LANA EZIESHVILI, NATIA PKHALADZE, ZAHRAA KHAN MOHAMMAD,
SOFIA TAMAZASHVILI, NATIA MISIRELI

A SILENT THREAT OF SPONTANEOUS HETEROTOPIC PREGNANCY IN THE ABSENCE OF RISK FACTORS: A CASE STUDY

Tbilisi State Medical University, The First University Clinic; Georgia

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ლანა ეზიეშვილი, ნათია ფხალაძე, ზაჰრა ხან მოჰამად, სოფიო თამაზაშვილი, ნათია მისირელი

სპონტანური ჰეტეროტოპიული ორსულობის ჩუმი საფრთხე რისკ-ფაქტორების არარსებობის დროს: კლინიკური შემთხვევის შესწავლა

თბილისის სახელმწიფო სამედიცინო უნივერსიტეტი, პირველი საუნივერსიტეტო კლინიკა; საქართველო

რეზიუმე

ჰეტეროტოპიური ორსულობა საშვილოსნოსშიდა და საშვილოსნოსგარე ორსულობის ერთდროული გამოვლინებაა. ეს იშვიათი მდგომარეობაა, განსაკუთრებით სპონტანური ჩასახვის დროს, მაგრამ მისი შემთხვევები გაიზარდა დამხმარე რეპროდუქციული ტექნოლოგიების (ART) გამოყენებისას. ადრეული დიაგნოზი კრიტიკულად მნიშვნელოვანია ისეთი გართულებების თავიდან ასაცილებლად, როგორიცაა გასკდომა და სისხლდენა. ჩვენ წარმოგიდგენთ 30 წლის ქალის შემთხვევას, რომელსაც არ ჰქონდა დამხმარე რეპროდუქციული სისტემის ან რისკ-ფაქტორების ისტორია და რომელიც ორსულობის მე-6 კვირაზე უჩიოდა სისხლდენას და კუჭის ტკივილს. ტრანსვაგინალური ულტრაბგერითი გამოკვლევით გამოვლინდა როგორც სიცოცხლისუნარიანი საშვილოსნოსშიდა ორსულობა, ასევე მარჯვენა მილის საშვილოსნოსგარე ორსულობა. ნაყოფის გულის აქტივობა და თავისუფალი სითხე მიუთითებდა გასკდომაზე. გადაუდებელი ლაპარასკოპიული სალპინგექტომიის შემდეგ, პაციენტის საშვილოსნოსშიდა ორსულობა ყოველგვარი პრობლემების გარეშე წარიმართა და ჯანმრთელი დროული ბავშვი დაიბადა. ეს შემთხვევა აჩვენებს სასწრაფო ქირურგიული ჩარევების მნიშვნელობას დედისა და ნაყოფისთვის დადებითი შედეგის უზრუნველსაყოფად, ასევე ჰეტეროტოპიური ორსულობის მაღალი ინდექსის ეჭვის შენარჩუნების აუცილებლობას ადრეულ სიმპტომურ ორსულობებში, რისკის პროფილის მიუხედავად.

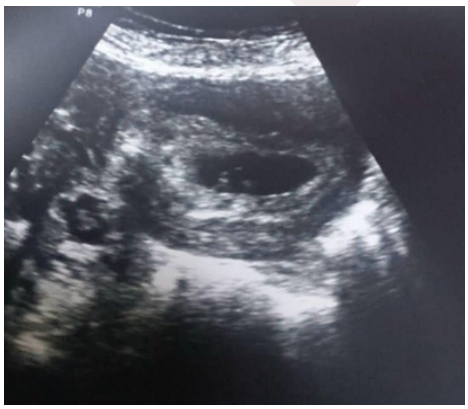
INTRODUCTION: Heterotopic pregnancy is a pathogenic type of dizygotic, biovular twin pregnancy in which two distinct implantation sites occur simultaneously, with one egg entering the uterus and the other halting its progression [1,5]. The two pregnancies are typically extrauterine and intrauterine, respectively [1]. An ovulatory defect or a discrepancy in the two embryos' rates of migration due to the fallopian tube's delayed capture of the fertilized egg could be the cause. It frequently happens as a result of assisted reproductive methods rather than natural conception [5]. The incidental discovery of intrauterine pregnancy was first reported by Duverney in 1708 while conducting an autopsy on a patient who had died from a ruptured ectopic pregnancy. It is a potentially fatal illness that is easy to overlook, challenging to identify, and affects 1 in 30,000 people in the general population [4]. Risk factors for heterotrophic pregnancy are similar to those for ectopic pregnancy, including smoking, a history of ectopic pregnancy, inflammatory pelvic disease, STIs, fallopian tube surgery, abdominal surgery, endometriosis, infertility treatments, and some forms of contraception. These factors raise suspicion in women at high risk for ectopic pregnancy, low risk women with IU gestation, and those exhibiting acute abdominal pain and shock [3,5]. Tubal diseases, such as infection, tubal surgery, prior ectopic pregnancy, and sterilization, were suggested to be the most important risk factors for heterotrophic pregnancy, with 71% of patients having at least one risk condition. Endometriosis, ovarian factors, zygote abnormalities, unilateral salpingectomy, exogenous hormones, and pelvic abnormalities are the most frequent causes.

The quantity of embryos transferred, the volume of the transfer, the number of embryos transferred, the ovarian hyperstimulation medications, and the contractions caused by the transfer catheter can all have an impact on the rates of heterotopic pregnancy following IVF [6].

In the first trimester, undiagnosed ectopic pregnancy can produce severe abdominal pain and is associated with vaginal bleeding. Because the intrauterine pregnancy conceals the ectopic pregnancy, diagnosing a heterotopic pregnancy after a positive pregnancy test is frequently quite challenging. A lower level of the β-subunit of human chorionic gonadotropin (HCG) may indicate ectopic pregnancy, although beta human chorionic gonadotrophin hormone may not be beneficial because the two pregnancies are in different areas [1,2,5]. By detecting intrauterine and extrauterine pregnancy, endovaginal ultrasonography provides an accurate diagnosis in 88.9% of cases. If this is not clear, an exploratory laparoscopy may then be carried out [5]. Even with high-resolution ultrasound imaging and doppler, women with ectopic pregnancy risk factors and low-risk women with IU gestation who have free fluid with or without an adnexal mass, or who experience acute abdominal pain and shock, are frequently suspected, and the diagnosis is typically made based on the presence of abdominal symptoms [2,3]. The intrauterine pregnancy, abdominal cavity and adnexa of pregnant women with abdominal pain should be completely investigated to rule out the possibilities of miscarriage, ectopic pregnancy, intrauterine pregnancy with hemorrhagic corpus luteum, and adnexal torsion. Non-gynecological causes, such as appendicitis, cholecystitis, bowel obstruction or pancreatitis. In a case report, a triad of abdominal pain, amenorrhea and vaginal bleeding was observed in all patients who presented with heterotrophic pregnancy [5].

Surgical intervention is the treatment of choice to remove the extrauterine pregnancy while the intrauterine pregnancy is preserved and fetal prognosis remains reserved and uncertain after treatment as about 35% eventually develop into miscarriages [5]. Most often, the diagnosis of heterotrophic pregnancy is made too late, which results in rupture and eventually hemoperitoneum. Therefore, early intervention is necessary to prevent serious maternal complications [5]. Hence, we present a case of a spontaneous heterotopic pregnancy diagnosed via transvaginal ultrasound in a patient presenting with acute abdominal pain.

CASE PRESENTATION: A 30-year-old woman, gravida 2 para 1, presented to the emergency department with lower abdominal pain and mild vaginal spotting at 6 weeks of gestation. She had no history of ART, pelvic inflammatory disease (PID), or previous ectopic pregnancy. Her vitals were stable. On abdominal examination, she had mild tenderness in the right lower quadrant. Her transvaginal ultrasound showed Viable intrauterine gestation (single fetus, appropriate crown-rump length, cardiac activity present), Right adnexal mass (30 mm) with a gestational sac and fetal cardiac activity and Free fluid in the pouch of Douglas, suggesting possible rupture. From the above investigation, she was diagnosed with Spontaneous heterotopic pregnancy with an intrauterine and right tubal ectopic pregnancy.



This is an ultrasound image (likely transvaginal or transabdominal) showing what appears to be an intrauterine gestational sac with a yolk sac inside. The round, anechoic (black) structure in the center suggests a gestational sac, and the echogenic ring-like structure within it is the yolk sac — a normal finding in early pregnancy (around 5–6 weeks gestation). Given the presence of a viable intrauterine pregnancy, medical management with methotrexate was not an option. The patient underwent emergency laparoscopic right salpingectomy due to

the risk of rupture. The intrauterine pregnancy remained viable postoperatively. On follow up, the patient had an uneventful recovery and the intrauterine pregnancy progressed without complications, resulting in the delivery of a healthy neonate at term.

DISCUSSION: About 8–12% of people worldwide suffer from infertility, and improvements in infertility treatment combined with the causes of infertility can lead to multiple, ectopic, and heterotopic pregnancies, with the fallopian tubes, ovaries, pelvis, and abdomen being the typical sites [6]. Diagnosing heterotopic pregnancy might be difficult since its symptoms frequently resemble isolated ectopic pregnancy or impending termination. The identification of an ectopic pregnancy may be delayed due to a false sense of security caused by the existence of an intrauterine pregnancy. It is crucial to have a high level of clinical suspicion, particularly in symptomatic patients.

There are two types of risk factors: ovulation induction and assisted reproductive technologies (ART) and risk factors for ectopic pregnancy, which include history of infertility, STIs, intrauterine devices, smoking, hormonal contraception, and pelvic surgery [4]. Furthermore, because multiple gestations or a strong family history of multiple gestations may carry risks of heterotrophic pregnancies, women who are at a higher risk of conceiving multiple gestational pregnancies should be closely monitored and receive frequent prenatal visits throughout the duration [7]. Numerous variables, including the location of the extrauterine pregnancy and the mother's condition at the time of admission, affect the intrauterine pregnancy's fate. When compared to the areas in interstitial ectopic sac, it was shown that the results for intrauterine pregnancies were better when the extrauterine pregnancies were situated in the fallopian tube [5]. The location of the pregnancy, patient status, and personal preference will determine whether to use a laparoscopic or conventional method; nonetheless, minimal intraoperative uterine manipulation is recommended to avoid ruptures and damage to the intrauterine pregnancy. When hemoperitoneum is present, immediate surgical intervention is recommended [5].

Furthermore, because multiple gestations or a strong family history of multiple gestations may carry risks of heterotrophic pregnancies, women who are at a higher risk of conceiving multiple gestational pregnancies should be closely monitored and receive frequent prenatal visits throughout the duration [7].

CONCLUSION: Heterotopic pregnancy though rare in spontaneous conceptions poses high diagnostic and therapeutic challenges, especially when no traditional risk factors or ART are involved. Abdominal pain, vaginal bleeding, an elevated risk of tubal rupture, hemoperitoneum, and maternal haemodynamic instability are common non-specific clinical characteristics that are challenging to detect due to the intrauterine pregnancy. Even in cases of spontaneous conception, this instance emphasizes the value of early ultrasound assessment in pregnant patients experiencing stomach pain. The main course of treatment is surgery, with laparoscopy being the recommended technique to remove the ectopic pregnancy. Life-threatening complications can be avoided and the intrauterine pregnancy preserved with prompt surgical care. Early detection by transvaginal ultrasonography and prompt surgery can save lives and maintain the viability of an intrauterine pregnancy, lowering the mother's and the fetus's morbidity and mortality.

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SUMMARY

Heterotopic pregnancy (HP) is the simultaneous occurrence of intrauterine and extrauterine pregnancies. It is a rare condition, particularly in spontaneous conceptions, but its incidence has increased with assisted reproductive technologies (ART). Early diagnosis is critical to prevent complications such as rupture and hemorrhage. We report the case of a 30-year-old woman who had no history of assisted reproduction or risk factors and who had complained of spotting and stomach pain at 6 weeks of pregnancy. Both a viable intrauterine pregnancy and a right tubal ectopic pregnancy were detected by transvaginal ultrasonography. Fetal heart activity and free fluid suggested rupture. Following an emergency laparoscopic salpingectomy, the patient's intrauterine pregnancy proceeded without any issues, and a healthy term baby was delivered. This case demonstrates the value of urgent surgical interventions to ensure a positive outcome for both the mother and the fetus, as well as the necessity of keeping high index suspicion for heterotopic pregnancy in symptomatic early pregnancies, regardless of risk profile.

Keywords: Case study, Silent Threat, Spontaneous Heterotopic Pregnancy, Risk Factors