

## CASE REPORT

# CASE REPORT: HETEROTOPIC PREGNANCY WITH OVARIAN IMPLANTATION

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## ABSTRACT

Heterotopic pregnancy is an extremely rare condition characterized by an ectopic pregnancy combined with eutopic pregnancy. Assisted reproduction treatment is responsible for the incidence increase of this condition. Our case presents a patient first diagnosed with only ovarian pregnancy which is a rare type of ectopic pregnancy, being considered a gynecological emergency and a risk to maternal life. After surgical treatment the obstetric ultrasound showed a simultaneous eutopic pregnancy, characterizing a case of heterotopic implantation. In the case presented, there was difficulty in the diagnosis, with eutopic pregnancy being suspected only after the resolution of the ovarian pregnancy. This case highlights the importance of conducting post-resolution clinical follow-up of ectopic pregnancies and also that valuing the patient symptoms is essential. It also highlights the relevance of excluding an ectopic pregnancy, especially when the patient has many risk factors, such as assisted reproduction. In addition, our case emphasizes that the presence of an ectopic pregnancy in the existence of a eutopic one should not be disregarded, being the inverse fact true.

**KEYWORDS: ECTOPIC PREGNANCY; OVARIAN PREGNANCY; HETEROTOPIC PREGNANCY; DIAGNOSTIC; ULTRASOUND**

## INTRODUCTION

Heterotopic pregnancies (HP) are defined as the simultaneous presence of eutopic and ectopic pregnancies. The first description of a pregnancy of this type was made in 1708. There are few estimates of incidence in the literature, the most accepted being that of 1 for 30,000 spontaneous pregnancies<sup>1</sup>. However, this incidence is related to natural pregnancies. With the advancement and increasing use of assisted reproduction techniques, the incidence of heterotopic pregnancy has been increasing a lot. When using such methods, it can vary from 0.09% to 1.00%<sup>2-5</sup>.

The risk factors for the heterotopic pregnancy are the same for the ectopic pregnancy, including tubal dysfunction, pelvic inflammatory disease, surgical manipulation of the uterus, previous ectopic pregnancy, infertility (which in itself can indicate tubal dysfunction)<sup>6</sup> and use of assisted reproduction techniques, the latter being an increasing risk factor in this scenario, being the main target of discussion in recent publications on heterotopic pregnancy<sup>2</sup>.

Ovarian pregnancy is the most common form of non-tubal ectopic pregnancy, occurring in about 0.5% to 3% of ectopic pregnancies, and its causes are not fully understood<sup>7</sup>. It is considered a gynecological emergency, being one of the main complications of pregnancy in the first trimester<sup>8</sup>.

According to the Spiegelberg criteria, an ovarian pregnancy is the one that occurs in the presence of a gestational sac in an ovarian position and partially surrounded by the ovarian parenchyma, this set being connected to the uterus by the ovarian ligament<sup>8</sup>.

The diagnosis of this condition usually occurs mainly during surgery, being still confused with a ruptured corpus luteum, requiring anatomopathological examination to close the diagnosis<sup>9</sup>.

In the case presented, we will see a heterotopic pregnancy in which the patient has an embryo implanted in the ovary (characterizing an ectopic ovarian pregnancy) and the other embryo in its typical place.

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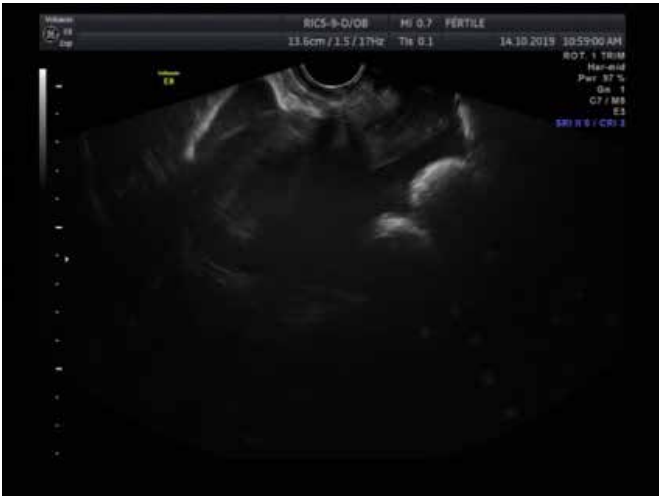
Patient, D.A.R, 37 years old, nulligravid, with complaint of infertility for two years, started monitoring to become pregnant after myomectomy by video hysteroscopy. After two months of the rest period, a measurement of plasma b-HCG was performed with a positive result. However, the patient presented with severe abdominal pain in the following week. The performance of transvaginal ultrasonography (US) showed the presence of free fluid in the abdominal cavity and the presence of a left adnexal mass with a diagnosis of ruptured ectopic pregnancy.

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**Figure 1: Obstetric ultrasound showing the presence of free fluid in the abdominal cavity**  
Source: Fértilé diagnósticos



**Figures 3 and 4: Healthy newborn**  
Source: Author's Files

Patient underwent laparoscopic surgical treatment. However, in the following week, she sought care because she reported continuation of gestational symptoms, and a new transvaginal US was performed. This showed the presence of a normal inserted gestational sac, indicating possible heterotopic pregnancy. The 6-week-old fetus was visualized the following week on a new obstetric USG. The evolution of topical pregnancy was usual, without complications.



**Figure 2: 12-week obstetric ultrasound**  
Source: Fértilé Diagnósticos

The delivery took place at term, with 39 weeks by cesarean section, a newborn male with 3,245 kg and APGAR 9 and 10.

## DISCUSSION

The challenge regarding HP is its diagnostic difficulty. In the case in question, for example, the ovarian pregnancy became evident (which is rare in itself, occurring in 1-3% of ectopic pregnancies and 0.15% of pregnancies as a whole) and only after its resolution and maintenance of the symptoms the eutopic pregnancy was suspected. Transvaginal ultrasound is the method of choice in the diagnosis of HP, which, being performed by an experienced professional, has important sensitivity in the diagnosis<sup>5</sup>. Laboratory tests fail to diagnose due to the presence of two overlapping pregnancies.

The case shows the importance of carrying out clinical follow-up, with armed propaedeutics, in the follow-up of patients after resolution of ectopic pregnancy, in addition to shedding light on the valorization of the patient's symptoms.

The management of an ectopic pregnancy is controversial and full of nuances. The objective is to preserve the life of the mother and the viable intrauterine fetus, which contraindicates conventional treatments for ectopic pregnancies, such as the use of methotrexate. The resolution of an ovarian pregnancy is usually done by oophorectomy, however conservative methods such as cystectomy or wedge resection have proven to be good in treating this condition. The laparoscopic approach is always preferred due to better recovery and less risk. However, in unstable patients or those who would have difficult access, laparotomy is the best option<sup>10</sup>. Early diagnosis and early treatment are key points in this regard because laparoscopic management leads to less manipulation of the pregnant uterus and better prognosis for viable pregnancy.

The case draws attention due to the fact that the eutopic pregnancy was only diagnosed after resolution of the ectopic pregnancy. The viability and conclusion of the

pregnancy show the importance of an adequate management of ectopic pregnancy and the case highlights the importance of excluding an ectopic pregnancy whenever possible, especially when there are risk factors for this, including the use of techniques of assisted reproduction having gigantic importance. It is alert to the fact of never disregarding an ectopic pregnancy due to the presence of eutopic pregnancy, the opposite being also true.

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