

Unveiling Torsion of Hydrosalpinx in Chronic Pelvic Pain: A Rare Case Report

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Citation this Article: Vaibhav Trentiya, Himanshi Parekh, Ruby Bhatia, Mahak Singaal, Vidushi Tewari, “Unveiling Torsion of Hydrosalpinx in Chronic Pelvic Pain: A Rare Case Report”, IJMSIR – June – 2026, Vol – 11, Issue – 3, P. No. 214 – 218.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Hydrosalpinx is a pathological dilatation of the fallopian tube due to distal tubal obstruction and is commonly associated with infertility. Chronic pelvic pain secondary to torsion of hydrosalpinx is rare and poses a diagnostic challenge. We report a case of a 8-year-old multiparous female with previous three caesarean sections presenting with chronic pelvic pain localized to the left iliac region for six months. Radiological investigations suggested a multiloculated adnexal cyst with possible torsion. Exploratory laparotomy revealed a torsed left hydrosalpinx densely adherent to the ovary and pelvic wall. Left salpingo-oophorectomy was performed, and histopathology confirmed hydrosalpinx. This case highlights the importance of considering hydrosalpinx

with torsion in the differential diagnosis of chronic pelvic pain and adnexal masses and female genital tuberculosis.

Keywords: Hydrosalpinx, Female Genital Tuberculosis, Chronic Pelvic Pain, Torsion, Adnexal Mass, Salpingo-Oophorectomy.

Introduction

Hydrosalpinx refers to a pathological condition of the fallopian tube in which the tube becomes distended and filled with serous or clear fluid due to distal tubal occlusion. It is most commonly associated with pelvic inflammatory disease, endometriosis, or previous pelvic surgery and is a well-recognized cause of infertility^{1,2} While infertility remains the classical presentation, hydrosalpinx may also present with chronic or

intermittent pelvic pain due to tubal distension, chronic inflammation, or peritubal adhesions³.

Chronic pelvic pain associated with hydrosalpinx may be unilateral or bilateral and can occasionally fluctuate with the menstrual cycle. In many patients, the diagnosis is incidental during radiological evaluation for pelvic pain or adnexal masses⁴. Transvaginal ultrasonography remains the initial imaging modality of choice and may demonstrate characteristic tubular, fluid-filled adnexal structures with incomplete septations or a cogwheel appearance⁵. Magnetic resonance imaging can further aid in characterization when the diagnosis is uncertain⁴.

Management of hydrosalpinx is individualized according to symptom severity, reproductive plans, and associated pelvic pathology. Surgical management including salpingectomy or adhesiolysis may be considered in symptomatic patients, especially those presenting with chronic pelvic pain or suspected torsion^{2,3}.

Hydrosalpinx is a significant cause of female infertility and negatively impacts reproductive outcomes, particularly during assisted reproductive techniques. Female genital tuberculosis contributes to tubal damage, obstruction, and hydrosalpinx formation, especially in tuberculosis-endemic regions^{6,7}.

Case Report

A 8-year-old female with previous three lower segment caesarean sections presented to the gynecology outpatient department with complaints of continuous dull aching pelvic pain for six months. Pain was localized to the left inguinal region with radiation to the back and partial relief on medication. There was no association with menstrual cycle. The patient also complained of non-foul-smelling white vaginal discharge without pruritus. Her menstrual cycles were regular with normal flow. She had undergone cholecystectomy six years earlier and was a known case of hypothyroidism on treatment. On

examination, vital parameters were stable. Abdominal examination revealed tenderness in the left inguinal region with a previous Pfannenstiel scar. Per speculum examination showed greyish white discharge adherent to vaginal wall, healthy cervix. On bimanual examination, uterus was retroverted, approximately six-week size, regular, smooth, tender with restricted mobility. Left forniceal fullness and tenderness were present with a tense cystic adnexal mass measuring approximately 10 × 5 cm, movement of adnexal mass not transmitted to the cervix and vice versa.

Laboratory investigations (table number 1) were within normal limits except elevated ESR. liquid based cytology Negative Intreepithelial lesion for malignancy. Ultrasound revealed a multiloculated cystic lesion measuring 9.3 × 4.3 cm in the left adnexa with internal echoes and septations. Uterus retroverted with endometrial thickness 10 mm. Contrast enhanced MRI showed Uterus is retroverted and mildly retroflexed. it is arcuate with smooth indentation of fundal aspect of endometrial complex. External fundal contour is slightly concave. Post caesarean adhesions between anterior wall of lower body of uterus and anterior abdominal wall. A well-defined oblong cystic lesion with thin incomplete septations measuring approximately 10.4 cm x 6.5 cm is seen in the left adnexa appearing hypointense on T1W and hyperintense on T2W images. it shows, minimal peripheral enhancement on post Gad images. Left ovary is seen in the superior aspect of the lesion and is normal. Right Ovary is normal. Impression: likely? Hydrosalpinx? Ovarian Cyst with Torsion. The patient underwent exploratory laparotomy and proceed after informed high risk consent. Intraoperatively, Adhesions present between anterior abdominal wall and uterus. Uterus is retroverted partially retroflexed of 6 weeks size. A (10 x 6) cm distorted

mass/cyst present in the left fallopian tube? Hydrosalpinx, densely adherent to left ovary. (Figure [1,2,3, 4 and 5). Adhesions present between left tubo ovarian mass with lateral pelvic wall and gut. Adhesiolysis done and left salpingoopherectomy done. Right side ovary and fallopian tube found normal. Specimen sent for histopathology, fluid for CBNAAT which was negative for tuberculosis. Histopathology confirmed Gross examination revealed a dilated fallopian tube measuring 10 × 6 cm with a distended lumen containing clear/serous fluid. The outer surface appeared smooth with focal adhesions. Microscopic examination (figure 7) showed a markedly dilated fallopian tube with attenuation and flattening of the tubal mucosal folds. The lining epithelium demonstrated focal loss of ciliation with chronic inflammatory cell infiltrate predominantly composed of lymphocytes and plasma cells within the lamina propria. Fibrosis of the tubal wall with areas of muscular hypertrophy was noted. No evidence of dysplasia or malignancy was identified. Impression: Features consistent with chronic salpingitis with hydrosalpinx

Discussion

Hydrosalpinx is commonly encountered in women with pelvic inflammatory disease and infertility; however, isolated torsion of hydrosalpinx remains uncommon. Clinical presentation is often nonspecific and includes chronic pelvic pain, intermittent abdominal pain, nausea, or adnexal mass. Preoperative diagnosis is difficult because imaging findings may overlap with ovarian cysts or tubo-ovarian masses. Transvaginal ultrasonography is considered the initial imaging modality for evaluation of adnexal pathology. Typical features include elongated fluid-filled tubular structures with incomplete septations and cogwheel appearance. MRI provides better soft tissue

characterization and aids in differentiating hydrosalpinx from ovarian neoplasms.

Management depends on patient age, symptoms, fertility desire, and extent of pathology. Surgical management with salpingectomy is preferred in symptomatic patients or when torsion is suspected. Early diagnosis and intervention help reduce morbidity and prevent complications.

Conclusion

Torsion of hydrosalpinx is a rare but important differential diagnosis in women presenting with chronic pelvic pain and adnexal masses. Imaging plays a significant role in diagnosis, although definitive diagnosis is often made intraoperatively. Timely surgical management can provide symptom relief and prevent further complications.

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Legend Figures and Tables

Figure 1: Intraoperative view of left-sided hydrosalpinx.



Figure 2: Torsed hydrosalpinx densely adherent to surrounding peritoneum.



Figure 3: Torsion of hydrosalpinx.



Figure 4: Untwisting of hydrosalpinx intraoperatively.



Figure 5: Left salpingectomy specimen.



Figure 6: Gross specimen of left hydrosalpinx.



Figure 7: Microscopic examination showing chronic salpingitis with hydrosalpinx.

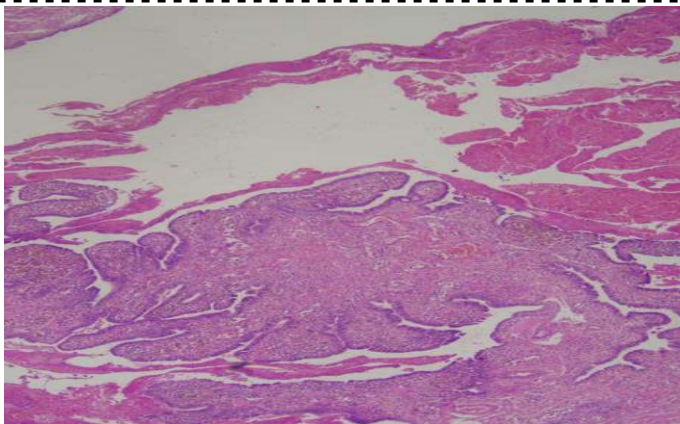


Table 1: (investigation)

CBC	LFT	RFT	Urine Routine	Special Investigations
Hb:10.9gm%	SGOT/SGPT: 26/29 U/L	Urea:20mg/dl	Glucose/ Protein/ Ketone: negative	PT/INR: 12.2/1.13 secs
TLC:5.6*1000 cu/mm	ALP:83U/L Total Protein: 9.47 gm/dl	Creatinine: 0.74mg/dl	RBC:nil Pus cell: 1-2/hpf EC:1-2/hpf	ESR; 80mmat 1st hr Beta HCG: 0.100mIU/ml Thyroid Profile: NORMAL
Plat: 2.33 lakh	BT/BD: 0.370/0.160 mg/dl	Uric Acid: 6.1 mg/dl	Bacteria: absent	Viral Markers:Non Reactive

Chest x ray (posteroanterior view): normal.

CBNAAT: Tuberculosis not detected.