REVISTA DE LA FACULTAD DE CIENCIAS MÉDICAS
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# Spontaneous heterotopic pregnancy. Case report

## Embarazo heterotópico espontáneo. Reporte de caso

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Caso clínico | Clinical case

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## SUMMARY

**Introduction:** A heterotopic pregnancy is a pregnancy that co-occurs in the uterus and outside the uterus. The problem arises because a pregnancy cannot develop outside the uterus, which can lead to severe complications and even death. This case report was selected because of its relevance to daily practice, where timely action allows us to save the lives of pregnant patients who are susceptible to this condition.

**Clinical case:** We present the case of a 33-year-old pregnant woman who presented to the emergency department of the Pablo Jaramillo Crespo Foundation Hospital in Cuenca, nine weeks into her second pregnancy. Upon arrival, she presented with severe abdominal pain and vaginal bleeding. An ultrasound revealed a trabeculated isoecogenic mass in the right ovary, as well as a viable product in the uterine cavity. The condition was resolved by laparotomy, which showed a heterotopic pregnancy in the right adnexa; the intrauterine pregnancy was viable and reached full term without complications.

**Conclusion**: In this clinical case, reaching the correct diagnosis proved to be very complex due to the low incidence. The imaging study was performed adequately, although it is operator-dependent, and the capabilities and limitations of the surgical team chose the surgical approach. Once the acute extrauterine pathology was resolved, the intrauterine pregnancy came to term.

**Keywords**: heterotopic pregnancy, prenatal diagnosis, ectopic pregnancy.

## RESUMEN

**Introducción:** un embarazo heterópico representa una gestación intrauterina y otra extrauterina a la vez. El problema surge en que una gestación no se puede desarrollar fuera del útero; pudiendo generar complicaciones severas e incluso la muerte. La selección particular de este reporte de caso es motivada por la práctica diaria, donde el actuar oportuno nos permite salvar vidas de pacientes embarazadas susceptibles a presentar esta patología.

**Caso clínico:** se presenta un caso de una gestante de 33 años de edad, que acude al servicio de emergencia del Hospital Fundación Pablo Jaramillo Crespo de la ciudad de Cuenca, con 9 semanas de gestación, es su segundo embarazo. A su llegada presentó un intenso dolor abdominal y sangrado vaginal. Como hallazgo ecográfico destacó una masa isoecogénica trabéculada en ovario derecho, además de un producto viable en

cavidad uterina. Se resolvió mediante laparotomía con el hallazgo de un embarazo heterotópico en anexo derecho; el embarazo intrauterino fue viable y llegó a término sin complicaciones.

**Conclusión**: en el presente caso clínico, el llegar al diagnóstico adecuado resultó de mucha complejidad debido a la baja incidencia. El estudio imagenológico fue realizado de manera adecuada, pese a que es operador dependiente y la vía de resolución quirúrgica fue tomada en concordancia con las capacidades y limitaciones del equipo quirúrgico. Una vez resuelta la patología aguda extrauterina, el embarazo intrauterino llego a término.

**Palabras clave**: embarazo heterotópico, diagnóstico prenatal, embarazo ectópico.

## INTRODUCTION

Heterotopic pregnancy is the implantation of two embryos in two different locations. The incidence varies, occurring in 1-30,000 natural cases and 1,000 to 1,500 cases of assisted reproduction[1-2]. It is a significant cause of mortality, accounting for around 2.7% of cases, and of secondary maternal deaths, accounting for approximately 2.31% in Central America and Mexico[3].

Heterotopic pregnancy can occur in the ovary in 1 to 3% of cases, in the cervix in 1% of cases, in the interstitial space in the abdomen, and even in previous uterine scars. However, in heterotopic pregnancy, the most common location of ectopic pregnancy is in the ampullary segment of the fallopian tube, accounting for 95 to 97% of cases[1-3].

Risk factors include pelvic inflammatory disease, use of an intrauterine device, previous pelvic surgery, previous ectopic pregnancy, and other factors related to assisted reproduction[2].

The increase in the number of cases highlights the importance of proper testing for associated risk factors, as early detection would reduce the statistics on complications and the possibility of maternal death[4].

After surgery for ectopic pregnancy, the viability of the intrauterine product is between 45 and 70%. Maternal mortality in the United States from 2011 to 2013 was 2.7%, while in Mexico, the percentage of maternal deaths secondary to ectopic pregnancy is estimated to be 2.31%, according to data from 2009 from the Mexican Social Security Institute[2-3].

## CASE PRESENTATION

A 33-year-old woman with an obstetric history of two pregnancies and one delivery, with an intergenetic interval of six years, presented at the time of diagnosis with a pregnancy of 9.0 weeks of gestation based on the date of her last menstrual period (07/04/2024). She consulted the emergency department on 06/09/2024 at the Pablo Jaramillo Crespo Humanitarian Hospital in the city of Cuenca, Ecuador, due to abdominal pain lasting approximately 8 hours, located in the hypogastrium, of moderate intensity, accompanied by scant dark red vaginal bleeding.

Vital signs on admission were as follows: blood pressure, 120/73 mmHg; heart rate, 59 beats per minute; respiratory rate, 18 breaths per minute; and temperature, 36.8°C. Physical examination: Abdomen: soft, painful on palpation in the hypogastrium, no peritoneal signs; genital region: speculoscopy revealed a closed cervix with a small amount of dark red bleeding.

Laboratory results showed a hematocrit of 36.9%, hemoglobin of 12.5 g/dL, leukocytes of 7.68 K/µL, and normal prothrombin time, activated partial thromboplastin time, glucose, urea, and creatinine levels, with no pathological findings. The ultrasound revealed an intrauterine pregnancy with a single gestational sac, fundal implantation, regular morphology, a mean diameter of 28 mm, consistent with 7.6 weeks of gestation, and a single embryo inside with a heart rate of 136 beats per minute and a cranio-caudal length of 10 mm. The yolk sac was of regular morphology, with a diameter of 3.6 mm (Image N° 1). Douglas sac, anterior recess and right ovary with presence of isoechogenic, trabeculated, non-vascularized content, measuring 73 x 22 mm, in moderate quantity to be considered a ruptured heterotopic pregnancy (Image N° 2) vs. rupture of right ovarian cyst.

The patient was hemodynamically stable; however, due to the lack of trained personnel, it was decided to perform a laparotomy. Hemoperitoneum of approximately 500 ml was found, and an irregular lesion with active bleeding was observed in the right fallopian tube, adhered to the right ovary (Image N° 3), for which a right salpingo-oophorectomy was performed, which included a hemorrhagic lesion. The following day, the patient was monitored, with the following results: hemoglobin, 10.1 g/dL; hematocrit, 29.6%; and platelets, 230,000.

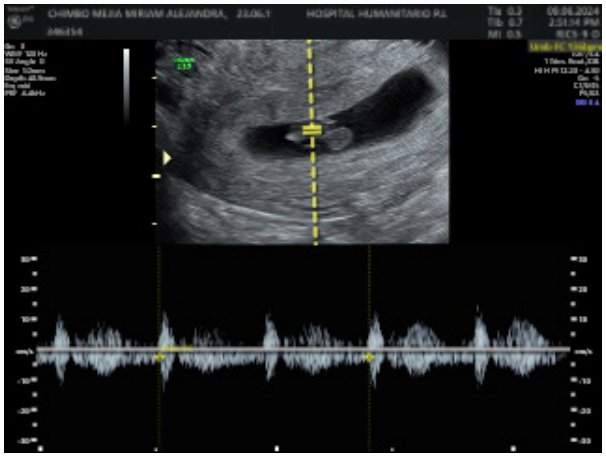

**Image No. 1.** *Viable intrauterine gestational sac*

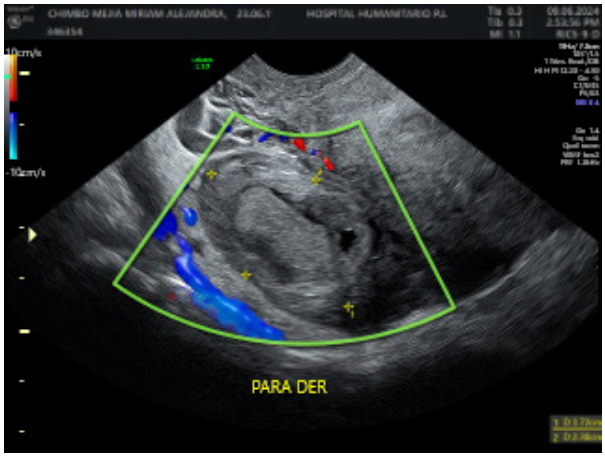


**Image No. 2.** *Tubal heterotopic pregnancy*

The histological report documented chorionic placental remains from the first trimester of pregnancy and a hemorrhagic corpus luteum cyst.

The patient was monitored, and no complications were observed. In January 2025, she gave birth with the following data: weight, 2,675 g; Apgar score, 8-9; Capurro: 38.2 weeks of gestation.

## DISCUSSION

Heterotopic pregnancy occurs for multiple reasons, especially in medically assisted pregnancy, and is rare due to its low frequency; however, in the case presented, it happened spontaneously, making its appearance even less common[2,5,6].

The frequency of this diagnosis varies according to the literature, ranging from 1 to 30,000 natural cases and 1 to 1,000 to 1,500 cases per assisted reproduction. They also report a secondary incidence of 1 per 1,000 pregnancies and 1 per 20,000 pregnancies when spontaneous[5-6].

The treatment of heterotopic pregnancy is surgical, either by laparoscopy as the first option or by laparotomy as the second. When there is severe intra-abdominal bleeding or the patient is haemodynamically unstable, laparotomy may be chosen[7-11]. In the present case, the second option was chosen due to the surgical team on duty's lack of experience in laparoscopy.

The therapeutic decision will also depend on the timing of the diagnosis and the surgeon's experience[8,9,12].

The surgical decision was a right salpingo-oophorectomy, as the mass was located in the right adnexa. Histopathological examination was an essential tool for confirming the diagnosis of ectopic pregnancy. In addition, the intrauterine pregnancy was preserved and progressed to term without complications.

When there is an intrauterine pregnancy, this condition can be underdiagnosed, becoming a significant cause of maternal mortality, accounting for 1% of cases when located in the fallopian tube and up to 6% in those situated in the abdomen[2,9].

Fifty-four percent of patients with heterotopic pregnancy are asymptomatic, making early diagnosis difficult due to the lack of symptoms and characteristic clinical data. The diagnosis is usually made by ultrasound, with the most common images being an adnexal mass and free fluid in the Douglas pouch, particularly in the presence of an intrauterine pregnancy[2,13].

The therapeutic decision will depend mainly on the patient's condition, as well as the resources available at the time of diagnosis[10,14].

Diagnosis remains a challenge, especially in patients with no identifiable risk factors and who have a spontaneous pregnancy[15].

The purpose of this article is to discuss the diagnosis and treatment of heterotopic pregnancy with a viable intrauterine pregnancy. Early suspicion is essential to ensure the successful development of the intrauterine pregnancy.

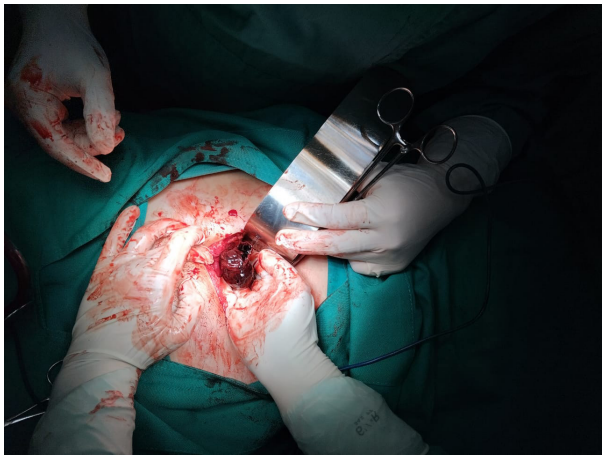

**Image No. 3.** *Identification of uterine tube and complicated heterotopic pregnancy*

## CONCLUSIONS

In the present clinical case, reaching the correct diagnosis was very complex due to the low incidence. The imaging study was performed adequately, although it is operator-dependent.

The surgical approach was chosen based on the capabilities and limitations of the surgical team. Once the acute extrauterine pathology was resolved, the intrauterine pregnancy was carried to term without complications.

## BIOETHICAL ASPECTS

This study was conducted with the confidentiality of the patient's data in mind, and the respective informed consent and approval of the hospital were obtained.

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## AUTHORS' CONTRIBUTIONS

The authors contributed equally to the design, literature search, writing, review, critical analysis, and interpretation of the study. They also jointly approved the final version.

## CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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## BIBLIOGRAPHICAL REFERENCES

1. Villamayor L, Sosa A, Ortiz J. Spontaneous triple heterotopic pregnancy: Case report. Official Journal of the Paraguayan Federation of Gynecology and Obstetrics. 2023;2(2)033-037. Available at: https://revistafpgo.org/index.php/rvfpgo/article/view/30/21
2. Monzón P, Tejada Gabriel, Oliva A. Spontaneous heterotopic pregnancy: Presentation of two cases. Rev. Perú. ginecol. obste. 2019;65(3):355-360. doi: 10.31403/rpgo.v66i2195
3. Delgado-Delgado A, Delgado-Kalish A. Heterotopic pregnancy. Acta Médica Grupo Ángeles. 2019;17(1):61-63. Available at: https://www.medigraphic.com/pdfs/actmed/am-2019/am191m.pdf
4. Zatarain A, Torres V. Spontaneous heterotopic pregnancy in a woman without risk factors: case report. Military Hospital for Women and Neonatology. Annals of Radiology Mexico. 2019; 18:59-64. doi: 10.24875/ARM.19000040
5. Carrillo D, Rodríguez J. Spontaneous heterotopic pregnancy with favorable perinatal outcome, case report and literature review. Redalyc. 2021;29(1):85-96. doi: 10.18359/rmed.4963

6. Espinoza S, Garnier J, Pizarro G. Overview of ectopic pregnancy. Revista Médica Sinergia. 2021;6(5):e670. doi: 10.31434/rms.v6i5.670

7. Arrocha G, Espinoza J. Heterotopic pregnancy and intrauterine product survival. Case report and literature review. Journal of the Central American Federation of Obstetrics and Gynecology. 2021;25(1):12-18. doi:10.37980/im.journal.revcog.20211781

8. Nabi U, Yousaf A, Ghaffar F, Sajid S, Ahmed MMH. Heterotopic Pregnancy - A Diagnostic Challenge. Six Case Reports and Literature Review. Cureus. 2019;11(11):e6080. doi: 10.7759/cureus.6080

9. Montúfar M, Vega J, Enríquez G. Spontaneous heterotopic pregnancy as acute abdomen: management and successful outcome of intrauterine pregnancy. Case report. Rev Fac Cien Med (Quito). 2023;48(2):119-124. doi:10.29166/rfcmq.v48i2.5816

10. Fatema N, Badi M, Rahman M, Elawdy M. Heterotopic pregnancy with natural conception; a rare event that is still being misdiagnosed: a case report. Clin Case Rep. 2016;4(3):272-275. doi: 10.1002/ccr3.502

11. Torres M, Rodríguez G, Escarcega J, Treviño A, Suárez-Márquez E, González-Oropeza D. Challenges in the diagnosis of heterotopic pregnancy after natural conception: report of two cases and review of the literature. Clinical cases of GOM. 2025;2(1):1-6. doi:10.24245/gom.v2i1.9835

12. Thompson S, Vásquez A, Ibáñez C. Heterotopic pregnancy, a diagnostic challenge: a case report. Scientific Journal of Short-Term Social Security. 2024; 3(2). doi: 10.59918/hcxd5770ky83m

13. Calucho S, Tapia M. Current approach to the diagnosis and treatment of heterotopic pregnancy due to spontaneous conception. Revista Práctica Familiar Rural. 2023;8(1):3-8. doi: 10.23936/pfr.v8il.262

14. Oancea M, Ciortea R, Diculescu D, Poienar AA, Grigore M, Lupean RA, Nicula R, Chira D, Strilciuc S, Mihu D. Spontaneous Heterotopic Pregnancy with Unaffected Intrauterine Pregnancy: Systematic Review of Clinical Outcomes. Medicina (Kaunas). 2020;56(12):665. doi: 10.3390/medicina56120665

15. Barrón J, Muñoz E, Hernández G, Rivera J, Heras J. Heterotopic pregnancy with new assisted reproduction techniques. 2018;61(2):16-19. Rev. Fac. Med. (Méx.). Available from: https://www.scielo.org.mx/pdf/facmed/v61n2/2448-4865-facmed-61-02-16.pdf