narra j

**Case Report**

# Emergency management of recurrent ovarian ectopic pregnancy in a hemodynamically unstable patient: A case report

**Rendy Singgih[1*], Skmarina H. Larose[1], Meilyana MI. Kwary[1] and Helmina Helmina[1]**

[1]Department of Obstetric and Gynaecology, Emhaka Hospital, Bekasi, Indonesia

*Corresponding author: rendyssinggih@gmail.com

## Abstract

Recurrent ectopic pregnancy is defined as the occurrence of more than one extrauterine implantation of a fertilized ovum. Ectopic pregnancy arises when a fertilized egg fails to implant within the endometrial cavity and instead attaches to an alternative site such as the fallopian tube, ovary, or peritoneal cavity. In this report, a rare case of recurrent ovarian ectopic pregnancy in a 31-year-old patient at six weeks' gestation is presented. The aim of this study was to highlight the clinical presentation, diagnostic challenges, and management considerations associated with recurrent ovarian ectopic pregnancy. The patient was admitted to the emergency maternal unit with severe abdominal pain. A previous history of ectopic pregnancy raised the suspicion of recurrence. The diagnosis of ectopic pregnancy was established, and the patient underwent emergency exploratory laparotomy. During the procedure, the gestational sac was identified on the surface of the right ovary. Postoperatively, the patient required blood transfusion and supportive management, and was discharged in stable condition after several days of hospitalization. Ovarian ectopic pregnancy is an uncommon but serious condition. Early diagnosis, ideally with high-resolution ultrasonography, is essential to prevent life-threatening complications such as rupture, massive intra-abdominal hemorrhage, hemorrhagic shock, and maternal mortality. This case highlights the importance for clinicians of recognizing the possibility of recurrence in patients with a prior history of ectopic pregnancy and ensuring vigilant follow-up and timely intervention.

**Keywords**: Recurrent ectopic pregnancy, ovarian pregnancy, exploratory laparotomy, emergency surgery, risk factors

## Introduction

Ectopic pregnancy is a serious complication of early gestation and remains a leading cause of maternal morbidity and mortality in the first trimester, accounting for approximately 5–10% of all pregnancy-related deaths [1,2]. It occurs when a fertilized ovum implants outside the endometrial cavity, most commonly within the fallopian tube, with about 80% of cases located in the ampullary segment. Ovarian implantation is rare, representing less than 3% of ectopic pregnancies [1,3]. Rupture of an ectopic pregnancy can result in catastrophic intra-abdominal hemorrhage and hypovolemic shock, posing a significant threat to maternal survival [4]. The incidence of ovarian ectopic pregnancy was reported to have increased until the mid-1990s and has since remained relatively stable [5].

Risk factors for ectopic pregnancy include maternal age above 35 years, a history of previous ectopic pregnancy, prior pelvic infection or surgery, cigarette smoking, use of intrauterine contraceptive devices (IUDs), early sexual debut (before 18 years of age), and sexually transmitted



https://narraj.org/

**Received: May 23, 2025 - Accepted: September 12, 2025 - Published online: September 30, 2025**

infections such as gonorrhea and chlamydia [4,6]. A published study reported no significant differences in risk factors between ovarian and tubal ectopic pregnancies [5]. Clinical manifestations of ectopic pregnancy are often nonspecific and may include lower abdominal pain and vaginal bleeding. In some cases, the presentation can mimic other conditions such as appendicitis, urinary calculi, early pregnancy loss, or abdominal trauma [7].

The standard diagnostic modalities for ectopic pregnancy include ultrasonography (USG), either transvaginal (TVS) or transabdominal (TAUS), in combination with serial monitoring of β-human chorionic gonadotropin (β-hCG) levels [8]. Early and accurate diagnosis is crucial to reducing the risk of maternal morbidity and mortality. The aim of this study was to highlight the clinical features, diagnostic challenges, and management considerations of recurrent ovarian ectopic pregnancy. This article presents a case of ectopic pregnancy in a patient with a previous history of ectopic pregnancy, managed by emergency surgical intervention with a successful outcome.

## Case

A 31-year-old woman (gravida 3, para 1, abortion 1) at six weeks of gestation presented to our hospital with sudden-onset lower abdominal pain. One week prior, the patient had experienced vaginal bleeding resembling menstruation without additional symptoms. A pregnancy test performed at that time yielded two positive results. Transvaginal ultrasonography (TVS) revealed no intrauterine gestational sac, and no further intervention was undertaken. The patient subsequently returned to the hospital one week later with acute lower abdominal pain.

The patient was in her third pregnancy. In 2017, during the first pregnancy, the patient experienced a similar condition, was hospitalized, and diagnosed with an ectopic pregnancy involving the right ovary. The patient received inpatient treatment for five days. The patient and her spouse denied any history of sexually transmitted infections, leucorrhea, or urinary tract infection during either the first or second pregnancy. The patient reported a healthy lifestyle and no history of smoking. The second pregnancy was uneventful, and delivery was achieved by cesarean section due to fetal macrosomia.

On examination, the patient reported severe pain with a visual analogue scale (VAS) score of 9–10. Vital signs showed hypotension with a blood pressure of 94/60 mmHg and tachycardia with a heart rate of 118 beats per minute. Vaginal examination revealed a positive Chandelier sign. Serial hemoglobin measurements in the emergency unit demonstrated a progressive decline, with values of 10.5 g/dL initially, 9.3 g/dL two hours later, and 6.9 g/dL after a further two hours.

The patient underwent emergency laparotomy. Intraoperative exploration revealed a large volume of hemoperitoneum (**Figure 1**). The right ovary was ruptured and adherent to adjacent intestinal loops, while the left fallopian tube and ovary appeared normal. A wedge resection was performed in order to preserve the right ovary. The procedure lasted approximately one hour. The abdominal cavity was irrigated with normal saline and suctioned repeatedly until hemostasis was achieved. A specimen of ovarian parenchyma was submitted for histopathological examination.

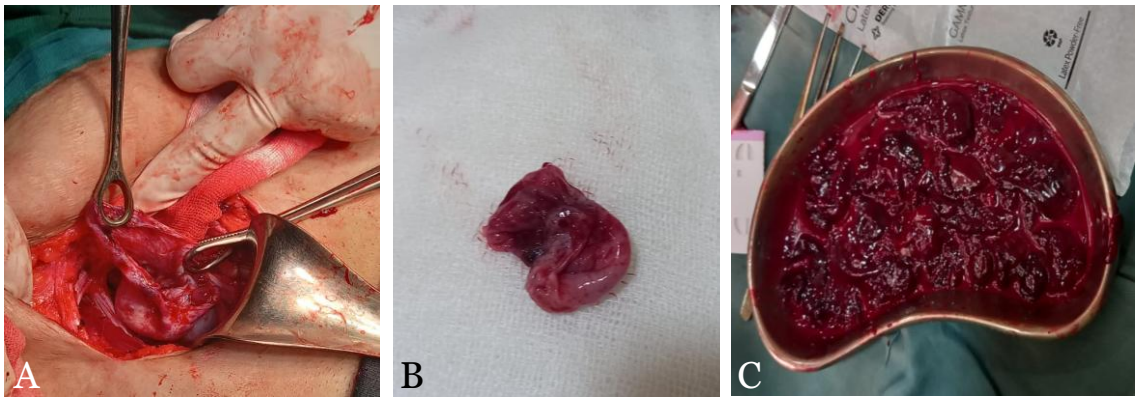


Figure 1. Intraoperative findings during emergency laparotomy exploration. (A) The laparotomy exploration with wedge resection. (B) Ovarian tissue leftover. (C) Fluid with blood from the abdomen cavity.

Following surgery, the patient was managed in the inpatient ward and received a transfusion of three units of packed red blood cells. Post-transfusion hemoglobin increased to 9.9 g/dL, and both pain and overall clinical condition improved. The surgical wound was managed with broad-spectrum intravenous antibiotics. The patient remained hospitalized for three days, during which she achieved full recovery without residual pain, and was discharged with instructions for follow-up after seven days. Histopathological examination of the resected ovarian tissue later revealed the presence of chorionic villi, confirming the diagnosis of ectopic pregnancy.

## Discussion

Ectopic pregnancy is a life- and fertility-threatening condition that requires particular attention in women of reproductive age [7]. Globally, the incidence of ectopic pregnancy was reported to be 10.2% lower in 2019 compared with 1990. The fallopian tube is the most common site, accounting for approximately 90% of cases. Other implantation sites, including the interstitial portion of the fallopian tube, ovary, abdominal cavity, cervix, and cesarean section scar, are rare [9].

In this case, emphasis is placed on the rarity of ovarian ectopic pregnancy. The exact pathogenesis remains unclear. Reported risk factors include the use of IUDs or other reproductive implants, recurrent endometriosis, pelvic adhesions, and a history of intrauterine surgical procedures, which are not significantly different from those associated with tubal ectopic pregnancy [5,10]. The diagnostic criteria for ovarian ectopic pregnancy include the presence of ovarian adhesions to the uterus via the ovarian ligament, identification of a gestational sac within or on the surface of the ovary, and an intact fallopian tube. Due to the thin ovarian cortex and its limited elasticity, implantation in the ovary almost invariably results in rupture [11].

The clinical manifestations of ovarian ectopic pregnancy are similar to those of tubal ectopic pregnancy and may include abdominal pain, vaginal bleeding, and, in some cases, a history of missed menstruation [12]. The overlap of symptoms makes preoperative differentiation challenging. In cases of intra-abdominal bleeding, patients may present with anemia and hypovolemic shock. Distinguishing ovarian ectopic pregnancy from ruptured tubal pregnancy, ruptured corpus luteum cyst, or ovarian torsion is often difficult. Recurrent ectopic pregnancy has been reported in approximately 10–27% of cases, with risk factors including tubal damage, pelvic infection, prior pelvic surgery, infertility, and a previous ectopic pregnancy, all of which substantially increase the risk of recurrence [6,13,14]. Furthermore, women with a history of ectopic pregnancy face an elevated risk of adverse outcomes in subsequent pregnancies, such as preterm birth, low birth weight, cesarean delivery, and placental abnormalities [15].

Women presenting with clinical signs and symptoms suggestive of ectopic pregnancy, such as hemodynamic instability or acute abdomen, require immediate management. Diagnosis can be challenging and typically involves a combination of serum β-hCG testing and ultrasonography. An increase in serum β-hCG is a hallmark of pregnancy [11]. As in intrauterine pregnancy, β-hCG levels rise following conception; however, in ectopic pregnancy, the rate of increase is often slower or plateaued compared to normal intrauterine gestation [11]. Ultrasonography raises the suspicion of ectopic pregnancy, but diagnosis is rarely based on imaging alone; rather, it relies on the integration of patient history, serial β-hCG measurements, and ultrasound findings [16].

Management of ectopic pregnancy depends on several factors, including the patient's reproductive goals, hemodynamic stability, and overall clinical condition. Expectant management, often with methotrexate therapy, is successful in approximately 88% of cases. However, certain contraindications—such as hemodynamic instability, severe anemia, leukopenia, thrombocytopenia, immunodeficiency, significant organ dysfunction, or unreliable follow-up—necessitate surgical intervention, which offers a higher success rate under such circumstances [1].

In this case, the diagnosis of ectopic pregnancy was supported by the patient's previous history of ectopic pregnancy, characteristic clinical manifestations, and serial blood counts indicating ongoing intra-abdominal bleeding. Hemoglobin levels showed a progressive decline, consistent with active hemorrhage, and clinical symptoms further reinforced the suspicion of ectopic pregnancy. The most significant risk factor for recurrence in this patient was the prior history of ectopic pregnancy. Although ectopic pregnancy is considered a benign gynecological

condition, its sudden onset and the high risk of massive hemorrhage and hemorrhagic shock make it potentially life-threatening.

## Conclusion

Recurrent ectopic pregnancy is a rare but potentially life-threatening condition that requires a high index of suspicion, particularly in patients with a prior history of ectopic pregnancy. In this case, diagnosis was supported by characteristic clinical manifestations, hemodynamic instability, and serial hematologic monitoring. Prompt surgical intervention successfully preserved ovarian tissue and stabilized the patient's condition. Early recognition and timely management are essential to reduce the risk of maternal morbidity and mortality.

### Ethics approval

Informed verbal consent was obtained from the patient for the publication of this case report. The patient agreed that the clinical details and supporting materials may be published.

### Acknowledgments

We would like to express our deepest gratitude to our hospital director MMIK for his support so that this journal can be completed and published.

### Competing interests

The authors declare that they have no conflict of interest.

### Funding

The authors received special funding for this work primarily from our directors.

### Underlying data

Derived data supporting the findings of this study are available from the corresponding author on request.

### Declaration of artificial intelligence use

We confirm that no artificial intelligence (AI) tools were used in the preparation of this case report.

## How to cite

Singgih R, Larose SH, Kwary MMI, Helmina H. Emergency management of recurrent ovarian ectopic pregnancy in a hemodynamically unstable patient: A case report. Narra J 2025; 5 (3): e2811 - http://doi.org/10.52225/narra.v5i3.2811

## References

1. Mummert T, Gnugnoli DM. Ectopic pregnancy. Available from: https://www.ncbi.nlm.nih.gov/books/NBK539860/. Accessed: 7 March 2024.
2. Fan YY, Liu YN, Mao XT, *et al.* The prevalence of ectopic gestation: A five-year study of 1273 cases. Int J Gen Med 2021;14:9657-9661.
3. Fan YY, Liu YN, Mao XT, *et al.* The prevalence of ectopic gestation: A five-year study of 1273 cases. Int J Gen Med 2021; 14:9657-9661.
4. Kassebaum NJ, Bertozzi-Villa A, Coggeshall MS, *et al.* Global, regional, and national levels and causes of maternal mortality during 1990–2013: A systematic analysis for the global burden of disease study 2013. Lancet 2014;384(9947):980-1004.
5. Solangon SA, Naftalin J, Jurkovic D. Ovarian ectopic pregnancy: Clinical characteristics, ultrasound diagnosis and management. Ultrasound Obstet Gynecol 2024;63(6):815-823.
6. Neisani Samani E, Henderson MM, Sanjaghsaz H, *et al.* Ectopic pregnancy in an adolescent: A case report and review of literature. Cureus 2022;14(12):e32220.

7. Mullany K, Minneci M, Monjazeb R, *et al.* Overview of ectopic pregnancy diagnosis, management, and innovation. Womens Health 2023;19:17455057231160349.
8. American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Gynecology. ACOG Practice Bulletin No. 193: Tubal Ectopic Pregnancy. Obstet Gynecol 2018;131(3):e91-e103.
9. Bužinskienė D, Mačionytė M, Dasevičius D, *et al.* Case report: Ectopic pregnancy in the interstitial part of the fallopian tube. Front Surg 2023;10.
10. Huang Y, Huang Q, Liu J, *et al.* Concurrent ovarian and tubal ectopic pregnancy after IVF-ET: Case report and literature Review. Front Physiol 2022;13:850180.
11. Ren F, Liu G, Wang T, *et al.* Unruptured ovarian ectopic pregnancy: Two case reports and literature review. Front Physiol 2022;13:1036365.
12. Hendriks E, Rosenberg R, Prine L. Ectopic pregnancy: Diagnosis and management. Am Fam Physician 2020;101(10):599-606.
13. Petrini A, Spandorfer S. Recurrent ectopic pregnancy: Current perspectives. Int J Womens Health 2020;12:597-600.
14. Karavani G, Gutman-Ido E, Herzberg S, *et al.* Recurrent tubal ectopic pregnancy management and the risk of a third ectopic pregnancy. J Minim Invasive Gynecol 2021;28(8):1497-1502.e1.
15. Chouinard M, Mayrand MH, Ayoub A, *et al.* Ectopic pregnancy and outcomes of future intrauterine pregnancy. Fertil Steril 2019;112(1):112-119.
16. Sosa M, Brancazio S, Drummey A, *et al.* Transvaginal ultrasound diagnosis of ovarian ectopic pregnancy. Cureus 2023;15(1):e33536.