

A Rare Case of Torsion of Hydrosalpinx Masquerading as Torsion of the Ovary

Deepthi P*, Shanthi E

¹*Department of Obstetrics and Gynaecology, Saveetha Medical College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai-602 105, Tamil Nadu, India*

Abstract

Isolated fallopian tube torsion is an infrequent but significant cause of acute pelvic pain, often difficult to diagnose pre-operatively due to its symptom overlap with other conditions such as ovarian cyst torsion and appendicitis. Hydrosalpinx, a condition typically asymptomatic, can present with acute pain when complicated by torsion. This case report highlights the diagnostic challenges and management strategies associated with hydrosalpinx torsion. A 35-year-old woman with a history of Polycystic Ovarian Disease (PCOD) and previous sterilization presented with acute right lower abdominal pain and vomiting. Initial ultrasound suggested a right ovarian hemorrhagic cyst, leading to a preoperative diagnosis of cyst torsion. However, diagnostic laparoscopy revealed a 6x4 cm gangrenous hydrosalpinx on the left with four complete twists, and significant congestion in the right fallopian tube, while the right ovary appeared normal. Surgical intervention included a left salpingo-oophorectomy and right partial salpingectomy. Histopathological examination confirmed the presence of a dermoid cyst in the left ovary and extensive congestion in the fallopian tube. Isolated fallopian tube torsion is exceedingly rare, with an estimated incidence of 1 in 1.5 million. This case emphasizes the importance of including hydrosalpinx torsion in differential diagnoses, particularly when clinical symptoms are inconsistent with radiological findings. Accurate and timely diagnosis is critical for appropriate management and to prevent potential complications.

Keywords: *Diagnostic Laparoscopy, Fallopian Tube Torsion, Hydrosalpinx, Pelvic Pain, Reproductive Health.*

Introduction

Isolated Torsion of the fallopian tube is a rare cause of pelvic pain that occurs when fallopian tube rotates around itself without ovarian torsion. Hydrosalpinx can occur free of symptoms; however, when associated with torsion, it is usually accompanied by symptoms of nonspecific abdominal pain [1]. Pre-operative diagnosis is very difficult because of varied clinical presentation and nonspecific clinical findings. A para tubal cyst and maintained Doppler flow, in particular, are indicative of IFTT [2]. Definitive diagnosis is always made at surgical exploration by

laparoscopy or laparotomy [3]. Enhanced awareness among clinicians is essential for prompt diagnosis and treatment, which can greatly influence fertility outcomes [4].

Case Report

A 35-year-old woman, P2L2 with previous 1 normal vaginal delivery and 1 LSCS with a history of sterilization presented with acute pain in the right lower part of the abdomen with one episode of vomiting. Her last menstrual period was 2 weeks back. She was a known case of PCOD diagnosed 13 years ago. She had a history of appendectomy done 9

years back. On examination, her pulse rate was 108 bpm and other vitals were stable. Per abdomen examination revealed tenderness in the right lower quadrant with mild guarding.

Per speculum examination revealed a normal cervix and vagina. Per vaginal examination revealed a normal-sized uterus with a tender cystic mass in the right adnexa with right forniceal tenderness. No cervical excitation could be elicited.

Her UPT was negative. Her Total leukocytes count was elevated upto 15000 cells/ mm³. Other baseline investigations were normal. USG showed a well defined well-circumscribed unilocular walled cystic lesion with the internal reticular pattern seen in the right adnexa of size 5x6 cm, closely abutting the right ovary with mild peripheral vascularity - likely right ovarian hemorrhagic cyst.

Intraoperative Management

The patient was taken up for an emergency diagnostic laparoscopy. Contrary to our preoperative diagnosis of a right ovarian hemorrhagic cyst, intraoperative findings revealed left hydrosalpinx of 6x4 cm which was distended and gangrenous with torsion with twisting of four complete turns, signs suggesting of ischemia and impossible detorsion(Figure 2). On routine examination, A left ovarian cystic mass of size 5x6 cm was noted without signs of torsion (Figure 1). Extensive congestions were noted in the right fallopian tube. Proceeded with Left-sided salpingo-oophorectomy and right partial salpingectomy using ligasure. Histopathology showed bilateral fallopian tube with extensive congestion, left ovarian tissue with multiple follicles and the cyst showed features of dermoid cyst- Mature cystic teratoma. Postoperatively patient progressed well and was discharged on postoperative day 7.



Figure 1. Intraoperative Laparoscopic Pictures of Left Ovarian Cyst.



Figure 2. Intraoperative Laparoscopic Pictures of Left Fallopian Tube Torsion with 4 Twists.

Discussion

Isolated fallopian tube torsion is a rare cause of pelvic pain in women during their

reproductive years and in young adolescent age. It has an incidence of 1: 1.5 million and was first described by Bland- Sutton in 1890

[5]. This condition is difficult to diagnose as it mimics appendicitis, hemorrhagic ovarian cyst, torsion ovarian cyst, PID, and ovarian hyperstimulation syndrome, adnexal pregnancy [6].

Risk factors for Fallopian tube torsion include hematosalpinx, hydrosalpinx, fallopian tube having a spiral orientation, abnormal length of mesentery, history of tubal ligation, abnormal peristalsis of fallopian tube, Pelvic congestion as seen during ovulation and premenstrual period and masses like ovarian cyst or paratubal cyst [5,7]. Among which, our case had 3 risk factors such as hydrosalpinx, ovarian cyst and history of tubal ligation.

Right-sided torsion occurs more frequently than left-sided torsion. This is partly because the right fallopian tube may become congested due to slower venous drainage, or because the sigmoid colon can impede the mobility of the left tube [8]. But in our case, left-sided torsion was found and right-sided tubal congestion was seen.

Ultrasound findings usually show a dilated fallopian tube with characteristics such as the hyperechoic wall, incomplete septa, echogenic foci protruding into the lumen, a tapering end towards the cornua of the uterus, and endosalpingeal folds, while the ipsilateral ovary will appear normal. Baumgartel et al. noted that high-resistance flow, or the absence of flow in a tubular structure, can be indicative of tubal torsion, with the whirlpool sign on the rocking probe movement being a specific marker. In this case, the clinical presentation differed significantly from the radiological findings, highlighting the importance of prioritizing clinical diagnosis and decision-

References

[1]. Varghese, S., Seldon, Y., Raperport, C., Rinne, N., Patel, K., Zaid, R. Z., 2024, Isolated fallopian tube torsion: A systematic review of case reports. *European Journal of Obstetrics and Gynecology and Reproductive Biology*.

making over sole reliance on imaging evidence [9].

Laparoscopic adnexal detorsion is the treatment of choice in the childbearing age and complete resection is recommended in patients with completed family, or in case of associated neoplasms and when the tube has undergone infarction and gangrene [10].

Conclusion

Torsion of hydrosalpinx is a serious cause of pelvic pain in female patients. Because of the location, this condition can be difficult to differentiate from other more common pathologies including appendicitis, ruptured ovarian cyst, or pelvic inflammatory disease. The treatment of fallopian tube torsion is the prompt intervention to attempt to preserve the fallopian tube. Because of this, it is imperative to try to diagnose the condition as efficiently and as timely as possible for better outcomes for the patient. The paucity of specific imaging findings generally leads to a retrospective diagnosis of this condition.

Acknowledgement

We acknowledge the contributions of all healthcare professionals involved in diagnosing and managing the patient described in this case report.

Conflict of interest

The authors declare no conflict of interest related to this article.

Consent Declaration

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

296: 140–147.
doi:10.1016/j.ejogrb.2024.02.050

[2]. Schwartz, B., Weerasooriya, N., Mercier, R., Gould, S., Saul, D., Berman, L., 2024, Factors Associated With Isolated Fallopian Tube Torsion in Pediatric Patients. *Journal of*

Pediatric Surgery;59: 1538–1544.
doi:10.1016/j.jpedsurg.2024.03.054

[3]. Yazawa, R., Yazawa, H., Anjyo, K., Inazuki, A., 2024, Four cases of isolated fallopian tube torsion successfully treated with laparoscopic surgery: A case series. Fukushima Journal of Medical Science; 70: 163–168. doi:10.5387/fms.23-00021

[4]. De Leon Palabrica, P. B., Mallen, M. T. B., Tan, G. A. C., 2023, Isolated fallopian tube torsion in an early adolescent. Philippine Journal of Obstetrics and Gynecology; 47: 325. doi:10.4103/pjog.pjog_69_23

[5]. Narayanan, S., Bandarkar, A., Bulas, D. I., 2014, Fallopian tube torsion in the pediatric age group: radiologic evaluation. J Ultrasound Med. 33: 1697–1704. doi:10.7863/ultra.33.9.1697

[6]. Dixit, K., Setty, J. P., Jassawalla, N., Srikanth., 2024, Journal of Postgraduate Gynecology & Obstetrics: Torsion Of A Hydrosalpinx – a Diagnostic Puzzle. Available:

<https://www.jpgo.org/2016/02/torsion-of-hydrosalpinx-diagnostic.html>

[7]. Antoniou, N., Varras, M., Akrivis, C., Kitsiou, E., Stefanaki, S., Salamalekis, E., 2024, Isolated torsion of the fallopian tube: a case report and review of the literature. Clin Exp Obstet Gynecol. 31: 235–238.

[8]. Balasubramaniam, D., Duraisamy, K. Y., Ezhilmani, M., Ravi, S., 2020, Isolated Fallopian Tube Torsion: A Rare Twist with a Diagnostic Challenge That May Compromise Fertility. J Hum Reprod Sci;13: 162–167. doi:10.4103/jhrs.JHRS_143_19

[9]. Baumgartel, P. B., Fleischer, A. C., Cullinan, J. A., Bluth, R. F., 1996, Color Doppler sonography of tubal torsion. Ultrasound Obstet Gynecol. 7: 367–370. doi:10.1046/j.1469-0705.1996.07050367.x

[10]. Martín-Vallejo, J., Garrigós-Llabata, E. E., Molina-Bellido, P., Clemente-Pérez, P. A., 2020, Isolated fallopian tube torsion associated with hydrosalpinx in a 12-year-old girl: a case report. J Med Case Rep.14: 165. doi:10.1186/s13256-020-02462-1.