The Inconspicuous and the Obvious: Spontaneous Heterotopic Pregnancies

A case series review of heterotopic and abdominal pregnancies over a 12-month period in our hospital.

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Introduction

Heterotopic pregnancy is a rare condition, more commonly seen in populations at risk for ectopic pregnancy or those undergoing fertility treatments. Heterotopic pregnancy is the simultaneous coexistence of an intrauterine and an extrauterine gestation (Chadee *et al.*, 2016). Duverney was the first to report heterotopic pregnancy, in 1708, after finding an intrauterine pregnancy during the autopsy of a woman who had died from a ruptured ectopic pregnancy (Avery *et al.*, 2009). By 1970, <500 cases had been reported (Smith *et al.*, 1970). The incidence of a heterotopic pregnancy is 1:30,000 pregnancies (Kirk *et al.*, 2013), and increases with the use of assisted reproductive treatment.

Case 1

Gestation : 6+2
Presentation: Spontaneous conception, LIF pain. Ultrasound Findings: Viable intrauterine pregnancy with a co-existing live ectopic pregnancy. Free fluid in the POD. Left adnexal mass representing the ectopic pregnancy .Outcome: Left salpingectomy at 6+3, and intrauterine pregnancy continued to term.

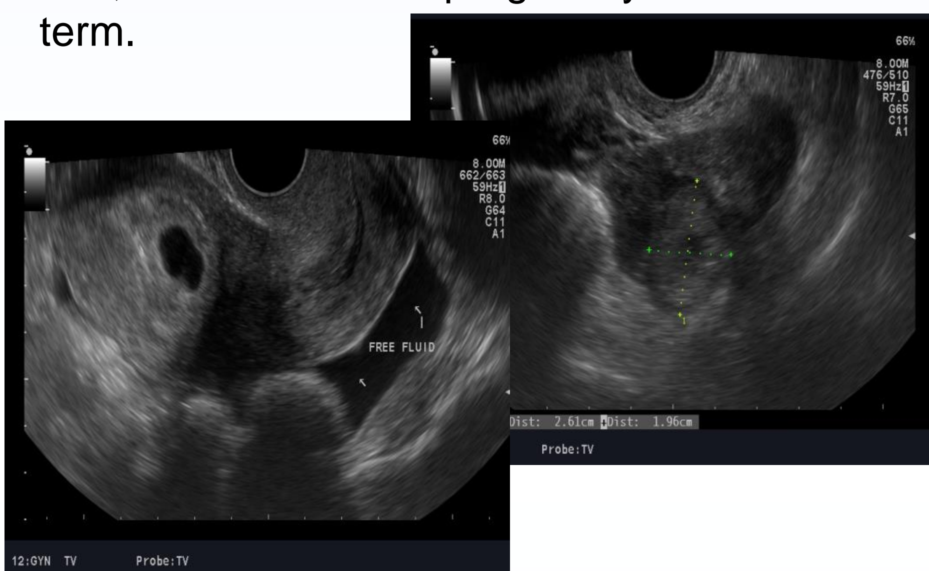


Figure 1: Intrauterine sac and left adnexal mass with free fluid

Case 2

Gestation: 11+4 spontaneous conception
Presented 28 days post ERPC for a missed miscarriage that was diagnosed at 7+4 weeks gestation with PV bleeding, abdominal pain and a positive hCG.
Ultrasound Findings: The intrauterine gestational sac (confirmed by histology) had been removed at ERPC and the ET was now 4.5mm with no evidence of RPOC. Left adnexal mass seen representing the ectopic pregnancy. Free fluid in the POD. Outcome: Left salpingectomy: tubal ectopic confirmed on histology.

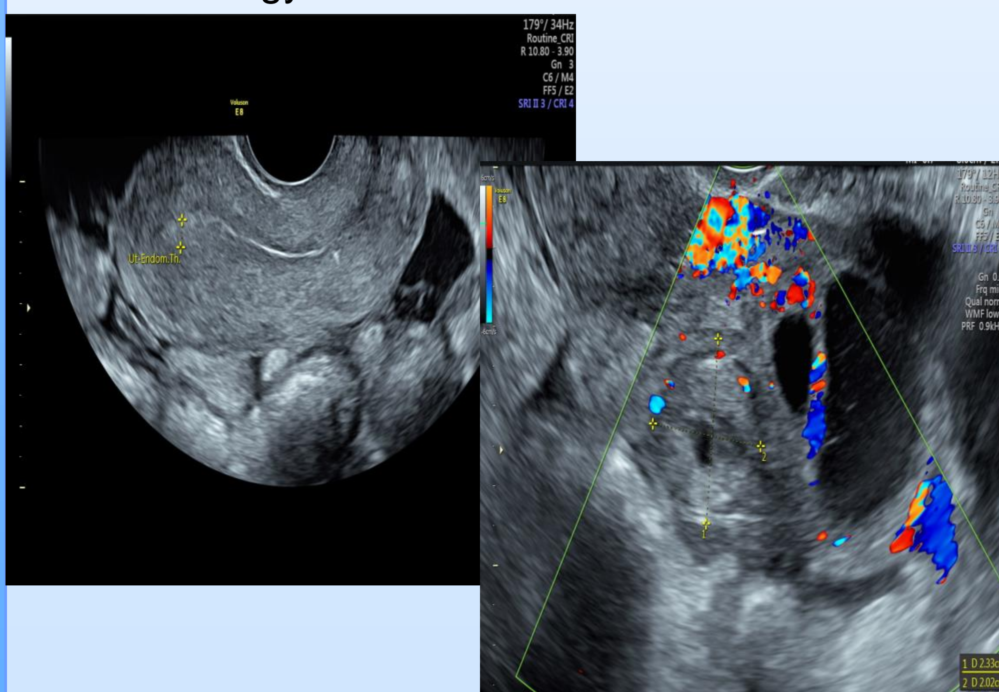
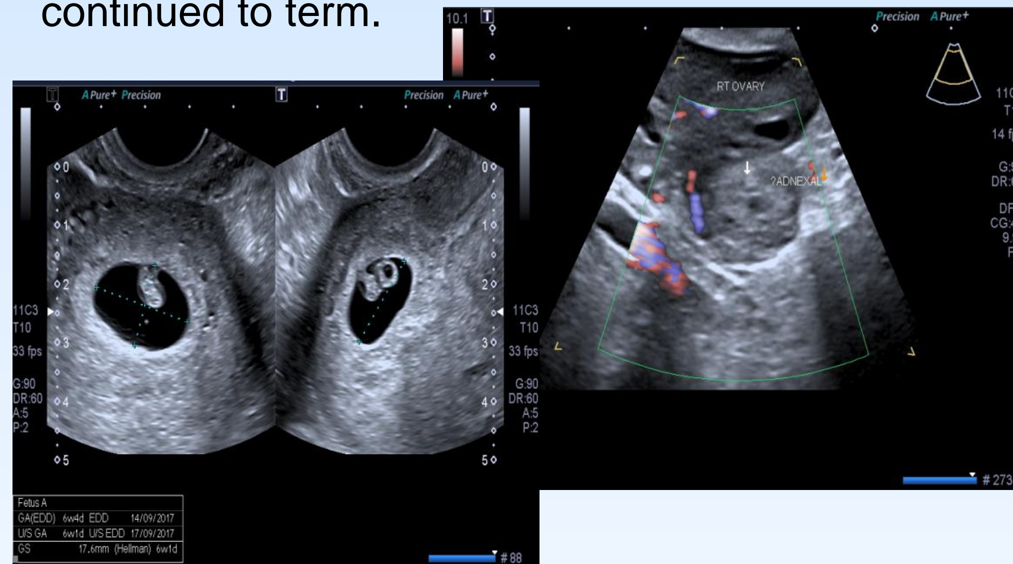


Figure 2: post ERPC empty uterus and left adnexal mass

Case 3

Gestation: 6+3
Presentation: Spontaneous conception, RIF pain. Ultrasound Findings: Viable intrauterine pregnancy with a co-existing ectopic pregnancy. Free fluid in the right adnexa. Right adnexal mass representing the ectopic pregnancy. Outcome: Right salpingectomy at 6+3, and intrauterine pregnancy continued to term.



Case 4

Gestation: 5+2
Spontaneous conception, presented with lower abdominal pain. Ultrasound Findings: Intrauterine gestational sac with a co-existing ectopic pregnancy . Left adnexal mass representing the ectopic pregnancy. Free fluid in the POD.
Outcome: Left salpingectomy at 5+2 for the ectopic pregnancy. A follow-up scan at 7+1 confirmed a viable intrauterine pregnancy and continued to term.

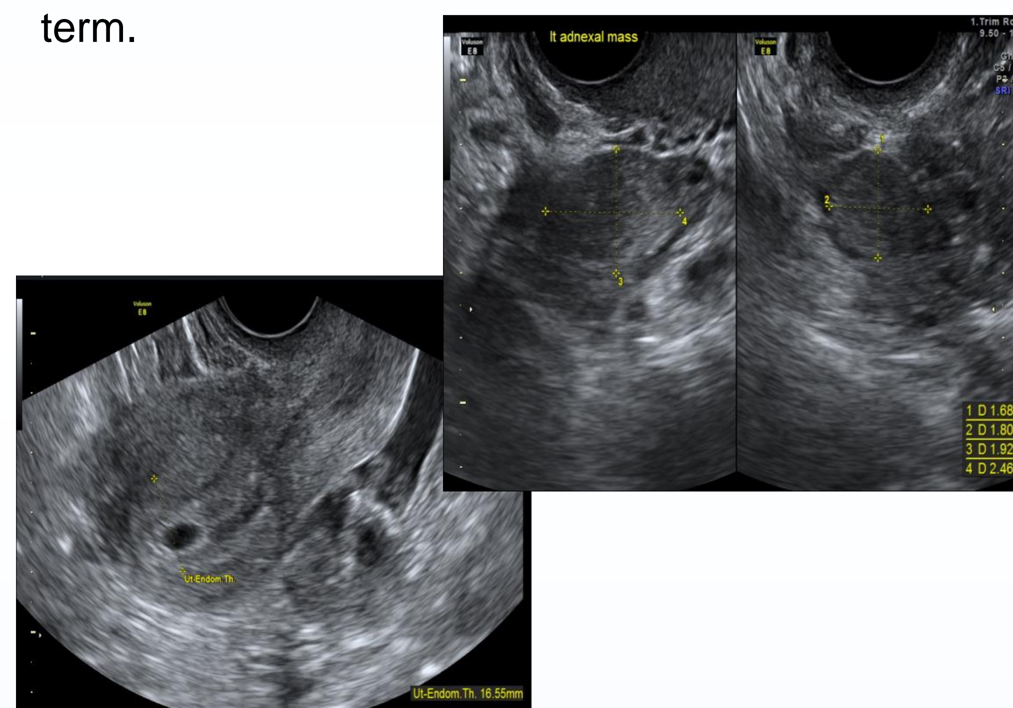


Figure: 4 IUGS and left adnexal mass

Case 5

Gestation: 6+4, Spontaneous conception, presented with abdominal pain and PV bleeding. Ultrasound findings: Viable intrauterine pregnancy and co-existing ectopic pregnancy. Right adnexal mass representing the ectopic pregnancy. Free fluid in the POD.

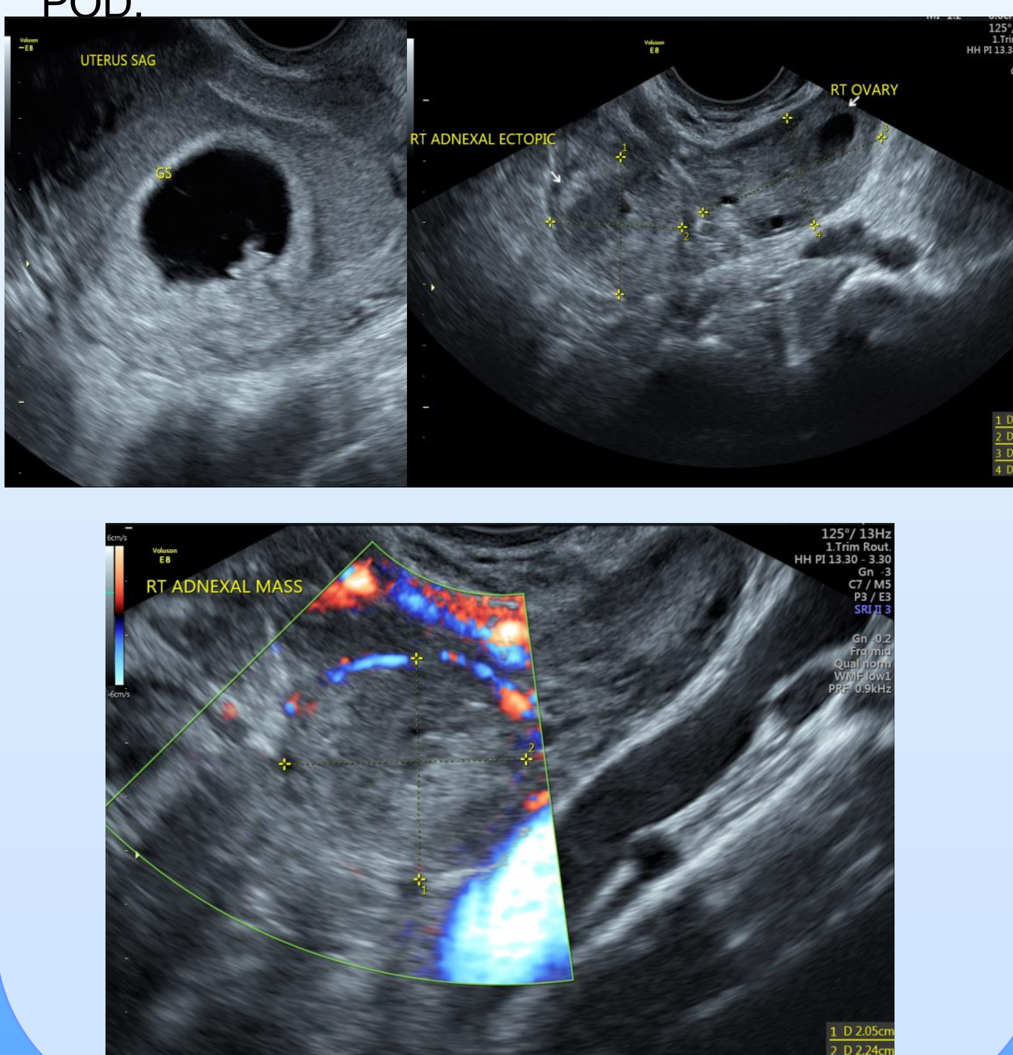


Figure 5: Intrauterine sac and right adnexal mass

Case 6

Gestation: 13+2
Presentation: Spontaneous conception, LIF pain. Ultrasound Findings: Viable pregnancy and the suggestion of a left ovarian cyst
Outcome: Representation at 15+2 weeks with severe abdominal pain and an exploratory laparoscopy showed an abdominal pregnancy. The suspected left ovarian cyst on ultrasound when the images were reviewed retrospectively was the uterus with the cavity full of blood.

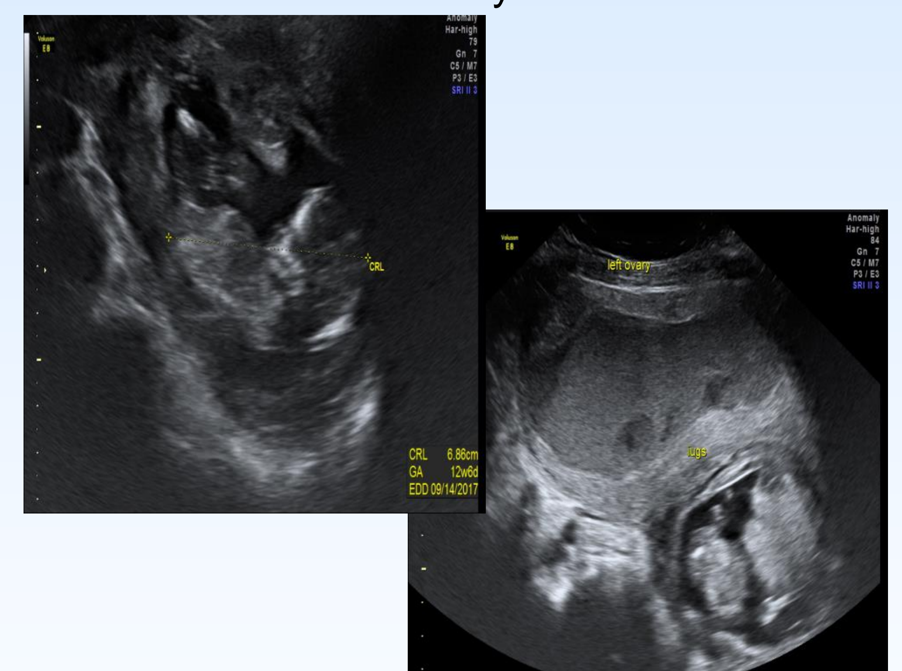


Figure 6: Abdominal pregnancy

Results

In our hospital there were 8433 births in 2017 and the number of heterotopic pregnancies were 5 giving an incidence of 0.06% and there was 1 abdominal ectopic pregnancy 0.01%. Of note all of these were spontaneous pregnancies.

Conclusion

Abdominal and heterotopic pregnancies appear to be increasing in frequency, and the incidence of heterotopic pregnancy is thought to be about 1 in 2,600 pregnancies annually; primarily because of assisted reproduction (Crabtree *et al.*, 1994). These up-to-date figures of occurrence would better reflect the experience in our ultrasound department and the idea of it being an exceptional finding is no longer the case. The diagnosis of a heterotopic pregnancy can be difficult and may be delayed until follow-up ultrasound scans are performed. The use of serial βhCG is redundant in these cases (Avery *et al.*, 2009). It is imperative that there is precise ultrasound examination of the adnexae and Pouch of Douglas even in the presence of a normal intrauterine pregnancy (*Skrajna et al., 2012).* To improve the detection of heterotopic pregnancy, a high-resolution transvaginal transducer should be used, the technique must be meticulous, and the examination performed by an experienced sonographer.