



Case report

Laparoscopic management of ischemic right fallopian tube torsion mimicking perforated appendicitis

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ABSTRACT

Background: Isolated fallopian tube torsion is a rare cause of acute lower abdominal pain in females. A history of hemosalpinx, hydrosalpinx, or ovarian or paraovarian cysts might all be risk factors. Diagnosis is frequently delayed until it's too late to salvage the tube.**Case presentation:** A 32-year-old lady with no prior medical and surgical history presented to our emergency department with a four days history of severe right lower abdomen pain and tenderness accompanied by nausea. Clinically, she was feverish, with elevated C reactive protein levels, negative serum Beta HCG, and normal urine analysis. Computed tomography demonstrated a 5x3cm collection in the right lower quadrant of the abdomen. A diagnostic laparoscopy was performed upon exploration a Twice-fold twisted ischemic right fallopian tube with hydrosalpinx was found and Salpingectomy was performed.**Conclusions:** Torsion of the fallopian tube is an uncommon cause of acute lower abdominal pain in women. The exact process that causes isolated tubal torsion is unknown. Early diagnostic laparoscopy and surgical intervention are essential in a nulliparous young woman.

1. Background

Isolated fallopian tube torsion is a rare cause of acute lower abdominal pain in females and according to the literature, diagnosis is frequently missed or delayed [1]. Isolated torsion is a condition that develops in an otherwise normal fallopian tube without any ipsilateral ovarian involvement; nevertheless, risk factors may include a history of haemosalpinx, hydrosalpinx, or ovarian or paraovarian cysts [2]. Hydrosalpinx is usually asymptomatic however when hydrosalpinx is coupled with IFTT, it is generally accompanied by symptoms of nonspecific abdominal pain [3]. This condition is challenging to reach a conclusive diagnosis with standard imaging tests, and surgical intervention is considered necessary to reach a definitive diagnosis. As a result, diagnosis is frequently postponed until it's too late to salvage the tube from irreversible ischemic damage. *We report a rare case of a patient Isolated Right Fallopian Tube Torsion with hydrosalpinx in a female within reproductive age.*

2. Case presentation

A 32-year-old lady with no prior medical and surgical history presented to our emergency department with a 4 days history of right lower abdominal pain of acute onset. The pain was associated with nausea without vomiting. Clinically she was stable with a febrile condition, an abdominal examination right lower quadrant tenderness and guarding was noted, Laboratory investigations showed no leukocytosis ($8.9 \times 1000/\text{mm}^3$) with increased C reactive protein levels (88.95 mg/l) and no signs of urinary tract infection and serum Beta HCG was the normal range in non-pregnant women (2.3 mIU/mL) in Table 1.

The examination of the patient's abdomen was defensive and tender, making abdominal ultrasonography difficult to assess, thus we proceeded contrast-enhanced abdominal tomography which demonstrated a blind-ending tubular structure seems to be arising from the distal small bowel, measuring approximately 50×30 mm which has a markedly thickened wall with extensive surrounding fat stranding in Fig. 1.

After supportive (fluid resuscitation, antibiotics, and pain control)

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Table 1

Laboratory findings in a patient with right isolated fallopian tube torsion with hydrosalpinx.

Laboratory investigations (normal values)	Laboratory result
Leukocytes (4–10 × 1000/mm ³)	8.9
Hemoglobin (12–16 g/dL)	10.6
Thrombocytes (100–430 × 1000/mm ³)	343
C-reactive protein (0–10 mg/l)	88.95
Human chorionic gonadotropin (mIU/mL 0–5.42)	2.3

medication patient was admitted for a diagnostic laparoscopy with Presumptive diagnosis of perforated appendicitis, intraoperative ischemic twisted fallopian tube with hydrosalpinx was found, fallopian tube two-fold twisted and not viable, and decision of Salpingectomy was taken after obstetrics and gynecology consultation. The appendix was seen in normal appearance and appendectomy was not recommended in Fig. 2. Postoperatively 8 h later enteral feeding started and the patient was discharged from the hospital on postoperative day 1. Pathological Findings Concluded a Widespread Hemorrhagy, Blood-Filled Vascular Structures, Necrotic Changes, Compatible with fallopian tube Torsion.

3. Discussion

Torsion of the fallopian tube is an uncommon cause of acute lower abdominal pain in women. The exact process that causes isolated tubal torsion is unknown.

A variety of intrinsic tubal anatomy and physiology (e.g., tubal tortuosity, paratubal cysts or tumors, or aberrant tubal peristalsis) and extrinsic variables (e.g., adhesions, pelvic congestion, or drug-related spasms) have been proposed as predisposing factors [4]. A medical history of ovarian or fallopian tube disease, as well as the symptoms listed above, is an important factor to consider. There were no predisposing factors in our patient, and neither had previously a tubal ligation. In such scenario it's difficult to differentiate between a right-sided isolated fallopian tube and other causes of acute right lower quadrant pain, notably appendicitis, which is frequent in this age group [5]. The right fallopian tube torsion is three times more common than the left. Furthermore, more right-sided patients will very certainly result in the surgical investigation due to appendicitis suspicion [6]. Another cause could be the cushioning effect of the sigmoid colon on the left side, dextrorotation of the uterus, and significantly higher venous flow on the left, all of which contribute to decreased congestion [7].

An MRI or CT scan can aid in detecting the structure's contents and may reveal tubal coiling or a torsion knot. A lack of contrast

enhancement of the tubal walls may also suggest infarction [8].

An emergency laparoscopy is performed in the early course of the disease, the isolated torsion of the fallopian tube might be reduced, and the tube could be salvaged. However In the case of persistent ischemia alterations in delayed presentation, Salpingectomy will be an unavoidable surgical procedure.

Laparoscopic salpingectomy preferred surgical approach compared to laparotomy because of quicker post-operative recovery, shorter duration of hospital stay, and fewer pelvic adhesions.

This work has been reported in line with the SCARE 2020 criteria [9].

4. Conclusion

Early diagnostic laparoscopy and surgical intervention are essential when isolated fallopian tube torsion is suspected, particularly in a nulliparous young woman. If surgical intervention is done in a timely manner, the tube and thus fertility may be preserved.

Abbreviations

B-HCG	Beta-Human Chorionic Gonadotropin
IFTT	Isolated fallopian tube torsion
CS	Caesarean Section

Ethics approval and consent to participate

Not applicable.

Consent for publication

For the publication of this case report and any accompanying pictures, the patient provided written informed consent. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Availability of data and materials

The author declare that all data in this article are available within the article.

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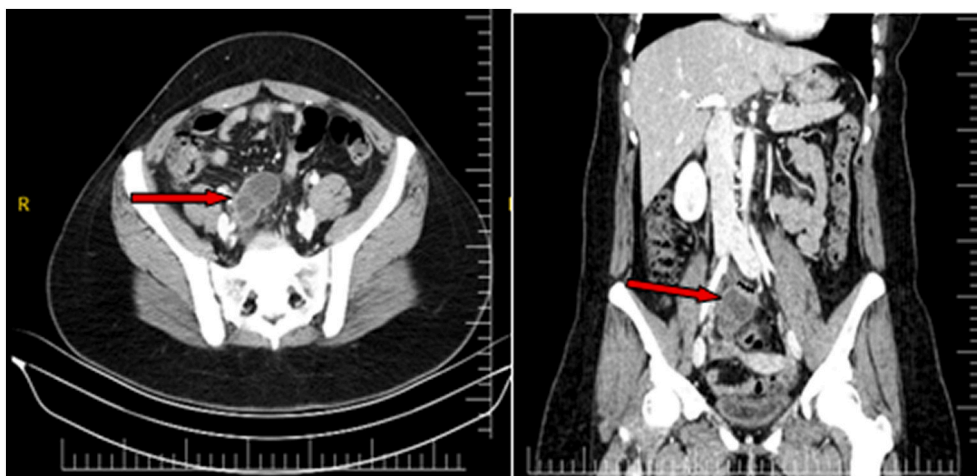


Fig. 1. Contrast enhanced abdominal CT scan revealed collection in right lower abdomen measuring 50x30mm which has a markedly thickened wall with extensive surrounding fat stranding (red arrows). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

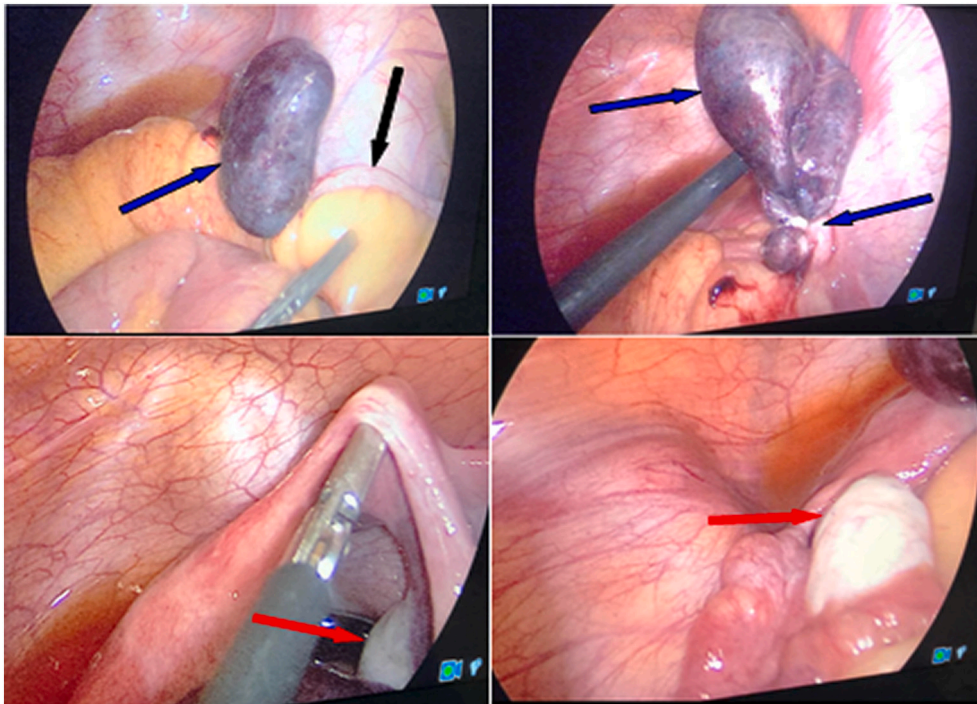


Fig. 2. Laparoscopic image of the twisted ischemic fallopian tube torsion with hydrosalpinx (**blue arrows**), Appendix was seen normal (**black arrow**), left fallopian tube and both ovaries were normal (**red arrows**). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

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CRediT authorship contribution statement

AMA, ANM, AAO and YGM participated in the design and coordination of the report and AMA helped to draft the manuscript. All authors read and approved the final manuscript.

Declaration of competing interest

The authors declare that they have no competing interests.

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