

Heterotopic pregnancy in a spontaneous conception presenting as a complex adnexal mass

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ABSTRACT

Heterotopic pregnancy (HP), although common with assisted reproductive techniques, is very rare in spontaneous conceptions. We report the case of a HP in a 41-year-old lady who presented to us with a viable intrauterine pregnancy and an adnexal mass. The ectopic pregnancy was not suspected at her initial presentation. Although cases of HP presenting with ruptured ectopic pregnancy have been reported, HP presenting as pregnancy with a complex adnexal mass with no signs of acute abdomen (chronic ectopic) is rare and has not been reported in Brunei Darussalam. A high index of suspicion is needed to diagnose HP in a low risk woman conceiving spontaneously.

Keywords: Heterotopic pregnancy, adnexal mass, diagnosis, ectopic, ultrasound, magnetic resonance imaging

INTRODUCTION

The coexistence of intrauterine and extra uterine pregnancy, also known as HP, can occur in different forms such as intrauterine and tubal, abdominal, cornual, cervical or ovarian pregnancy. A previous review showed that most of the extra uterine pregnancies were located in the fallopian tube (72.5%).¹ HP a rare condition, seen in 1 in 30,000 of spontaneous conceptions. With the increasing use of assisted reproductive techniques (ART), the frequency of HP has been reported to be as high as 1 in 100.² HP can be a potentially fatal condition with high risk of maternal morbidity or even mortality, especially if there is a delay in diagnosis and manage-

ment. We report the case of HP in a clinically stable patient with low risk factors, who presented with an intrauterine pregnancy and a complex adnexal mass. Imaging were inconclusive and the diagnosis could only be confirmed on histopathological examination.

CASE REPORT

A 41 years old Bruneian lady presented to the Accident and Emergency department at around nine weeks of gestation with threatened miscarriage and mild lower abdominal pain. She previously had deliveries and her last childbirth was ten years ago. She did not use any contraception in the interim. There were no high risk factors for having an ectopic pregnancy.

On examination, there was a palpable

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Figs. 1: a) A Magnetic resonance imaging (Sagittal T2 weighted) showing a well circumscribed hyperintense solid lesion posterior to the uterus (arrow) and the foetus can be seen within the uterus (arrowhead), b) Axial T2 w image showing the mass in pouch of Douglas (arrow), separate from the uterus (arrowhead), and c) Fallopian tube lumen containing ghost villi (products of conception) entangled in blood clot (4x H&E stain).

uterus of about 14 week's size. There were no signs suggestive of an acute abdomen. A transvaginal ultra sound (TVS) showed a viable pregnancy with an ill-defined mass in the pouch of Douglas (POD) having a mixed echogenicity, with a size of 6.1 x 4.4 cm with no free fluid. The preliminary diagnosis was that of a viable intrauterine pregnancy with a left adnexal mass, possibly a fibroid or an ovarian mass. She was managed conservatively as there were no signs of acute abdomen and baseline tumour markers were ordered. Her Carbohydrate antigen (CA) 125 was 48.8 IU/ml (Normal <25) and rest of the markers were within normal limits. She was discharged from the ward and the plan was to follow up in clinic two weeks later with a repeat scan with the Department of Radiology for second opinion.

Ultrasound scan (USS) done in the Department of Radiology two weeks later corroborated our TVS findings of a gravid uterus with single viable pregnancy. The right ovary was normal in size and configuration. A complex left adnexal mass with heterogenic echo-

genicity measuring 7.6 x 5.2 x 5.2 cm was noted. The mass was reported to be either of uterine or left ovarian origin. No free fluid was noted.

The patient was advised Magnetic Resonance Imaging (MRI), as repeated ultrasounds could not differentiate, whether it was a fibroid or an ovarian mass. MRI was performed without contrast as the patient was pregnant. The findings were, an oval mass 7.2 x 5.4 x 7.3 cm in POD, abutting the left ovary. The fat planes between the mass and uterus were well defined and thus confirming extra uterine location. The mass was well encapsulated and showed low T1 and high T2 signal. Impression was of a left ovarian or para ovarian cyst along with a viable intrauterine pregnancy (Figures 1a and 1b).

Two weeks later, a repeat ultrasound confirmed, a viable intrauterine pregnancy of about 12 ± 3 weeks with a 9.5 x 5.55 cm mass in POD. She was counseled for surgery in view of pregnancy with an ovarian mass, which was increasing in size.

On laparotomy, uterus was 14 weeks size and left fallopian tube was about 2 cm dilated at the ampullary region which was suspected to be an ectopic pregnancy with a cyst of 7 cm containing organised blood clot and products of conception in the POD. This cyst was well encapsulated with a thick wall. Both ovaries appeared normal. POD was obliterated with adhesions. No ascites or haemoperitoneum was noted. A left salpingectomy was done and the left fallopian tube along with the POD cyst was sent for histopathology. The patient made an unremarkable recovery from the surgery and was discharged from the hospital on fourth post-operative day.

Histopathology of the specimen confirmed left tubal ectopic pregnancy, while the POD cyst showed organised blood clots only (Figure 1c). The patient was followed up regularly in the antenatal clinic. The remaining antenatal period was uneventful. Patient had an elective caesarean delivery and right tubal ligation at 38 weeks due to breech presentation, after refusing external cephalic version.

DISCUSSION

Early diagnosis of HP is often challenging if there are lack of clinical signs and symptoms. There can be diagnostic confusion due to overlap of pregnancy related problems.²

Adequate history taking is important to identify the risk factors for HP such as fertility treatment and tubal pathologies like pelvic inflammatory disease, endometriosis or previous tubal surgeries. Patients with previous ectopic pregnancy or patients using intra-uterine contraceptive device are also at increased risk.¹ In contrast, the case reported

had no known high risk factors for having HP.

The four most common clinical signs of HP are abdominal pain, adnexal mass, peritonism, uterine size larger than period of gestation.³

Although there has been a case report of HP in a natural conception presenting with an adnexal mass with moderate amount of free fluid in abdomen giving a suspicion of tubal rupture, the present case differs in presentation with no signs of peritonism.⁴

With an increase in assisted conception the likelihood of detecting HP will increase but a missed or delayed diagnosis of spontaneous HP remains a diagnostic dilemma and a challenge for obstetricians.

In a case series of HP (n=13), only one occurred in spontaneous conception, six with ovulation induction and six with in-vitro fertilisation (IVF). Of the patients, 54% were asymptomatic and 69% were detected by USS at a mean gestational age of eight weeks at the time of diagnosis. All the patients underwent surgery out of which 77% of the patients had laparoscopic surgery. Ten patients underwent salpingectomy while three had salpingostomy.⁵ In contrast, a comparative study of 192 cases showed that only a third of the cases of HP were picked up by ultrasound pre-operatively.¹ The only pathognomonic sign of HP is simultaneous visualisation of extra uterine and intrauterine foetal pole with cardiac motion, which occurs only in 10% cases.⁶

MRI was done in this case as ultrasound was inconclusive in diagnosing the real

nature of the adnexal mass. Although MRI is used in pregnancy for various indications but there is none reported in a patient with HP to our knowledge.

MRI is considered safe in pregnancy and is the procedure of choice for certain conditions. It provides better tissue characterisation, allowing for more accurate evaluation of large masses that are difficult to be completely visualized on USS. ⁷ MRI should be considered as a useful adjunct when ultrasound is inconclusive or insufficient to guide management of adnexal masses discovered in pregnancy. ⁸

A high index of suspicion followed by early surgical intervention can minimise maternal morbidity and preserve the developing intra uterine pregnancy. ⁹

The present case highlights the limitations of imaging studies in the diagnosis of HP which was later picked up by histological examination. The findings of intrauterine pregnancy were a red herring and led to false assurances.

In conclusion every clinician treating women of reproductive age should be aware of possibility of HP. It can occur in the absence of any predisposing risk factors and a high index of suspicion is required for its diagnosis.

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REFERENCES

- 1:** Barrenetxea G, Barinaga RL, Lopez LA, Agirregoikoa JA, Mandiola M, Carbonero K. Heterotopic pregnancy: two cases and a comparative review. *Fertil Steril* 2007; 87:417.e9-15.
- 2:** Tng CK, George M. Think heterotopic: A case report of heterotopic pregnancy detected on thorough ultrasonography. *J Med Cases* 2012; 3:326-8.
- 3:** 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. *Eur J Obstet Gynecol Reprod Biol* 2003; 106:79-82.
- 4:** MJ G, R R. Heterotopic pregnancy in natural conception. *J Hum Reprod Sci* 2008; 1:37-8.
- 5:** Louis-Sylvestre C, Morice P, Chapron C, Dubuisson JB. The role of laparoscopy in the diagnosis and management of heterotopic pregnancies. *Hum Reprod* 1997; 12:1100-2.
- 6:** O' Brien MC, Rutherford T. Misdiagnosis of bilateral ectopic pregnancies: a caveat about operator expertise in the use of transvaginal ultrasound. *J Emerg Med.* 1993; 11:275-8.
- 7:** Yakasai IA, Bappa LA. Diagnosis and management of adnexal masses in pregnancy. *Surg J Tech Case Rep* 2012; 4:79-85
- 8:** Telischak NA, Yeh BM, Joe BN, Westphalen AC, Poder L, Coakley FV.. MRI of adnexal masses in pregnancy. *AJR Am J Roentgenol.* 2008; 191:364-70
- 9:** Nguyen-Tran C, Toy EC. Heterotopic pregnancy: viable twin intrauterine pregnancy with a viable right tubal ectopic pregnancy. *J Ultrasound Med* 2000; 19:355.