

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20263471>

Case Report

Ovarian torsion mimicking subacute intestinal obstruction: a rare case report

Gargi Anand*, Tanvi Sharma, Zara Ibtesham, Srishti Amarnath

Department of Obstetrics and Gynecology, Tata Motors Hospital, Telco, Jamshedpur, Jharkhand, India

Received: 06 August 2026

Accepted: 08 September 2026

*Correspondence:

Dr. Gargi Anand,

E-mail: gargianand1995@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Ovarian torsion is a time-sensitive gynaecological emergency resulting from rotation of the ovary, with or without the fallopian tube, around its vascular pedicle. Delayed diagnosis may lead to ischemia, necrosis and loss of ovarian function. Although the condition typically presents with acute unilateral pelvic pain, atypical manifestations may resemble gastrointestinal disorders, creating diagnostic uncertainty and delaying appropriate management. A 29-year-old multiparous woman presented with sudden-onset left iliac fossa pain, progressive abdominal distension, obstipation for four days and recurrent episodes of non-bilious vomiting, suggestive of subacute intestinal obstruction. Her medical history was significant for ovulation induction complicated by ovarian hyperstimulation syndrome and previous pelvic surgeries, including right salpingo-oophorectomy. Initial radiological evaluation demonstrated features of intestinal obstruction with a large left adnexal lesion. Magnetic resonance imaging revealed an enlarged oedematous left ovary with a twisted vascular pedicle demonstrating the characteristic whirlpool sign, consistent with ovarian torsion. Emergency surgical exploration identified a gangrenous left Tubo-ovarian complex twisted approximately 2.5 turns with associated hemoperitoneum and dense pelvic adhesions. Left salpingo-oophorectomy was performed. Histopathological examination confirmed haemorrhagic infarction with extensive congestion, oedema and coagulative necrosis. The postoperative recovery was uneventful. Ovarian torsion presenting as intestinal obstruction is an uncommon clinical entity. Gastrointestinal symptoms may predominate due to bowel compression, reactive ileus, or adhesion-related obstruction, masking the underlying gynaecological pathology. In such cases, MRI findings, particularly identification of the whirlpool sign, play an important role in establishing the diagnosis and facilitating timely surgical intervention. Ovarian torsion should remain an important differential diagnosis in reproductive-age women presenting with unexplained gastrointestinal symptoms accompanied by an adnexal mass. Early recognition, appropriate imaging and prompt surgical management are essential to reduce morbidity and maximize the possibility of ovarian preservation.

Keywords: Ovarian torsion, Intestinal obstruction, Whirlpool sign, Adnexal mass, Acute abdomen, Magnetic resonance imaging

INTRODUCTION

Ovarian torsion is one of the few true emergencies in gynaecology, occurring when the ovary, frequently together with the ipsilateral fallopian tube, rotates around its supporting ligaments and vascular pedicle. Progressive impairment of venous and lymphatic drainage results in ovarian congestion and stromal oedema, while persistent torsion may compromise arterial perfusion, culminating

in haemorrhagic infarction, necrosis, and irreversible loss of ovarian function.^{1,2} Prompt diagnosis and surgical intervention are therefore critical to preserve ovarian viability and prevent associated morbidity.

The condition occurs predominantly in women of reproductive age but may also affect children and postmenopausal women. The presence of an adnexal mass, particularly one measuring more than 5 cm in

diameter, remains the most important predisposing factor.^{1,3} Other recognized risk factors include benign ovarian cysts, mature cystic teratomas, endometriomas, pregnancy, assisted reproductive techniques, and ovarian hyperstimulation following ovulation induction.² Previous pelvic surgery and adhesions may further alter adnexal mobility, increasing susceptibility to torsion.

The clinical presentation of ovarian torsion is often nonspecific. Acute unilateral lower abdominal or pelvic pain accompanied by nausea and vomiting represents the classical presentation; however, symptom severity and progression vary considerably among patients. Some individuals predominantly exhibit gastrointestinal manifestations, including abdominal distension, constipation, vomiting, or features suggestive of bowel obstruction, which may divert attention from the underlying gynaecological pathology and delay definitive treatment.^{2,4}

Imaging plays a central role in diagnosis. Ultrasonography with colour Doppler is the recommended first-line investigation, because it can demonstrate ovarian enlargement, peripheral displacement of follicles, stromal oedema, and reduced or absent vascular flow.⁴ Nevertheless, preserved Doppler flow does not reliably exclude torsion because of the ovary's dual arterial supply. In patients with atypical clinical features or inconclusive ultrasonographic findings, cross-sectional imaging provides valuable additional information. Magnetic resonance imaging (MRI), particularly when demonstrating the twisted vascular pedicle or whirlpool sign, has emerged as a highly specific indicator of ovarian torsion and can substantially improve diagnostic confidence.⁵

Presentation of ovarian torsion as subacute intestinal obstruction is distinctly uncommon. Mechanical compression of adjacent bowel loops by an enlarged torsed adnexa, reactive ileus, or dense postoperative adhesions may produce symptoms that closely resemble gastrointestinal obstruction, thereby delaying gynaecological evaluation. Awareness of this unusual presentation is important because delayed intervention significantly reduces the likelihood of ovarian salvage.⁶

This report describes a case of a young woman with previous pelvic surgery who presented with clinical and radiological features suggestive of subacute intestinal obstruction but was ultimately diagnosed with ovarian torsion. The case highlights the importance of maintaining a high index of suspicion for ovarian torsion in women presenting with unexplained gastrointestinal symptoms and an adnexal mass, emphasizing the role of MRI in establishing an early diagnosis and facilitating timely surgical management.

CASE REPORT

A 29-year-old woman, parity 1, living 1 (P1L1), presented to the emergency department with a one-day history of sudden-onset pain in the left iliac fossa

accompanied by progressive abdominal distension, obstipation for four days, and two to three episodes of non-bilious vomiting. The pain was mild to moderate in intensity, radiated to the back, and was partially relieved with oral analgesics. She denied fever, urinary symptoms, abnormal vaginal bleeding, or vaginal discharge.

Her medical history was significant for primary infertility treated with ovulation induction, which had been complicated by ovarian hyperstimulation syndrome. She had previously undergone laparoscopic cholecystectomy in 2017, right salpingo-oophorectomy with left ovarian wedge resection in 2018, and lower segment caesarean section in 2022. There was no history suggestive of inflammatory bowel disease or previous episodes of intestinal obstruction.

On admission, the patient was conscious and hemodynamically stable, with a pulse rate of 104 beats/minute and blood pressure of 110/80 mmHg. She was afebrile but appeared pale. Abdominal examination demonstrated mild generalized distension with localized tenderness over the left iliac fossa. Bowel sounds were sluggish, and no palpable abdominal mass was appreciated. Pelvic examination revealed a retroverted uterus, approximately equivalent to a 20-week gravid uterus in size because of the large adnexal mass, without significant cervical motion or adnexal tenderness.

Initial laboratory investigations were notable only for anaemia, while the remaining routine haematological and biochemical parameters were within acceptable limits. An erect abdominal radiograph demonstrated multiple dilated bowel loops with air-fluid levels, raising the possibility of subacute intestinal obstruction (Figure 1).

Transabdominal ultrasonography revealed a heterogeneous left adnexal mass measuring approximately 9 cm with mixed solid and cystic components. Contrast-enhanced computed tomography of the abdomen and pelvis demonstrated bilateral ovarian lesions with predominantly cystic morphology, although the imaging findings were not diagnostic of the underlying pathology (Figure 2). Owing to persistent clinical suspicion, magnetic resonance imaging (MRI) was performed. MRI demonstrated an enlarged left ovary containing multiple peripherally displaced follicles with marked stromal oedema and small haemorrhagic foci. A twisted and thickened left adnexal vascular pedicle producing the characteristic whirlpool sign was identified, confirming the diagnosis of ovarian torsion (Figure 3).

Considering the imaging findings and the patient's worsening clinical condition, emergency surgical exploration was undertaken. Laparoscopy was initially attempted but was converted to laparotomy because of extensive pelvic adhesions and distorted anatomy. Intraoperatively, significant hemoperitoneum was encountered along with dense adhesions involving the

pelvic structures. The left tubo-ovarian complex was enlarged, gangrenous, and twisted approximately 2.5 complete turns around its vascular pedicle (Figure 4). The contralateral adnexa had previously been removed. Owing to irreversible ischemic changes and extensive tissue necrosis, left salpingo-oophorectomy was performed. Histopathological examination demonstrated diffuse haemorrhagic infarction of the ovarian tissue with marked vascular congestion, stromal oedema, and coagulative necrosis, confirming the diagnosis of ovarian torsion. No evidence of malignancy was identified.



Figure 1: X-ray erect abdomen showing dilated bowel loops.



Figure 2: CECT pelvis showing ovarian mass.



Figure 3: MRI abdomen showing enlarged ovarian mass with peripheral follicles.

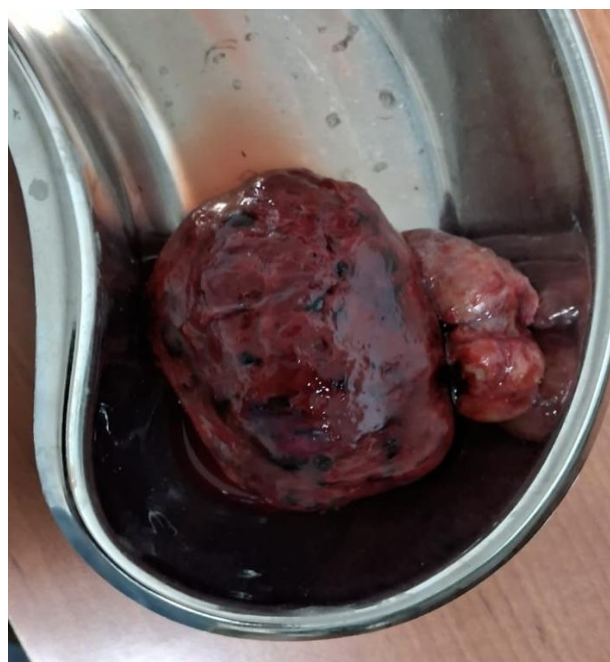


Figure 4: Surgical specimen (left tubo-ovarian mass).

The patient received four units of packed red blood cells and four units of fresh frozen plasma during the perioperative period. Her postoperative recovery was uneventful, and bowel function gradually returned to normal. She was discharged on the sixth postoperative day in stable condition. At follow-up, the patient remained asymptomatic with satisfactory postoperative recovery and no evidence of further complications.

DISCUSSION

Ovarian torsion is a gynaecological emergency caused by partial or complete rotation of the ovary, with or without the fallopian tube, around its vascular pedicle.

Progressive vascular compromise initially obstructs venous and lymphatic drainage, resulting in ovarian congestion and stromal oedema. Persistent torsion may subsequently impair arterial perfusion, leading to haemorrhagic infarction, tissue necrosis, and irreversible loss of ovarian function if surgical intervention is delayed.^{1,2} Because ovarian viability is closely related to the duration of torsion, prompt recognition and timely operative management remain the cornerstones of treatment.

The condition is encountered most frequently during the reproductive years, particularly in women with enlarged ovaries or adnexal masses. Benign ovarian cysts, mature cystic teratomas, pregnancy, controlled ovarian stimulation, and ovarian hyperstimulation syndrome are well-recognized predisposing factors. Previous pelvic surgery may further increase the risk by altering normal pelvic anatomy and promoting adhesion formation. In the present case, the patient's history of ovarian hyperstimulation syndrome, prior right salpingo-oophorectomy, and previous pelvic surgery likely acted synergistically to predispose the remaining ovary to torsion.

Although sudden-onset unilateral pelvic pain associated with nausea and vomiting represents the classical presentation, the clinical spectrum of ovarian torsion is highly variable. Pain may fluctuate in intensity because of intermittent torsion and spontaneous detorsion, while gastrointestinal manifestations such as abdominal distension, constipation, vomiting, and paralytic ileus may predominate in some patients. These atypical presentations frequently resemble acute surgical conditions, including appendicitis, intestinal obstruction, diverticulitis, or renal colic, thereby increasing the likelihood of delayed diagnosis and treatment.²

Our patient presented primarily with features suggestive of subacute intestinal obstruction, including obstipation, abdominal distension, and vomiting, whereas pelvic symptoms were relatively less prominent. Such presentations remain uncommon but have been described in isolated case reports. Several mechanisms have been proposed to explain bowel obstruction associated with ovarian torsion.⁶ A markedly enlarged torsed ovary may mechanically compress adjacent bowel loops, while local inflammation, hemoperitoneum, and postoperative adhesions may contribute to reactive ileus or functional obstruction. In patients with previous pelvic surgery, adhesions may further distort pelvic anatomy and facilitate bowel involvement, producing a clinical picture that closely resembles gastrointestinal obstruction.

Radiological evaluation plays a pivotal role in establishing the diagnosis. Ultrasonography with colour Doppler remains the preferred initial imaging modality because of its accessibility and lack of ionizing radiation. Typical sonographic findings include ovarian enlargement, peripheral displacement of follicles, stromal

oedema, free pelvic fluid, and reduced or absent vascular flow. However, preserved Doppler flow should not be interpreted as excluding torsion because the ovary receives dual arterial supply from both the ovarian and uterine arteries. Consequently, imaging findings must always be interpreted in conjunction with the clinical presentation.⁴

Cross-sectional imaging is particularly valuable when the diagnosis remains uncertain or when patients present with atypical symptoms. Magnetic resonance imaging offers superior soft-tissue characterization and can demonstrate stromal oedema, haemorrhagic infarction, peripheral follicular distribution, deviation of the uterus toward the affected side, and, most importantly, twisting of the vascular pedicle. The whirlpool sign is widely regarded as one of the most specific radiological indicators of ovarian torsion and significantly increases diagnostic confidence.^{5,7} In the present case, MRI accurately demonstrated the twisted vascular pedicle, allowing definitive preoperative diagnosis despite the misleading clinical features.

Current evidence supports prompt surgical exploration whenever ovarian torsion is suspected.^{8,9} In women of reproductive age, conservative surgery with laparoscopic detorsion and preservation of the ovary is recommended whenever viable ovarian tissue is present even if the ovary appears congested or discoloured intraoperatively.^{2,4,9} Oophorectomy should generally be reserved for cases with irreversible ischemic damage, complete tissue necrosis, suspected malignancy, or non-viable adnexa. Unfortunately, delayed presentation in our patient resulted in extensive gangrenous changes involving the only remaining ovary, making salpingo-oophorectomy unavoidable.

This case underscores several important clinical lessons. First, ovarian torsion should remain an important differential diagnosis in reproductive-age women presenting with unexplained gastrointestinal symptoms, particularly when an adnexal mass is identified on imaging. Second, previous pelvic surgery and ovarian stimulation should heighten clinical suspicion because these factors increase the risk of torsion. Finally, MRI serves as a valuable problem-solving modality when ultrasonographic findings are inconclusive or when the clinical presentation is atypical.^{5,10} Early recognition and multidisciplinary collaboration between emergency physicians, radiologists, general surgeons, and gynaecologists are essential to facilitate prompt diagnosis and maximize the likelihood of ovarian preservation.

CONCLUSION

Ovarian torsion should be considered in the differential diagnosis of reproductive-age women presenting with acute abdominal pain accompanied by unexplained gastrointestinal symptoms, particularly when an adnexal mass is identified on imaging. Although intestinal

obstruction is an uncommon manifestation, it may represent the predominant clinical presentation and consequently delay recognition of the underlying gynaecological emergency.

This case highlights the diagnostic value of magnetic resonance imaging, especially identification of the whirlpool sign, in patients with atypical clinical features or inconclusive initial investigations. Early diagnosis, prompt surgical intervention, and close collaboration between emergency physicians, radiologists, general surgeons, and gynaecologists are essential to improve clinical outcomes and maximize the possibility of ovarian preservation. Clinicians should maintain a high index of suspicion for ovarian torsion in women with relevant risk factors, including previous pelvic surgery, ovarian hyperstimulation, or a known adnexal mass, even when gastrointestinal symptoms dominate the presentation.

ACKNOWLEDGEMENTS

Authors would like to thank the patient for providing informed consent for publication of this case report and also the multidisciplinary team involved in the patient's diagnosis, surgical management, and postoperative care.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

- Huang C, Hong MK, Ding DC. A review of ovary torsion. *Tzu Chi Med J.* 2017;29(3):143-7.
- Baron SL, Mathai JK. Ovarian Torsion. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2026. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK560675/>. Accessed on 02 July 2026.
- Hibbard LT. Adnexal torsion. *Am J Obstet Gynecol.* 1985;152(4):456-61.
- American College of Obstetricians and Gynecologists' Committee on Adolescent Health Care. Adnexal Torsion in Adolescents: ACOG Committee Opinion No, 783. *Obstet Gynecol.* 2019;134(2):e56-e63.
- Akçay A, Gültekin MA, Altıntaş F, Peker AA, Balsak S, Atasoy B, et al. Magnetic resonance imaging characteristics of ovarian torsion: insights into diagnostic features. *Abdom Radiol (NY).* 2025;50(6):2694-702.
- Tsapidikou VK, Zacharis K, Barbarousi AP, Chondros S, Kravvaritis S, Fouka A, et al. Ovarian cyst torsion in a pre-menopausal woman causing intestinal obstruction: a case report. *Pan Afr Med J.* 2023;45:93.
- Adu-Bredu TK, Arkorful J, Appiah-Denkyira K, Wiafe YA. Diagnostic value of the sonographic whirlpool sign in the diagnosis of ovarian torsion: A systematic review and meta-analysis. *J Clin Ultrasound.* 2021;49(7):746-53.
- Kayali AM, Dalloul RA, Alhartani MM, Ahmad R, Shaheen ZM, Yusuf Z, et al. Adnexal torsion: A comprehensive review of types, pathophysiology, diagnosis, and management strategies during pregnancy. *J Endometr Pelvic Pain Disord.* 2024;16(3-4):141-53.
- Schmidt EM, Boniface ER, Riordan J, Baldwin MK. Predictors of Ovarian Preservation After Ovarian Torsion: A Retrospective Chart Review. *J Gynecol Surg.* 2024;40(6):351-7.
- Avesani G, Panico C, Nougaret S, Woitek R, Gui B, Sala E. ESR Essentials: characterisation and staging of adnexal masses with MRI and CT-practice recommendations by ESUR. *Eur Radiol.* 2024;34(12):7673-89.

Cite this article as: Anand G, Sharma T, Ibtesham Z, Amarnath S. Ovarian torsion mimicking subacute intestinal obstruction: a rare case report. *Int J Reprod Contracept Obstet Gynecol* 2026;15:4190-4.