Case Report

Isolated Hydrosalpinx Torsion: A Rare Gynaecological Emergency

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ABSTRACT

Isolated torsion of hydrosalpinx is a rare gynaecological emergency that often presents as acute lower abdominal pain and can mimic other adnexal or abdominal pathologies, making diagnosis challenging. Case Report: A 27-year-old multiparous, tubectomised female with a history of three previous LSCS and prior abdominal surgeries presented with acute right lower abdominal pain, nausea, and vomiting. Ultrasonography suggested right hydrosalpinx with a left ovarian cyst. Emergency exploratory laparotomy revealed a large right hydrosalpinx with torsion, a left ovarian endometriotic cyst, and pelvic adhesions. Right salpingo-oophorectomy with left ovarian cystectomy and adhesiolysis was performed. The postoperative recovery was uneventful. Conclusion: Isolated hydrosalpinx torsion should be considered in women presenting with acute lower abdominal pain, particularly in the presence of prior pelvic surgery or tubal pathology. Early surgical intervention is essential for definitive diagnosis and management.

Key words: Hydrosalpinx, tubal torsion, adnexal torsion, acute abdomen.

INTRODUCTION

Hydrosalpinx is a condition characterized by abnormal dilatation of the fallopian tube due to blockage at its distal end, leading to the collection of clear serous fluid. It commonly develops as a consequence of chronic pelvic infections, prior pelvic or tubal surgery, endometriosis, or peri-tubal adhesions. Although many patients remain asymptomatic, it may manifest as pelvic pain, an adnexal mass, or infertility, and can increase the risk of rare complications such as tubal torsion.

Adnexal torsion is an acute gynaecological emergency caused by twisting of the ovary, fallopian tube, or both around their vascular pedicle, resulting in compromised blood flow. It typically presents with sudden-onset lower abdominal pain, often accompanied by nausea and vomiting, and requires prompt diagnosis and surgical intervention to preserve adnexal viability and prevent necrosis.

Isolated torsion of a hydrosalpinx is an uncommon gynaecological emergency caused by twisting of a dilated, fluid-filled fallopian tube, resulting in vascular compromise. Due to its rarity and nonspecific symptoms, the condition often mimics ovarian torsion or other acute abdominal pathologies, leading to diagnostic delay. Early diagnosis and timely surgical management are crucial to prevent irreversible tubal damage and associated complications, with consideration for fertility preservation whenever possible.

This case report highlights a rare occurrence of adnexal torsion caused by an underlying hydrosalpinx.

CASE REPORT

A 27-year-old multiparous (P3L3) tubectomised female with previous 3 LSCS with history of open appendicectomy, open cholecystectomy, and with a known case of hypothyroidism, came to emergency presenting with complaints of acute onset lower abdominal pain since 8 hours. The pain was severe, continuous, and localized predominantly to the right lower abdomen, with no radiation. It was associated with nausea and 2 episodes of vomiting. Patient also has history of heavy menstrual bleeding (HMB) since last 2-3 months with history of soakage of 4-5 full pads per day with menses lasting for 5 days with passage of clots associated with painful menstruation.

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Received Date: 05 Nov 2025
Accepted: 10 Nov 2025

Her Last Menstrual Period(LMP) was on 29th September 2025. Her obstetric history included prior three lower segment caesarean sections, 10 years, 6 years and 3 years ago, followed by tubal ligation done three years ago.

Patient came with a previous scan, USG (A+P) suggestive of elongated tubular anechoic cystic structure of size measuring 3.7x4.7x3.6cm, volume-60.16 cc, with intralesional incomplete septations seen within right adnexal region, likely suggestive of Right Hydrosalpinx. Left ovary showing a complex cystic space occupying lesion of size measuring 3.5x3.2x3.6 cm, volume of 17.17 cc suggestive of Left Endometriotic/Haemorrhagic Cyst. No free fluid in Cul de sac.

There was no history of any other comorbidities, fever, bowel or urinary complaints. The patient denied any recent trauma or similar episodes in the past. There was no history suggestive of pelvic inflammatory disease or prior adnexal torsion. The acute nature and progressive severity of pain prompted emergency evaluation.

GENERAL EXAMINATION

The patient was conscious, alert, and oriented, but appeared to be in significant pain. She was afebrile. Vital parameters were stable, with pulse rate 88 beats per minute, blood pressure 110/ 70 mmHg, respiratory rate 22 per minute, and oxygen saturation 98% on room air. There was no pallor, icterus, cyanosis, clubbing, or pedal edema

Abdominal Examination:

On inspection, the abdomen was soft. Appendicectomy, cholecystectomy, vertical and Pfannenstiel scar were present. On palpation, there was localized tenderness in the right lower quadrant, with mild guarding. No rigidity or rebound tenderness was noted.

Pelvic Examination:

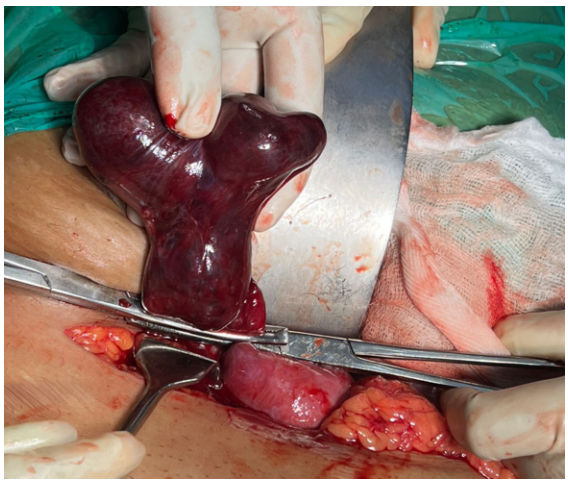
On per speculum examination, the cervix and vagina appeared healthy, with no abnormal discharge or bleeding. On bimanual pelvic examination, the uterus was bulky in size, anteverted, and mobile. Bilateral forniceal fullness and tenderness present. 3x4 cm bulge at the Pouch of Douglas(POD) present.

Name of the investigation	Result	Reference value
Hb	12.3 g/dL	12 to 16 g/dL
Platelet count	242,000	>150,000
WBC	12150	4,000 to 11,000
Na	138 mmol/L	135 to 148 mmol/L
K	4.5 mmol/L	3.8 to 5.2 mmol/L
Prothrombin Time	12.0	
INR	1.07	0.8-1.1
Creatinine	0.8	0.6 to 1.1 mg/dL

After explaining the condition, a well-informed, written, and valid consent was taken from the patient and relatives. Patient was then taken up for Emergency Exploratory Laparotomy SOS Bilateral Salpingoophorectomy.

Intraoperative Findings:

- Uterus was Bulky
- Right sided Hydrosalpinx of size 10x12x 8 cm seen with one loop of torsion.
- Left Ovarian Endometrial(Chocolate) Cyst of size 5x4 cm.
- Evidence of Flimsy Adhesions in between omentum and left ovary seen.
- Adhesion between Anterior abdominal wall and muscle.



- Right Hydrosalpinx detorsion done followed by Right salpingo-ophorectomy performed.
- Flimsy adhesion between left ovary and omentum released, free tie taken.
- Left ovarian cystectomy done for chocolate cyst.
- Intraperitoneal wash was given with warm saline. Hemostasis achieved.
- Patient tolerated the procedure and anaesthesia well and was vitally stable in postoperative period. Patient was discharged after 5 days of IV antibiotics and check dress.

DISCUSSION

Isolated torsion of a hydrosalpinx is an exceptionally rare clinical entity, accounting for a small fraction of adnexal torsions. Its diagnosis is often challenging due to non-specific symptoms and overlap with more common causes of acute abdomen such as appendicitis, ovarian torsion, ruptured ovarian cysts, or PID. In most cases, including the present one, the patient presents with sudden-onset lower abdominal pain, nausea, and vomiting—features that are classical yet not pathognomonic. This often results in delayed recognition and a high likelihood of tubal necrosis by the time of surgical exploration.

Hydrosalpinx typically arises secondary to prior pelvic surgery, pelvic infections, or endometriosis. The patient in this report had undergone multiple abdominal and pelvic surgeries—appendicectomy, cholecystectomy, and three LSCS—placing her at increased risk for pelvic adhesions and subsequent tubal pathology. The coexistence of a left endometriotic cyst further supports the chronic inflammatory state contributing to tubal

dysfunction and hydrosalpinx formation. This aligns with known literature implicating adhesions and peritubal inflammation as major predisposing factors for isolated tubal torsion.

Ultrasound remains the first-line imaging modality, but its diagnostic accuracy for isolated tubal torsion is limited. Hydrosalpinx may be misinterpreted as an ovarian cyst or paraovarian cyst, particularly when septations or complex features are present. In this case, the preoperative ultrasound demonstrated a right-sided tubular cystic structure consistent with hydrosalpinx; however, torsion could not be confirmed on imaging—a common limitation reported in the literature. Thus, a high index of suspicion is required, especially in reproductive-age women presenting with unilateral adnexal pain.

Surgical exploration remains both diagnostic and therapeutic. Prompt intervention is crucial to salvage tubal function; however, in many cases, the tube is already compromised. In the present case, the patient had a markedly enlarged hydrosalpinx with a loop of torsion, necessitating salpingo-oophorectomy. Coexisting pelvic pathology such as endometriosis and adhesions further complicates management but must be addressed concurrently to reduce future morbidity. The postoperative recovery was uneventful, consistent with outcomes reported following timely surgical management.

Overall, this case reinforces the unpredictable nature of isolated tubal torsion and the need for prompt surgical evaluation in women presenting with acute adnexal pain, especially those with known hydrosalpinx or risk factors such as prior pelvic surgeries.

CONCLUSION

Isolated torsion of a hydrosalpinx is a rare but important differential diagnosis in women presenting with acute lower abdominal pain. Its nonspecific clinical presentation and inconclusive imaging findings make diagnosis challenging, often leading to delayed treatment. This case highlights the significance of maintaining a high index of suspicion in patients with prior pelvic surgeries or known tubal pathology. Early surgical intervention remains essential to prevent irreversible tubal damage and associated complications. Multidisciplinary management addressing concurrent pelvic conditions, such as endometriosis or adhesions, ensures optimal recovery. Prompt recognition and timely operative management, as demonstrated in this case, lead to favourable postoperative outcomes.

How to cite this article: Iyer V, Chavan N, Kapote D, Rathod S, Chaturvedi P, Gupta M. Isolated Hydrosalpinx Torsion: A Rare Gynaecological Emergency. JGOG. 2025;5(4):14-16.

Conflicts of Interest: None. **Source of Support:** None.

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