

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20231954>

## Case Report

# The case of primary ovarian ectopic

Nagashree Undinti\*, Charumathi

Department of Obstetrics and Gynecology, Apollo Womens Hospital, Chennai, Tamil Nadu, India

**Received:** 11 May 2023

**Accepted:** 05 June 2023

**\*Correspondence:**

Dr. Nagashree Undinti,

E-mail: [dr.nagashree@yahoo.com](mailto:dr.nagashree@yahoo.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 ectopic pregnancy is a rare form of ectopic pregnancy. It mimics tubal ectopic, difficult to distinguish on ultrasound imaging and clinical presentation. It mostly presents with rupture in first trimester. We presented this case in view of its varied tricky clinical presentation- which lead us into various differential diagnoses for pain abdomen and the least suspicion of an ovarian pregnancy. Laparoscopic management is needed for diagnosis and confirmation is only through a histopathological diagnosis. Even though it's rare, still we need to be suspicious of this in all patients with acute lower abdominal pain and with no period of amenorrhoea.

**Keywords:** Ovarian ectopic pregnancy, Laparoscopic management, Tubal ectopic

### INTRODUCTION

Primary ovarian ectopic pregnancy accounts for 3% of all ectopics. Estimated prevalence is 1: 7000 to 1:70000.<sup>1</sup> It's normally terminated in the first trimester as it leads to internal haemorrhage and shock. The diagnosis by Spiegelberg criteria- (a) gestational sac located in ovary; (b) ectopic pregnancy is attached by ovarian ligament; (c) histopathological diagnosis is important; and (d) fallopian tube is intact on the involved side.

Ovarian pregnancy is the second most common ectopic due to the intrauterine device. Medical management is possible only in early phases in stable conditions. Late diagnosis leads to surgical treatment.

### CASE REPORT

A 29 year old lady G4P1L1A2 came with c/o severe lower abdominal pain since morning. She was admitted in a private hospital and investigated further for pain. She gives history of one normal delivery, 2 medical MTP and no history of amenorrhoea. Her LMP was 5th August 2022- with proper good flow. USG report from outside showed enlarged right ovary with ill-defined hypodensity with

hyperdense fluid? Likely torsion ovary. She had right renal calculus of 4 mm also. Suggested to rule out appendicitis too. She was managed on pain killers- then she was referred to our centre for further management at night.

She was stable when she arrived but in lot of pain. She was pale, tenderness in abdomen mostly in right iliac fossa, no bleeding per rectum.

Transvaginal scan showed endometrial thickness of 6.3 mm with minimal fluid. A sac with echogenic rim of 2.1×2.1 cm seen in right adnexa lateral to right ovary with no vascularity. Significant haemoperitonem in pelvis approximately of 1 litre. Minimal fluid in hepatorenal pouch seen.

We took her for emergency laparoscopic evaluation and ordered for blood tests with serum Beta HCG.

Intra-operatively around 1 l of blood with 500 ml of clots seen. Uterus and both tubes appeared normal. No evidence of torsion ovary. The bleeding was from a raw surface of 2×1.5 cm on right ovary with appearance like corpus luteal rupture. We proceeded with wedge resection of that part of the ovary and secured haemostasis. We did

chromopertubation to make sure of no tubal ectopics. Thorough suction and irrigation done. Later the serum Beta HCG report showed value of 2798 IU/l which was on 28<sup>th</sup> August. Repeat serum B-HCG on 31st August showed decreasing trend of 168 IU/l.

HPE report showed numerous chorionic villi with trophoblastic tissue, interspersed with extensive areas of haemorrhage and fibrin with some hydropic changes, also included fragmented corpus luteal cyst. She was stable with no more pain and was discharged the next day.



**Figure 1: TVS- right ovarian ectopic.**



**Figure 2: Intra-OP- ovarian ectopic.**

## DISCUSSION

Ovarian ectopic is a very rare variant of ectopics.<sup>3</sup> Overall 91% of ovarian ectopic pregnancy end in rupture during first trimester; 5.3% end in second trimester and 3.7% end in third trimester.<sup>4</sup> Primary ovarian ectopic is due to ovulatory dysfunction where ovum is fertilized while still within the follicle before follicle is expelled from the ovary.<sup>5</sup> Its also termed as Intra follicular ovarian ectopic pregnancy. Secondary ovarian ectopic pregnancy is defined as when the fertilization occurs in the fallopian tube but the conceptus is pushed and implanted on ovarian

stroma; also termed as extrafollicular ovarian ectopic pregnancy.

The usual clinical presentation is with pain abdomen, menstrual irregularities with vaginal bleeding.<sup>5</sup> The diagnosis is mostly by Spiegelbergs criteria. Phupong and Ulthaswadi declared serum Beta HCG and TVS can help in early diagnosis.<sup>6</sup> Various hypothesis regarding ovarian ectopics are delay of ovum liberation, thickening of tunica albuginea, tubal dysfunction, and intra uterine contraceptive device.

IUCD is supposed to trigger mild inflammation causing disturbance in ciliary activity causing delayed transport leading to ectopic implantation. It is said that pelvic inflammatory disease has no effect on ovarian ectopic. Approximately 75% terminate in first trimester-misdiagnosed as corpus luteal haemorrhage.<sup>7</sup> Pre-op diagnosis is difficult as lot of them present with ruptured ectopic, already in hypovolemic shock.<sup>8,9</sup> Choi et al reported the possibility of abdominal surgeries, endometriosis, tubal ligation for ovarian ectopics.

### *Diagnostic criteria on USG*

Presence of ovarian cortex including corpus luteum or follicles around mass, wide echogenic ring (ring of fire) with an internal echolucent area on ovarian surface and this echogenicity is usually greater than ovary itself.<sup>10</sup>

### *Differential diagnosis*

The diagnostic criteria were- (a) ovarian tumor producing serum  $\beta$ -HCG, (b) corpus luteal cyst, (c) haemorrhagic or endometriotic ovarian cyst, and distal tubal ectopic.

### *Sliding organ sign*

Free movement between ovary and adnexal mass on palpation during ultrasound can assist in differentiating intra ovarian and extra ovarian masses.<sup>11</sup> The tubal pregnancy ring is much thinner.

Corpus luteal cyst usually shows progressive involution whereas ovarian ectopic pregnancy will grow with yolk sac and fetal pole within sac. Gold standard for definitive diagnosis is laparoscopy with histopathological confirmation.

### *Management*

In a haemodynamically stable patient- medical and conservative management is a possibility.

### *Green top criteria*

Gestational sac is less than 30 mm, no cardiac activity, and gestational age less than 6 weeks, no signs of haemodynamic compromise, serum  $\beta$ -HCG is less than

3500 IU/l. Mifeprine with injection methotrexate for non-ruptured cases and serial follow up with  $\beta$ -HCG and TVS.

### ***Surgical management***

Laparoscopy is the best option. If haemodynamically unstable- laparotomy can be done. Oophorectomy is a radical procedure; so wedge resection of the ovary and perfect haemostasis is advisable.

### **CONCLUSION**

Chronic pelvic pain is the most frequent complaint. The key to early diagnosis is careful history, clinical symptoms, transvaginal scan, serum Beta HCG and an open mind for a possibility of ovarian ectopic in spite of its rare possibility, history of tubal ligation and absence of amenorrhoea. Early diagnosis and management is vital to prevent associated maternal morbidity and death.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

### **REFERENCES**

1. Marcus SF, Brinsden PR. Primary ovarian pregnancy after in vitro fertilization and embryo transfer: report of seven cases. *Fertil Steril.* 1993;60(1):167-9.
2. Lajoie L. Ovarian pregnancy. *Am J Obstet Gynecol.* 1951;62(4):920-9.
3. Meshari AA, Chowdhury N, Adelusi B. Ovarian pregnancy. *Int J Gynaecol Obstet.* 1993;41(3):269-72.
4. Mathur SK, Parmar P, Gupta P, Kumar M, Gilotra M, Bhatia Y. Ruptured primary ovarian ectopic pregnancy: case report and review of the literature. *J Gynecolog Surg.* 2015;31(6):354-6.
5. Begum J, Pallavee P, Samal S. Diagnostic dilemma in ovarian pregnancy: a case series. *J Clin Diagn Res.* 2015;9(4):QR01-3.
6. Phupong V, Ultchaswadi P. Primary ovarian pregnancy. *J Med Assoc Thai.* 2005;88(4):527-9.
7. Hallatt JG. Primary ovarian pregnancy: a report of twenty-five cases. *Am J Obstet Gynecol.* 1982;143(1):55-60.
8. Comstock C, Huston K, Lee W. The ultrasonographic appearance of ovarian ectopic pregnancies. *Obstet Gynecol.* 2005;105(1):42-5.
9. Chang FW, Chen CH, Liu JY. Early diagnosis of ovarian pregnancy by ultrasound. *Int J Gynaecol Obstet.* 2004;85(2):186-7.
10. Roy J, Sinha Babu A. Ovarian pregnancy: two case reports. *Australas Med J.* 2013;6(8):406-14.
11. Chukus A, Tirada N, Restrepo R, Reddy NI. Uncommon Implantation Sites of Ectopic Pregnancy: Thinking beyond the Complex Adnexal Mass. *Radiographics.* 2015;35(3):946-59.

**Cite this article as:** Undinti N, Charumathi. The case of primary ovarian ectopic. *Int J Reprod Contracept Obstet Gynecol* 2023;12:2294-6.