



## Case Report

## Two embryos did not implant into the womb. A rare case of non-iatrogenic bilateral ectopic pregnancy (two-tailed tubal ectopic pregnancy) case report

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## ABSTRACT

**Introduction and importance:** Bilateral ectopic pregnancy is one of the rarest forms of ectopic pregnancy due to the difficulty of diagnosis and interference before surgery, where ectopic pregnancy cases are clinically indistinguishable from unilateral ectopic pregnancy, and many cases are discovered by chance during surgery.

The Importance of this report comes from the history of a patient with four cesarean sections, who developed two-tailed tubal ectopic pregnancy without ovulation induction or any contraception methods.

**Case presentation:** Our patient after admission to the emergency department was diagnosed with a unilateral GS = 9W ectopic pregnancy in the right fallopian tube based on Doppler echography. However, during the surgery, the surgeon discovered a rupture in the left tube, which was discovered to be another left fallopian ectopic pregnancy confirmed by pathology.

**Clinical Discussion:** Our patient presented with typical symptoms of ectopic pregnancy confirmed by BHCG blood test and Doppler ultra sound but the untypical finding of bilateral ectopic pregnancy without suggestive history couldn't be discovered until laparotomy

**Conclusion:** This case reminds us to always check both adnexa before making any decisions and because of the poor presurgical diagnosis of EP, it highlights the importance of human resources and equipment which could save our patients fertility.

**Conclusion:** To preserve the integrity of the organs and the patient's future fertility the doctor who diagnoses a tubal ectopic pregnancy should always check the other tube before taking action even if the suspicion is not due to the induction of ovulation, and never fully trust imaging study only as an aiding tool to make a diagnosis; nevertheless, the patient could have been better managed and her fertility saved if better capabilities were available.

### 1 Introduction

Ectopic pregnancy (EP) happens when the blastocyst implants anywhere except the endometrial lining of the uterine cavity [1]. 2% of total pregnancies is EP [2], making it the commonest surgical emergency presentation in women [1]. In the UK, EP is the leading cause of death for the first-trimester pregnancies [3]. More than 95% of EP implants are in the fallopian tubes [1].

Diagnosis is usually made with the aid of serial measurements of serum beta-human chorionic gonadotrophin ( $\beta$ -HCG) and ultrasound. However, laparoscopy is the gold standard for EP diagnosing [3].

Amenorrhea, abdominal pain with or without vaginal bleeding are the commonest presenting complains [4].

In this case, we discuss a rare incidence of bilateral tubal pregnancy without induction, which has an incidence of one in 200,000 pregnancies [7]. This case report has been reported in line with the SCARE Criteria [17].

### 2. Case report

A 33-year-old Caucasian woman, presented to the emergency complaining of heavy vaginal bleeding with colts that started lighter 3 days

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ago accompanied by abdominal pain, the patient mentioned that her last menstrual period was a month ago.

In the emergency room, the patient was hemodynamically stable with blood pressures 110/70 mmHg, heart rate 82 Bpm, and a temperature  $\Delta = 37^{\circ}\text{C}$ , the labs showed HCT = 30.5L and HGE = 10.1L/dl, and a  $\beta\text{HCG}$  was obtained ( $\beta\text{HCG} = 3545\text{Miu/ML}$ ).

On physical exam, the abdomen was soft with no tenderness, rebound, or guarding.

The patient mentioned that 13 days ago she went to a private clinic and did a pregnancy test with ultrasound, ( $\beta\text{HCG} = 34549$ , the ultrasound demonstrated a thickening of the uterine lining: 1,3cm).

The patient did not have a significant medical history except for four cesarean sections; her last childbirth was four years ago.

She did not use any contraception methods or ovulation induction and her family's medical history was clean.

Drug history and allergies are unremarkable, the patient does not take any medication and she does not recall any type of allergy.

There was a concern that these cesarean sections had caused adhesions that helped to cause that EP, but during the surgery, no adhesions were observed.

Pelvic vaginal examination (PV) showed no cervical changes, no bleeding, or cervical smear.

US in the emergency room revealed a pregnancy sac in the right fallopian tube (Gs = 2,95 = 7w+4d and an embryo, CRL = 1,40 = 7w) (Fig. 1).

The left ovary exhibited only a corpus luteum cyst. The uterine lining thickness was 7mm (Fig. 2).

In addition, a 45 cc free fluid was seen behind the uterus (Fig. 3).

The patient was informed of the risk of ruptured EP according to the results of the physical and radiographic examinations without evidence of intrauterine pregnancy, advice was given for the necessity of surgery, and consent was obtained for salpingectomy.

The patient was admitted to the hospital under observation and the necessary measures to stabilize her condition were done and was

covered with antibiotics (ceftriaxone, Amoxicillin, Metronidazole) and was prepared for the surgery the following day. until the reserved blood was secured, the patient's vital signs were monitored, and the routine blood and urine tests were performed.

Two doctors in the Gynecology Department performed the surgery. In Laparotomy the right fallopian tube exhibited the following: hydrops of the tube, no change in color (Kelly clamp was used to explore it).

Colts of blood followed by gestational tissue were removed. The adnexa was investigated to find that the left fallopian tube was ruptured and engorged so the surgeon decided to excise it.

After a thorough examination of the right tube and the patient consent, the right tube was also excised considering the available capabilities and both tubes were sent for histological study.

The bilateral salpingectomy was performed without complication and confirmed by pathology.

The patient was discharged two days after the surgery. There were no complications or adverse outcomes with the regular follow-up.

#### Pathology report

Excisional biopsy from the right and left oviducts.

#### Microscopic

Description: sections from right or right and left show fallopian tube structure, which reveals stromal decidual changes, associated with the presence of chorionic villi, hemorrhagic areas, and necrosis.

#### Diagnosis

Conclusion: Bilateral Tube Ectopic Pregnancy, Excisional Biopsy, Right and Left Oviducts. No Malignancy. -

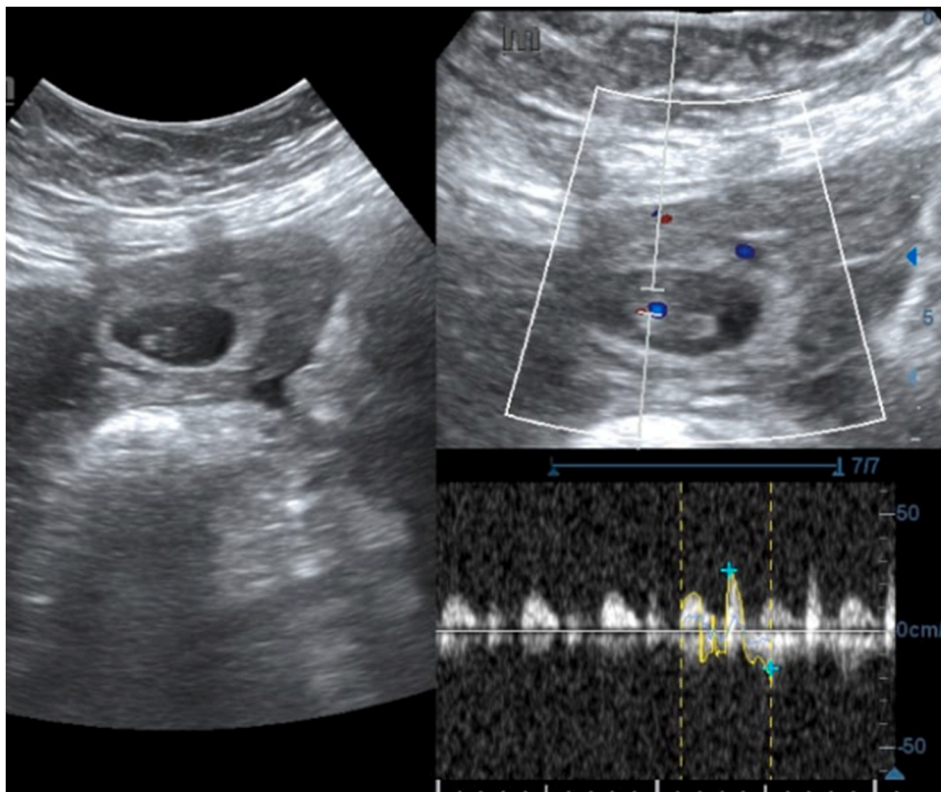


Fig. 1. right fallopian tube with pregnancy sac and 7w embryo.

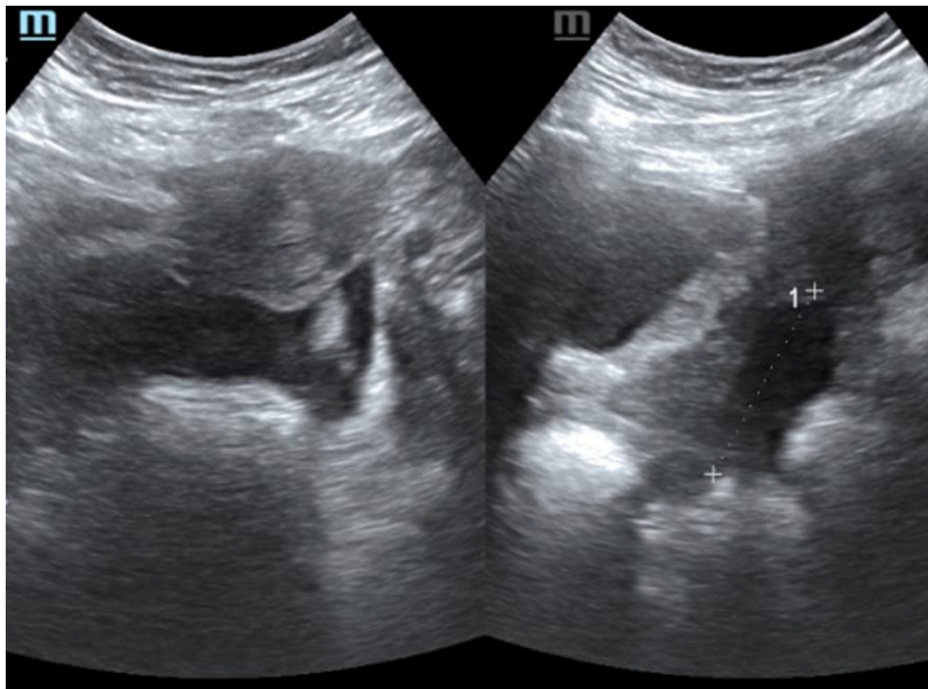


Fig. 2. left ovary with luteum cyst and uterine lining thickness.

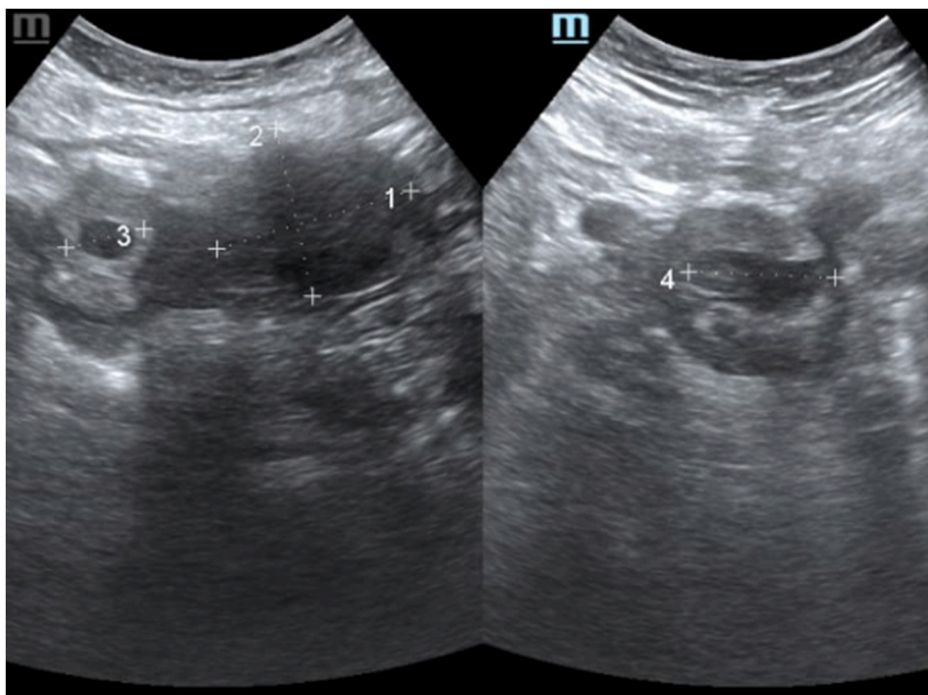


Fig. 3. free fluid in Douglas diverticulum.

### 3. Discussion

The bilateral ectopic pregnancy is very rare, with a rate of 1/200000 pregnancies, and is often associated with ovulation induction or assisted contraceptive methods [6].

Our case combines different aspects to discuss:

1. non-iatrogenic bilateral ovulation
2. bilateral tubal ectopic pregnancy
3. the lack of resources.

Firstly, ovulation occurs monthly from one of the ovaries periodically, but bilateral ovulation may occur, although this is a rare case - usually accompanied by a history of taking ovulation inducers - 1~2% of normal bilateral ovulation without incitement, aid, or medication [8], which happened with our patient.

Secondly, ectopic pregnancy is one of the top emergency cases in obstetrics and the leading causes of death for first-trimester pregnancy, ectopic pregnancy still poses a challenge for obstetricians to uncover and without harming the organs [3]. Fallopian tubes are the most commonplace with 95% of EP<sup>1</sup> making it the commonest surgical

emergency presentation in women [1].

In other rare cases, the embryo may nest in others places like the abdominal cavity, cervix, or the cesarean section scar [6]. While the term ectopic pregnancy is known from 1000 years ago [9], still the theories differ in the pathophysiology and risk factor.

The risk factors for EP are prior ectopic pregnancy which is the highest contributor, Pelvic inflammatory disease (PID) and prior tubal surgery are potent risk factors for tubal injury thus ectopic pregnancy [10], previous ectopic pregnancy, conception following ovulation induction/assisted reproductive technology [6], Smoking [11], assisted reproductive technology (ART) [12], and Increasing maternal age (>40) [13].

In this case, the main risk factor is the 4 CSs.

Although it is difficult to diagnose an ectopic pregnancy clinically [5]. The classic symptom of EP is vaginal bleeding after amenorrhea with abdominal pain, the other symptoms such as breast tenderness, shoulder pain caused by the irritation of the phrenic nerve from sub-diaphragmatic blood [5].

Almost 100% of cases present with pelvic or abdominal pain or even an acute abdomen [14].

On examination the tenderness is a common finding, almost (33~50) % of patients are with a palpable adnexal mass, sometimes noted a cul-de-sac mass and the typical uterine changes of pregnancy [14]. Increasing pain with cervical manipulation (cervical scream) [5].

Our patient presented with vaginal bleeding, abdominal pain, and amenorrhea.

In general, positive pregnancy tests, serial serum BHCG, transvaginal sonography are valuable aids for diagnosis [4].

Serum BHCG measurements can be detected 8 days after the surge of luteinizing hormone.

Even when the levels of serum BHCG and sonographic findings are inconclusive, serum progesterone can be used to diagnose the EP [15].

Treatment for EP is likely surgical [14], especially laparoscopically [16].

Either liner salpingectomy or salpingectomy can treat the tubal EP, the decision for which procedure to perform depends on both the patient and the surgeon decision [16].

Lastly, the lack of material and humanitarian resources deprived our patients of having the best care possible. this issue was due to the war in Syria that has had a catastrophic effect on many fields in the country, especially in the medical field.

In our case, the management is done according to the surgeon's experience and the equipment available, and the patient's approval which lead to excise both fallopian tubes that unfortunately, took away her fertility.

#### Ethics approval

None declared.

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None declared.

#### Authors' contributions

JA: Revision of the manuscript. GAD AND NAA: Drafting of the manuscript. GAD AND NAA: Conception and design of the study. AUA: Approval of the final version of the manuscript. All authors confirm that they have read and approved the final manuscript. **Guarantor:** Ghussoun AL Dus.

#### Research registration

None declared.

#### Guarantor

Ghussoun Al Dus  
Abd Ulmahdi Alhamoud

#### Patient Consent

Written informed consent was obtained from the patient to publish this case report with its images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

#### Provenance and peer review

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#### Declaration of competing interest

None declared.

#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.amsu.2021.102840>.

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