

Isolated Tubal Torsion: An Elusive Presentation

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Abstract

Isolated tubal torsion is a rare diagnosis which can be easily missed due to nonspecific clinical and imaging features. A high level of suspicion required for this condition to be diagnosed preoperatively. We are presenting a case wherein ultrasonography gave a diagnosis of salpingitis, however intraoperatively it turned out to be tubal torsion with an interesting etiology.

Keywords: Isolated , tubal torsion, post tubal ligation, adnexal torsion.

Introduction

It is common to diagnose fallopian tube torsion along with ovarian torsion. However, isolated tubal torsion without ovarian torsion is a rare entity with overall incidence of 1 in 1.5 million women since the first reported case in 1890.^{1,2,3}

Female patients with acute lower abdomen pain presenting to emergency department have broad differential diagnosis. In such patients, ultrasonography is the initial imaging modality of choice and ovarian torsion will be the most common provisional diagnosis. Ovarian torsion has specific ultrasonography features such as enlarged ovary and impaired doppler flow, while in isolated tubal torsion these findings do not apply and ultrasound imaging may be less effective.⁴ Clinician might choose to get CT imaging, as the clinical presentation might be interpreted as gastrointestinal/urological manifestation, wherein the diagnosis becomes more challenging due to lack of specific features on CT.

Radiologists and Gynecologists should be aware about this entity for prompt clinical diagnosis and improved clinical outcome.

Case Report

Clinical history: A 38 yr old female patient presented in the evening with severe lower abdominal pain since that day morning. Patient was treated with analgesics in outside hospital, however pain not relieved. Patient had past history of 2 lower segment caesarean section and had sterilisation done. Her LMP was 15 days prior. On examination, abdomen was normal except for tenderness in left iliac fossa. On per speculum and per vaginal examination, there was tenderness in left vaginal fornix and no other abnormality. Her serum b HCG <0.100mIU/ml and total count 11,500cells/mm³. Differential count showed 85% neutrophils, rest of hemogram was normal. With these findings a provisional clinical diagnosis of ovarian torsion/ tubo-ovarian mass was made.

Imaging : An emergency ultrasound (USG) abdomen and pelvis was requested which showed normal uterus with normal endometrium. Bilateral polycystic ovaries. An anechoic tubular structure (3.2x2.2cm) with

incomplete septation suggesting hydrosalpinx in association with surrounding hyperechoic area having significant internal vascularity seen in left adnexa [Figure 1]. Arterial and venous flow seen within the left pedicle. Rest of abdomen was normal. On USG diagnosis of left hydrosalpinx with salpingitis/ early phlegmon was made. CT abdomen plain was advised to rule out any bowel pathology, however CT did not add anything to the diagnosis except for bulky left adnexa.

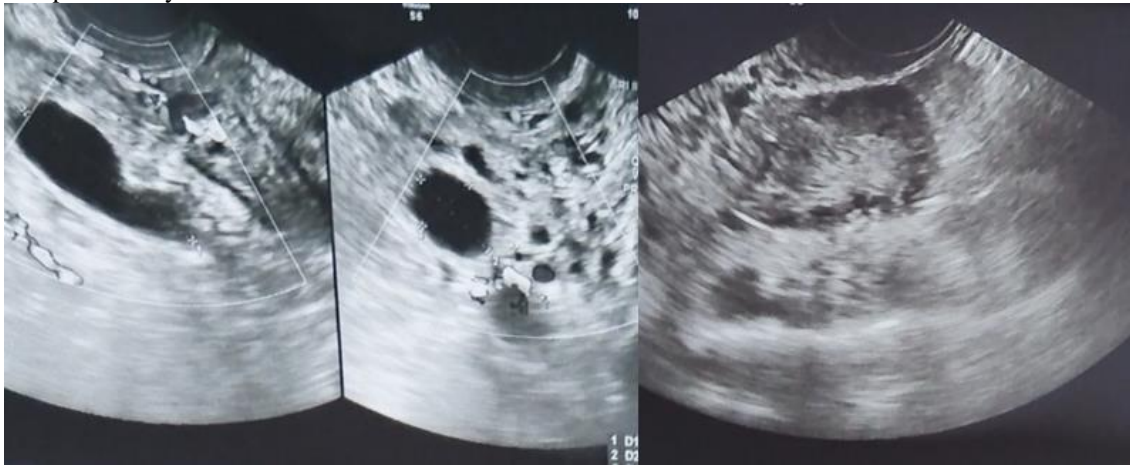


Figure 1: A)USG image showing tubular, anechoic, hydrosalpinx with surrounding increase in echogenicity having increased vascularity and B)polycystic right ovary with no features of torsion.

In view of excruciating pain which was refractory to analgesics, patient was taken up for emergency diagnostic laparoscopy. Intraoperatively, left fallopian tube was dilated, congested and was torsed at its cornual end. Left ovary was normal. Hence, left salpingectomy was performed after detorsing it [Figure 2]. As there was right hydrosalpinx, right salpingectomy was performed. Right ovary and uterus were normal. Adequate hemostasis achieved and ports sutured. Post procedure patient was comfortable and was discharged with antibiotics. Patient was completely relieved of her pain. Informed written consent taken from the patient prior to this case report submission.

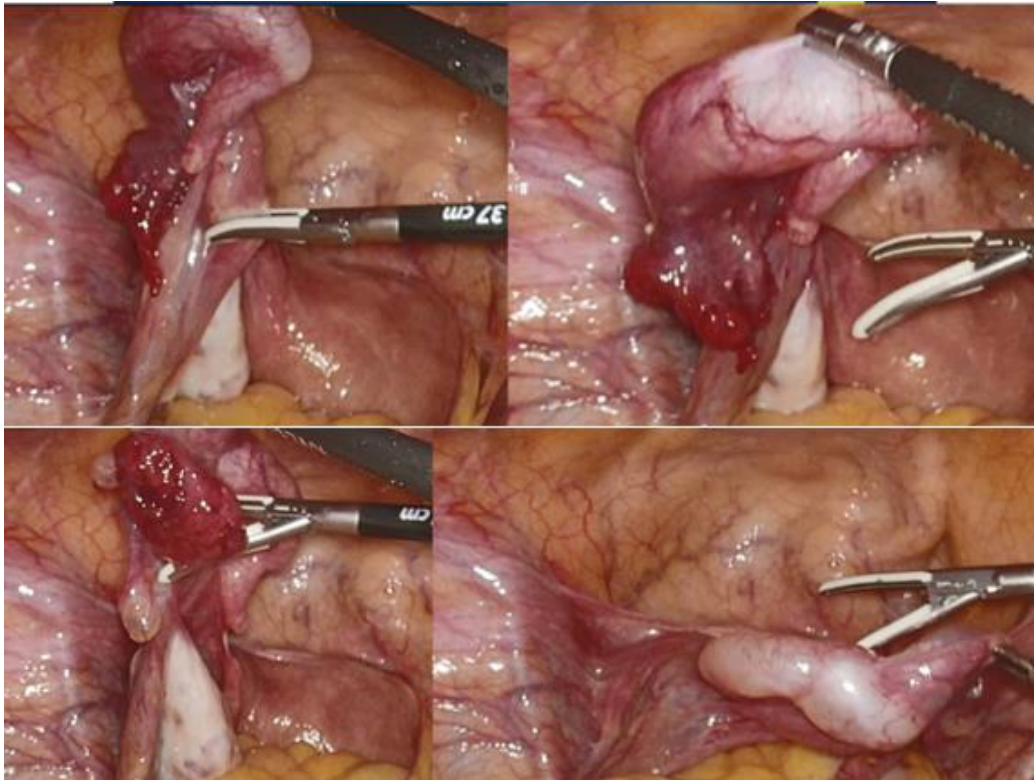


Figure 2: A, B, C) Laparoscopic intraoperative images showing torsed fallopian tube and mesosalpinx with sequential detortion and D)showing fully detorted mesosalpinx with hydrosalpinx.

Discussion

Acute pelvic pain could be a common manifestation of multiple conditions such as ovarian torsion, mittelschmerz, adnexal ectopic, pelvic inflammatory disease (PID), appendicitis, diverticulitis, intestinal obstruction, ureteric/bladder calculus or uncommon entity such as tubal torsion.⁵

Risk factors for isolated tubal torsion include hydrosalpinx, PID, tubal ligation, tubal adhesion, tubal neoplasm, adnexal venous congestion, adjacent ovarian/paraovarian neoplasm, uterine masses, gravid uterus and trauma.⁶

In our case tubal torsion was secondary to tubal ligation and was associated with hydrosalpinx. Post tubal ligation, fallopian tube torsion has unique and interesting implication. Unlike other causes abnormal mobility and an abnormal bulk of tube appear to be required before the fallopian tube to undergo torsion as in our case. According to Cox et al division of the tube deprives the lateral part of any stability which it might obtain from continuity with the medial part, thus facilitating torsion.⁷ Other authors theorize that torsion resulted from cutting too deeply into the mesosalpinx, thereby allowing too much rotation and movement of oviduct.⁸ According to Ottesen et al, increased mobility is caused by severing or at least constricting the attachment of the tube to the uterus. The increased bulk of fallopian tube is produced when secretions from the tube can no longer travel into the uterus, resulting in a hydrosalpinx.⁹

Most of the documented cases found were reported multiple years following tubal ligation.¹⁰ Hence, it is unlikely that the surgery itself is a risk factor. The mechanical risk factors commonly believed to predispose ovarian torsion such as ovarian masses or cysts causing asymmetric weighting of the ovaries also do not apply to post-tubal ligation patients.

According to literature on ultrasonography, some of the patient with tubal torsion had free pelvic fluid, some had cystic adnexal masses and rest had no significant findings.^{3,8,10,11} This suggests that USG may be less helpful in assessing for torsion in post-bilateral tubal ligation patients, and that such patients may go underdiagnosed if clinicians assume an ultrasound is sufficient to "rule out" torsion. Definitive diagnosis of isolated tubal torsion ultimately requires laparoscopy.⁴

In our case there was nonspecific findings of hydrosalpinx with increased adnexal echogenicity and a normal ovary. The increased echogenic area could represent the torsed inflamed tubal tissue on retrospective analysis. The right hydrosalpinx was obscured by bowel gas.

If tubal torsion not diagnosed promptly it can lead to necrosis, gangrene, superinfection, peritonitis, eventual ischemia/damage of adjacent ovary.^{5,12} Treatment can range from detorsing the tube to salpingectomy or even salpingo-oophorectomy.¹

Conclusion

In nonpregnant female patients with acute pelvic pain, especially post tubal ligation differential diagnosis of tubal torsion needs to be included. Awareness of this particular entity will help clinicians to diagnose it promptly as its imaging diagnosis is challenging and often needs surgical intervention, thereby avoiding complications and unnecessary investigations.

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Disclosure

All authors declare no conflict of interest. No financial interest relevant to our manuscript.

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