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Case Report

Spontaneous heterotopic pregnancy: a rare possibility

Komal N. Chavan, Lalita N. Mayadeo, Priya N. Sontakke*, Heena V. Rathod

Department of Obstetrics and Gynaecology, V. N. Desai Municipal General Hospital Santacruz, Mumbai, Maharashtra, India

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*Correspondence:

Dr. Priya N. Sontakke,

E-mail: priyasontakke.ps@gmail.com

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ABSTRACT

Heterotopic pregnancy is defined as a condition when intrauterine and extrauterine pregnancy occur simultaneously. It is a life-threatening condition that requires immediate and accurate diagnostics and treatment. We present the case of a 34-year-old multigravida in her 7 weeks of gestation came to emergency ward with complains of pain in abdomen for 3 days. Ultrasonographic examination showed a live intrauterine pregnancy and mild to moderate free fluid in abdomen with moving internal echoes. An emergency exploratory laparotomy done and left sided tubal ectopic removed along with right salpingectomy as patient was willing for family planning. A high index of suspicion is required to diagnose Heterotopic pregnancy as clinical as well as radiological findings may be insufficient for diagnosis.

Keywords: Heterotopic pregnancy, Extrauterine pregnancy, Exploratory laparotomy

INTRODUCTION

Heterotopic pregnancy (HP) was first described in 1708 by Duverney. It is defined as rare condition when intrauterine and extrauterine gestations coexist. Theoretically calculated incidence of a spontaneous HP is approximately 1 in 30,000.¹ With advent of assisted reproduction techniques (ART) and ovulation induction, the overall incidence of HP has risen to approximately 1 in 3,900 pregnancies.² Early diagnosis is often extremely difficult because intrauterine pregnancy masks ectopic pregnancy.³ Transvaginal ultrasound is key for diagnosing HP.^{4,5} However, it continues to have low sensitivity because diagnosis is often missed/overlooked.^{6,7} Therefore, the diagnosis is often delayed leading to serious consequences.

CASE REPORT

A 34-year-old female (Gravida 7, Living 3, Abortion 3) with 7 weeks of spontaneous conception came to labour ward with complain of pain in abdomen since 3 days. She had no complains of bleeding per vagina, giddiness, or syncopal attack. She came with USG showing single live intrauterine gestational sac of 6 weeks and 4 days with this there was fluid in bilateral flanks.

On detailed history, she had 3 vaginal live births by spontaneous conception with 3 spontaneous abortions. She was not using any method of contraception and had never undergone any surgery. On examination, her vitals were stable. Her abdomen was soft and non-tender with no guarding or rigidity. There was no vaginal bleeding. Per vaginal examination-uterus was 6-8 weeks and there was no cervical motion tenderness although there was left forniceal fullness present.

After looking at her clinical presentation we repeated her ultrasound scan to confirm findings which was suggesting single intrauterine live pregnancy of 7 weeks and 6 days. USG also revealed mild to moderate free fluid in cul-de sac having multiple moving echoes within.

Patient was investigated further with all routine blood investigations. Her haemoglobin was 7.1 g/dl and platelet count were $1.32 \times 10^3 / \mu\text{l}$. Her liver function tests, kidney function tests and coagulation profile were normal. Her β -hCG was 152043 mlu/ml.

Contrary to USG findings, clinical picture was showing probability of ruptured haemorrhagic cyst or ruptured tubal ectopic. Patient and relatives were explained

regarding presence of intrauterine and extrauterine pregnancy. Patient and husband were insisting on not continuing intrauterine pregnancy. Consent for exploratory laparotomy taken along with MTP consent.



Figure 1: USG findings.

Patient transfused with 1 pint of PRC and taken for exploratory laparotomy under spinal anaesthesia with one PRC in hand. Abdomen was opened by a 5 cm transverse incision till peritoneum. Upon opening, there was altered dark red coloured clots up to 150 cc in pouch of Douglas. Uterus and bilateral fallopian tubes examined. There was evidence of approximately 3×4 cm unruptured gestational sac at the left fallopian tube in process of tubal abortion. Bilateral fallopian tubes were very long and thin. Left sided partial salpingectomy with removal of ectopic mass was done.

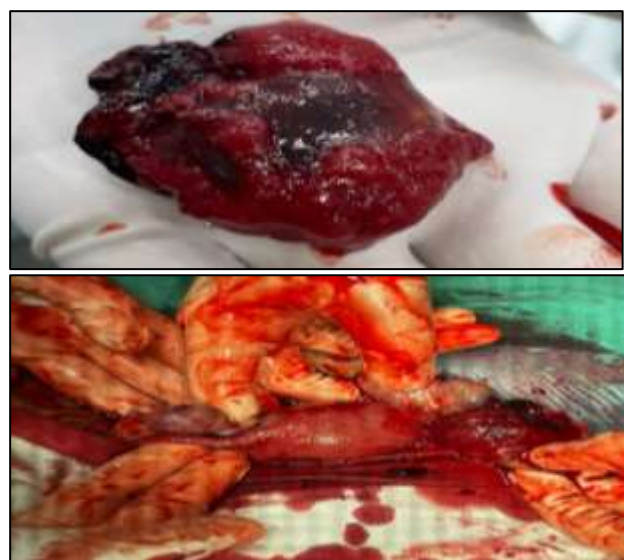


Figure 2: Removal of ectopic mass.

As patient had completed her family and was not willing for further child bearing, right partial salpingectomy done with prior consent along with dilatation and evacuation. All samples were sent for histopathological examination. Irrigation and suction was done. Abdomen closed after confirming haemostasis. Patient was transfused with one more pint PRC. Patient tolerated procedure well. Post operative, patient was stable and discharged on operative day 4.

DISCUSSION

HP is defined as a multiple gestation with one embryo inside the uterus and other one elsewhere. This condition has become more and more common and relevant because of widespread assisted reproductive technologies (ARTs) and ovarian stimulation for infertility treatment.^{8,9} Other risk factors for HP are pelvic inflammatory disease (PID), pelvic surgery, and previous fallopian tube damage or pathology.⁹ Our patient did not have any of these risk factors and conceived spontaneously, which makes this case very rare and hard to detect.

Tal et al reported that 70% of all HP cases are diagnosed between five and eight weeks of gestation, 20% between 9 and 10 weeks, and only 10% after the 11th week.⁸ The symptoms of HP are nonspecific. HP can be asymptomatic in 24% of cases.^{10,11} Abdominal pain is the most frequent symptom of HP, though vaginal bleeding and hypovolemic shock are also common.^{10,11} Vaginal bleeding and hypovolemic shock often indicate the rupture of the EP and require urgent treatment. Our patient was admitted to the emergency room complaining of the pain in the abdomen with no other symptoms, which made diagnosis difficult.

The early diagnosis of HP is challenging because a raised serum β -hCG level with an intrauterine embryo seen on US leads one to think about normal intrauterine pregnancy, and almost no one examines for an EP if the patient is asymptomatic. When an intrauterine embryo like structure is found, it is crucial to inspect the adnexa of the uterus and to record it. Almost half HP cases are detected during emergency laparotomies due to tubal ruptures.¹⁰ Combined serum β -hCG measurement and TVUS improve the diagnostic sensitivity of HP.⁹ TVUS has been found to be better in early diagnosis compared to transabdominal US. It detects almost 70% of cases between the fifth and eighth weeks of gestation.¹² The visualization of the embryonic cardiac activity of ectopic pregnancy and of intrauterine embryo constitute a pathognomonic sign of HP.¹³

The treatment of HP will depend on the condition of the patient, the size and site of the extrauterine pregnancy, if she has had previous pregnancies, the viability of the intrauterine and extrauterine gestation, and the experience of the doctors.¹⁴ The main objective is to terminate the extrauterine pregnancy without affecting the viable intrauterine pregnancy. Management includes several options from watchful waiting to ultrasound-guided local injection of potassium chloride or hyperosmolar glucose.

The use of methotrexate is contraindicated in the presence of a live intrauterine pregnancy. Laparoscopy remains the definitive method of extrauterine pregnancy. Laparotomy has been reserved for patients with hemoperitoneum and hemodynamic instability.¹⁵⁻¹⁹

CONCLUSION

Spontaneous HP is extremely rare finding especially in today's era of ART with diagnostic challenges. All pregnant women presenting with abdominal pain or vaginal bleeding in first trimester, should be suspected of HP even if the conception is spontaneous. Combined serum human chorionic gonadotropin measurements and transvaginal ultrasonography are efficient for diagnosing HP. During ultrasound examination, it is very important to check along with the uterus, the adnexa and pelvis thoroughly. Treatment options include several different methods from observation to surgery and should be chosen depending on the clinical situation.

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