DUKE-NUS MEDICAL SCHOOL

KK WOMEN'S AND CHILDREN'S HOSPITAL

Heterotopic Pregnancy: An Important Differential for Adnexal Masses in Early Pregnancy

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Introduction

- Heterotopic pregnancy definition: when an intra-uterine pregnancy coexists with an ectopic gestation
- Exceedingly rare especially in spontaneous pregnancies, resulting in a higher threshold for diagnosis
- Recent shifts towards delayed parenthood, subfertility and higher in-vitro fertilisation (IVF) uptake have increased its incidence
- If a heterotopic pregnancy is undiagnosed and left untreated, it may cause massive haemorrhage, hypovolaemic shock and even death
- Yet, there are currently no formal guidelines regarding the investigation and management of spontaneous, and even IVF-related, heterotopic pregnancies
- Thus, maintaining a high index of suspicion when faced with early pregnancy complications is paramount to ensure early recourse to appropriate management

Study Aim:

To increase awareness of heterotopic pregnancies and contribute towards the development of structured methods to promptly recognise and manage this clinical entity.

Case: Mdm J

37 years old, G4P3

| Presenting Complaint |

Recurrent lower abdominal pain early in her fourth spontaneous pregnancy

| Notable Past Medical History |

(a) endometriosis

(b) ovarian vein thrombosis in a previous pregnancy

(c) recent Caesarean delivery (one year ago)

| Investigations |

(a) Ultrasound: live intra-uterine pregnancy with a complex, expanding right adnexal mass inseparable from the right ovary

(b) MRI: live intra-uterine pregnancy with persistent large adnexal mass

(c) Diagnostic laparoscopy at 12 weeks' gestation: large 10cm ruptured ectopic pregnancy found, for which a right salpingectomy was performed, with the intra-uterine pregnancy continuing to term

Figures

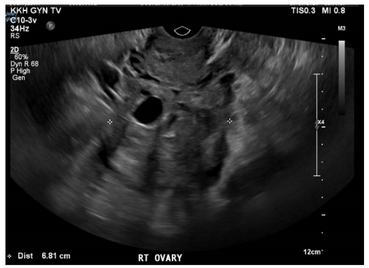

Figure 1: Our patient initially presented with lower abdominal pain at 7 weeks gestation. On initial ultrasound imaging, a viable intra-uterine foetus of 1.3cm (7.5 weeks gestational age) was seen, together with a 10cm x 5cm heterogenous mass inseparable from the right ovary, which was initially thought to be a haematoma.

Figure 2: She was readmitted two weeks later from the clinic with persistent abdominal pain and scan evidence of the intrauterine pregnancy. Interval ultrasound pelvis confirmed that the previously seen heterogeneous mass inseparable from the right ovary remained present.

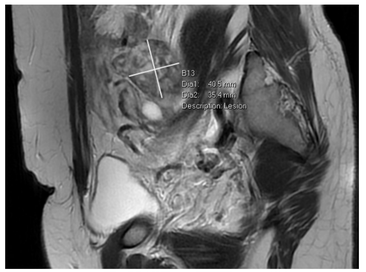

Figure 3: An MRI pelvis was then performed, demonstrating a live intra-uterine pregnancy with a persistent large right adnexal mass. A working diagnosis of a possible right ovarian cyst rupture with stable subacute haematoma was made.

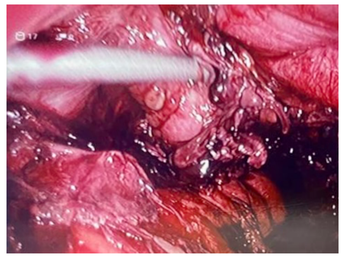

Figure 4: Given that the patient had an acute drop in haemoglobin from 12.6 to 10.7g/dL, the decision was made for diagnostic laparoscopy. Dense adhesions involving most of the pelvis, particularly along the sidewalls and ovarian fossa were seen. Laparoscopic views and access were further limited by a 12-week gravid uterus.

Figures 5 & 6: Intra-operatively, a 10cm right tubal ectopic pregnancy was seen with slow oozing from a point of rupture near the fimbrial end. This had resulted in extensive haemoperitoneum with clots occupying the entire pouch of Douglas and extending to the bilateral hypochondrial regions. A right salpingectomy was performed, with the intra-uterine pregnancy continuing to term.

Discussion

- Our patient had the classic constellation of a heterotopic pregnancy: lower abdominal pain, adnexal mass and risk factors of endometriosis and previous instrumentation
- However, the final diagnosis was only made post-operatively, weeks after her initial presentation
- This is likely due to:
  - A low index of suspicion (a. rare occurrence, b. non-IVF pregnancy)
  - The bleeding from the ruptured ectopic pregnancy was likely stemmed by the gravid uterus
- Heterotopic pregnancies can mimic other early pregnancy complications
- Symptoms are non-specific and existing diagnostic modalities are of variable sensitivity
- A high clinical index of suspicion is required as delayed diagnosis can be life-threatening

Conclusion

This rare and unique case demonstrates the potential for a heterotopic pregnancy to present sub-acutely and highlights the importance of early identification and instituting appropriate interventions to ensure timely and possibly life-saving treatment, especially in women who conceive spontaneously. A formal guideline for high risk women after spontaneous conception would be useful, particularly to raise awareness and consolidate existing knowledge on the relatively rare condition of heterotopic pregnancy.

References

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