

Case Report

Citation: Sitheequ F, Chathuranga SLP, Udupihille J, 2024. Heterotopic Pregnancy Complicated by Rupture: A Case Report. Sri Lanka Journal of Medicine, pp 53 – 56.
DOI: <https://doi.org/10.4038/sljm.v33i2.484>

Heterotopic Pregnancy Complicated by Rupture: A Case Report

F Sitheequ, SLP Chathuranga, J Udupihille

Department of Radiology, Faculty of Medicine, University of Peradeniya

Correspondence:

SLP Chathuranga

E mail: prabathrc@gmail.com

 <https://orcid.org/0000-0002-7696-7379>

ABSTRACT

Heterotopic pregnancies are rare occurrences of a simultaneous intrauterine and extrauterine pregnancy. Ectopic pregnancy is not an uncommon occurrence in women of reproductive age, however heterotopic pregnancy is a rare event, with an incidence of approximately 1/30,000 of natural conceptions. With the increasing use of assisted reproduction techniques, however, the incidence increases significantly.

The main differential diagnoses for a female patient in the reproductive age group, presenting with per vaginal bleeding, lower abdominal pain or in shock include a ruptured ectopic pregnancy, ovarian cyst accident or miscarriage. A high index of suspicion is necessary to detect heterotopic pregnancies during the early pregnancy period particularly in natural conception.

We present a case of rupture complicating a heterotopic pregnancy in a patient with natural conception.

Keywords: *Heterotopic pregnancy, adnexal mass, lower abdominal pain, ectopic pregnancy*

INTRODUCTION

Heterotopic pregnancies are rare occurrences of a simultaneous intrauterine and extrauterine pregnancy. Most heterotopic pregnancies are diagnosed between 5 and 8 weeks of gestation (1).

The incidence is approximately 1:30,000 of natural conception pregnancies or 0.08% of all pregnancies (1). With the increasing use of assisted reproduction techniques, the incidence increases significantly (2). Heterotopic pregnancy was first described in 1708 by Duverney [3]. It rarely occurs after natural conception but is more common in IVF (in vitro fertilization), when more than one embryo is transferred [4]. Although ectopic pregnancy is not uncommon in women of reproductive age group, heterotopic pregnancy is

a rare event, and the incidence is approximately 1/30,000[1]. Therefore, the number of cases of heterotopic pregnancy reported in the literature is limited. We present an interesting and thought-provoking case as there were multiple rarities related to this case.

CASE REPORT

A 37 - year - old primigravida, with a period of amenorrhoea of 8 weeks presented with acute, severe lower abdominal pain. She was known to be pregnant and had had an ultrasound scan at 7 weeks confirming an intrauterine gestation. On examination, she was in shock and



hemodynamically unstable. A FAST scan was performed, and moderate volume free fluid was identified. Intraperitoneal haemorrhage was suspected, and an urgent ultrasound scan (USS) was requested. (Figure 01)

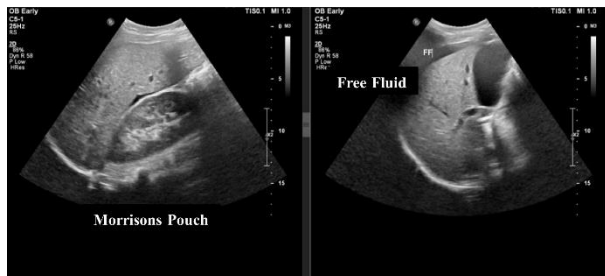


Figure 1: Moderate volume of free fluid in the abdomen and pelvis, including perihepatic fluid in the subphrenic space or Morrison's pouch and pouch of Douglas

On USS, a moderate volume free fluid with low level internal echoes was present in the right subphrenic recess, Morrison's pouch and in the pouch of Douglas, and a haematoma was visualised in the pelvis.

An intrauterine gestation with a crown - rump length (CRL) of 18.6 mm was visualised, which was compatible with a gestational age of 8 weeks and 2 days. A foetal heart rate of 172 beats per minute was recorded. (Figure 02)



Figure 2: Intrauterine Gestational Sac is visualized

In the left adnexa there was a thick-walled sac with a live foetus measuring a CRL of 16.3 mm compatible with a gestational age of 8 weeks and a foetal heart rate of 165 beats per minute was recorded. (Figure 03)



Figure 3: Left adnexal ectopic pregnancy with live foetus. Note the limb buds also identifiable

An intrauterine pregnancy and a simultaneous live left tubal ruptured ectopic pregnancy were diagnosed on USS consistent with a heterotopic pregnancy. (Figure 04)



Figure 4: A foetal heart rate of 165 beats per minute was recorded in the ectopic pregnancy.

The patient was immediately taken to the operating theatre and salpingectomy performed and the ectopic gestation removed. The intra-uterine gestational sac was preserved. A follow up USS 2 weeks later demonstrated appropriate interval growth of the intrauterine foetus.

DISCUSSION

The main differential diagnoses for a female patient in the reproductive age, presenting with per vaginal bleeding, lower abdominal pain or in shock include a ruptured ectopic pregnancy, ovarian cyst accident or miscarriage. Heterotopic pregnancies are generally not considered in the differential list.

Although heterotopic pregnancy is a relatively more common occurrence with assisted fertilization techniques / ovulation induction (5), other risk factors for heterotopic pregnancy are pelvic inflammatory disease, pelvic surgery, and previous fallopian tube damage or pathology (3). However, in this case the patient did not have any of the above-mentioned risk factors and also had had a natural conception.

On USS, ectopic pregnancies are commonly seen as an adnexal mass (6) and it is uncommon to see a morphologically well-formed foetus with limb buds and a measurable CRL in an ectopic pregnancy, as in the case of our patient.

It is reported that 70% of all heterotopic pregnancy cases are diagnosed between 5th and 8th weeks of gestation, 20% between 9th and 10th weeks, and only 10% after the 11th week (7).

The symptoms of heterotopic pregnancy are nonspecific. Patients can be asymptomatic in 24% of cases (8,9). Abdominal pain is the most frequent symptom of heterotopic pregnancy, though vaginal bleeding and hypovolemic shock are also common (8,9). Vaginal bleeding and hypovolemic shock often indicate the rupture of the ectopic pregnancy and require urgent treatment.

Most unruptured ectopic pregnancies are managed medically, but heterotopic pregnancy even when unruptured requires surgery whilst trying to preserve and protect the intrauterine pregnancy (1). Heterotopic pregnancy should therefore be included on the list of differentials in a pregnant woman presenting with severe acute abdominal pain, per vaginal bleeding or signs of shock and it is important to check the adnexa for evidence of heterotopic pregnancy on ultrasonography.

Author declaration

Authors' contributions:

Study concept and design: F.S.
Analysis, and interpretation of data: F.S.
Drafting of the manuscript: F.S., J.U., S.L.P.C.

Conflicts of interest:

The authors declare that there is no financial or non-financial conflict of interest.

Funding statement:

Self-funded

Consent for publication:

Informed verbal consent was obtained from the patient for publication of this study.

REFERENCES

1. Hassani KM, el Bouazzaoui A, Khatouf M, Mazaz K. Heterotopic pregnancy: A diagnosis we should suspect more often. *J Emerg Trauma Shock*. 2010;3: 304. doi:10.4103/0974-2700.66563
2. Govindarajan M, Rajan R. Heterotopic pregnancy in natural conception. *J Hum Reprod Sci*. 2008;1: 37. doi:10.4103/0974-1208.39595
3. Černiauskaitė M, Vaigauskaitė B, Ramašauskaitė D, Šilkūnas M. Spontaneous Heterotopic Pregnancy: Case Report and Literature Review. *Medicina (B Aires)*. 2020;56: 365. doi:10.3390/medicina56080365
4. Cimpoca B, Moldoveanu A, Gică N, Gică C, Ciobanu AM, Panaitescu AM, et al. Heterotopic Quadruplet Pregnancy. Literature Review and Case Report. *Medicina (B Aires)*. 2021;57. doi:10.3390/medicina57050483
5. Varras M, Akrivis C, Hadjopoulos G, Antoniou N. Heterotopic pregnancy in a natural conception cycle presenting with tubal rupture: a case report and review of the literature. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2003;106: 79–82. doi:https://doi.org/10.1016/S0301-2115(02)00154-9
6. Condous G, Okaro E, Khalid A, Lu C, van Huffel S, Timmerman D, et al. The accuracy of transvaginal ultrasonography for the diagnosis of ectopic pregnancy prior to surgery. *Human Reproduction*. 2005;20: 1404–1409. doi:10.1093/humrep/deh770
7. Wallach EE, Tal J, Haddad S, Gordon N, Timor-Tritsch I. Heterotopic pregnancy after ovulation induction and assisted reproductive technologies: a literature review from 1971 to 1993. *Fertil Steril*. 1996;66: 1–12. doi:10.1016/S0015-0282(16)58378-2
8. Nabi U, Yousaf A, Ghaffar F, Sajid S, Ahmed MMH. Heterotopic Pregnancy - A Diagnostic Challenge. Six Case Reports and Literature Review. *Cureus*. 2019. doi:10.7759/cureus.6080
9. Rojansky N, Schenker JG. Heterotopic pregnancy and assisted reproduction—an update. *J Assist Reprod Genet*. 1996;13: 594–601. doi:10.1007/BF02066615