropexy in cases of ovarian torsion. Chances of recurrence of torsion are higher if earlier torsion had occurred in the absence of adnexal mass.^[3] It has been seen in literature that majority of cases of ovarian torsion occurs in the presence of adnexal mass with elongated ovarian ligament. Also, it has been found that recurrence of ovarian torsion is more frequent in the absence of ovarian mass. In our case, ovary was normal with no adnexal mass or torsion but elongated left utero ovarian ligament of approximately 5.6 cm size was present which we thought could be leading to repeated spontaneous ovarian torsion and detorsion.

Rangaram *et al.*^[1] reported a case of torsion in a patient with an elongated hypermobile ovarian ligament in the absence of an adnexal cyst. Adnexal detorsion with bilateral ovarian ligament plication was done. Seckin *et al.*^[2] reported a case of ovarian torsion in a nulligravida woman who had recurrent episodes of pain, especially during exercise with a history of dysmenorrhea and dyspareunia. Intraoperatively, the patient had torsion with elongated right utero-ovarian ligament in the absence of ovarian cyst. The elongated right utero-ovarian ligament was plicated.

Various surgical treatment techniques have been described to prevent recurrence of torsion, including plication of the utero-ovarian ligament and oophoropexy with ovary fixation to the round ligament, ovarian fossa, posterior aspect of the uterus, or lateral pelvic wall.^[3] It is not clear which technique whether utero ovarian ligament plication or oophoropexy with ovary fixation to the round ligament, ovarian fossa, posterior aspect of the uterus, or lateral pelvic wall is better. Oophoropexy is usually not done at time of ovarian detorsion as majority of times, ovaries are ischemic, and oedematous ovaries and ovarian tissue is fragile which might

lead to failure of the procedure. Hence, procedure should be postponed in such cases. . As of now, the indications for ovariopexy are elongated ovarian ligament, unilateral adnexal torsion, or contralateral pexy in case of adnexectomy of torted adnexa.^[10] After extensive search of the literature, we could not find any such case where ovarian ligament plication was done in the presence of elongated ovarian ligament with pain abdomen in the absence of intraoperative finding of torsion.

CONCLUSION

Ovarian ligament plication may help relieve the pain abdomen in the absence of ovarian cyst or any other cause of recurrent abdominal pain, considering a possibility of spontaneous torsion and detorsion due to elongated ovarian ligament.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient's mother has given consent for her images and other clinical information to be reported in the journal. The patient's mother understands that the name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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