



AN UNUSUAL TUBAL TWIST : LAPAROSCOPIC MANAGEMENT OF GIANT GANGRENOUS HYDROSALPINX IN A 30-YEAR-OLD WOMAN WITH SECONDARY INFERTILITY: A CASE REPORT

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ABSTRACT

BACKGROUND: Hydrosalpinx, a common result of distal tubal obstruction, is an important cause of tubal-factor infertility. While usually asymptomatic or associated with chronic pelvic pain, torsion is a rare acute complication. Its nonspecific clinical and radiological features may delay diagnosis, leading to ischemia, necrosis, and gangrene. [2-7,10,11] **Case Presentation:** A 30-year-old P1L1 woman with secondary infertility presented with abdominal pain and vomiting. Imaging showed a large right tubular cystic lesion suggestive of hydrosalpinx. Laparoscopy revealed an $11 \times 4 \times 4$ cm congested, gangrenous hydrosalpinx twisted through $3\frac{1}{2}$ rotations, and laparoscopic right salpingectomy was performed. Hysteroscopy showed cervical and intrauterine adhesions with incomplete tubal ostial visualization; chromopertubation showed bilateral tubal occlusion. Histopathology confirmed gangrenous salpingitis with hemorrhagic necrosis and dense inflammation. **Conclusion:** Torsion of hydrosalpinx should be considered in reproductive-aged women with acute abdominal pain and a tubular cystic adnexal lesion separate from the ovary. Prompt laparoscopy enables diagnosis and assessment of tubal viability. Gangrenous torsion requires laparoscopic salpingectomy. [2-7,10,11]

KEYWORDS : Hydrosalpinx; Isolated Fallopian Tube Torsion; Tubal Torsion; Gangrenous Salpingitis; Laparoscopic Salpingectomy; Secondary Infertility; Hysteroscopy

1. INTRODUCTION

Hydrosalpinx is distension of the fallopian tube due to distal obstruction and is an important cause of tubal-factor infertility, commonly associated with PID, endometriosis, adhesions, and previous tubal pathology.[2,6,9,12] Isolated tubal torsion is a rare emergency with nonspecific symptoms and difficult preoperative diagnosis. Progressive vascular compromise can lead to congestion, hemorrhage, ischemia, and gangrene. Hydrosalpinx may predispose to torsion by increasing tubal size and mobility.[2-7,10-12] We report a 30-year-old woman with secondary infertility and large right hydrosalpinx complicated by isolated torsion and gangrene, managed by laparoscopic salpingectomy with hysteroscopy and chromopertubation.

2. Case Presentation

A 30-year-old P1L1 woman with secondary infertility presented with abdominal pain and vomiting. She had no significant medical or allergy history. Menarche was at 13 years; cycles were previously irregular but had become regular over the preceding 6 months. She had one term vaginal delivery of a healthy 2.5-kg male child.

On examination, she was afebrile and hemodynamically stable (PR 88/min, BP 110/80 mmHg), with no pallor or edema. Abdominal examination was unremarkable. Per-vaginal examination revealed a normal-sized anteverted uterus with right fornicial fullness, without tenderness or cervical motion tenderness. Hemoglobin was 13.1 g/dL.

3. Diagnostic Assessment

CECT abdomen and pelvis: Showed an anteverted normal-sized uterus with 12.5-mm endometrium and normal bilateral ovaries. A large elongated tubular cystic lesion measuring $11.4 \times 6.1 \times 4.3$ cm was seen in the right adnexa, separate from the ovary, with incomplete septations, suggestive of

hydrosalpinx. A small fat-containing umbilical defect was also noted.

Ultrasonography: Demonstrated a similar tubular cystic lesion measuring $10.7 \times 4.2 \times 3.7$ cm with incomplete septations, suggestive of hydrosalpinx, with mild free fluid in the pouch of Douglas. Both ovaries were normal.

Imaging established the likely tubal origin but did not confirm torsion or tubal ischemia, highlighting the difficulty of preoperative diagnosis in isolated tubal torsion.[2-7,10-12]

4. Preoperative Management

The patient received 7 days of antimicrobial therapy with Halicef and metronidazole. Following clinical and radiological evaluation, surgical management was planned after obtaining written informed consent and pre-anesthetic clearance.

5. Surgical Management

Laparoscopy revealed an $11 \times 4 \times 4$ cm right hydrosalpinx with marked congestion, gangrenous changes, and $3\frac{1}{2}$ twists. As the tube was grossly nonviable, laparoscopic right salpingectomy was performed and the specimen sent for histopathology. Detorsion may be considered when the tube remains viable, whereas established necrosis warrants salpingectomy.[3,6,7,10,11]

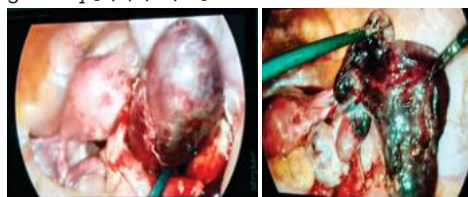


Figure 1- Intra Operative Image of Hydrosalpinx with

Gangrenous Features.

Figure 2- Post Operative Specimen of Hydrosalpinx

6. Hysteroscopy and Chromopertubation

Diagnostic hysteroscopy showed partial visualization of the left ostium, non-visualization of the right ostium, and cervical and intrauterine adhesions, with incomplete visualization of the fundus. Chromopertubation showed no peritoneal spill bilaterally, consistent with bilateral tubal occlusion in the evaluation of secondary infertility.

7. Histopathological Examination

Grossly, the specimen measured 13×4 cm, was grey-brown to grey-black with a congested surface, and showed a dilated lumen with an adjacent 5×4 cm cystic area. Microscopy revealed loss of tubal plicae and epithelium, thickened muscular wall with hemorrhagic necrosis, congested dilated vessels, and dense mixed inflammatory infiltrate. The findings confirmed gangrenous salpingitis with severe vascular compromise and necrosis.

8. Postoperative Course

The intraoperative and postoperative courses were uneventful, with symptomatic improvement and no abnormal per-vaginal bleeding. Postoperative hemoglobin was 10 g/dL. At discharge, she was clinically stable with BP 110/70 mmHg and pulse 82/min; the wound was healthy with intact sutures. She was discharged on POD 4 with routine postoperative advice and follow-up for suture removal and histopathology. Long-term reproductive outcome was unavailable.

9. DISCUSSION

Isolated fallopian tube torsion is a rare cause of acute abdominal pain, often presenting with nonspecific pain, nausea, and vomiting, making preoperative diagnosis challenging.[2–7,10–12] Hydrosalpinx predisposes to torsion by increasing tubal size and mobility. Progressive torsion causes venous congestion, edema, arterial compromise, ischemia, and eventually necrosis and gangrene.[2,6,10–12]

In this case, CT and ultrasonography demonstrated a large tubular cystic lesion separate from the ovary, suggestive of hydrosalpinx, but could not establish torsion or the extent of ischemia. Laparoscopy confirmed an $11 \times 4 \times 4$ cm gangrenous hydrosalpinx with $3\frac{1}{2}$ twists, allowing assessment of viability and definitive treatment. While detorsion and tubal preservation may be considered in viable tubes, extensive necrosis requires salpingectomy.[3,6,7,10,11]

Histopathology confirmed gangrenous salpingitis with epithelial loss, hemorrhagic necrosis, vascular congestion, and dense inflammation. Hydrosalpinx is also associated with impaired fertility and adverse reproductive outcomes, making appropriate treatment important in infertility

management.[9] In this patient, hysteroscopy revealed cervical and intrauterine adhesions, while chromopertubation showed bilateral tubal occlusion.

This case highlights the need to consider torsion of a hydrosalpinx in reproductive-aged women with acute abdominal pain and a tubular adnexal lesion separate from the ovary. Early laparoscopic evaluation is important to identify tubal ischemia and determine whether preservation or salpingectomy is appropriate.[2–7,10–12]

10. CONCLUSION

Hydrosalpinx torsion is a rare but important cause of acute abdominal pain in reproductive-aged women. A tubular cystic adnexal lesion separate from the ovary should suggest hydrosalpinx, with torsion considered when acute symptoms occur.[2–7,10–12] Laparoscopy enables definitive diagnosis and assessment of tubal viability, while gangrenous or nonviable tubes require salpingectomy. Histopathology confirms the ischemic and inflammatory changes. [3,6,7,10,11]

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