

Case Report

Spontaneous heterotopic pregnancy

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Abstract

Heterotopic pregnancy is the presence of an intrauterine pregnancy and an extrauterine (ectopic) pregnancy. Spontaneous heterotopic pregnancy is rare with an incidence of 1:30,000 but the prevalence is increased with assisted reproductive technology (ART). Delayed diagnosis of heterotopic pregnancy is not uncommon, often presenting with signs of ruptured extrauterine pregnancy. This case report describes a ruptured spontaneous heterotopic pregnancy that required emergent surgery and massive transfusion.

Key words:

Heterotopic pregnancy, ectopic pregnancy, tubal rupture, management

Introduction

Heterotopic pregnancies are difficult to diagnose and are often not diagnosed before rupture and haemoperitoneum [3, 4]. To avoid catastrophic outcomes due to delayed diagnosis, it is imperative that clinicians have an index of suspicion for this pathology especially in those women with identified risk factors.

This report describes a spontaneous heterotopic pregnancy in an unplanned pregnancy. The increasing prevalence of heterotopic pregnancy cautions clinicians to suspect the unexpected in a female of reproductive age presenting with acute abdominal pain, particularly in those women who are undergoing assisted reproduction.

Article history:

Received: 11/06/2015

Accepted: 02/12/2015

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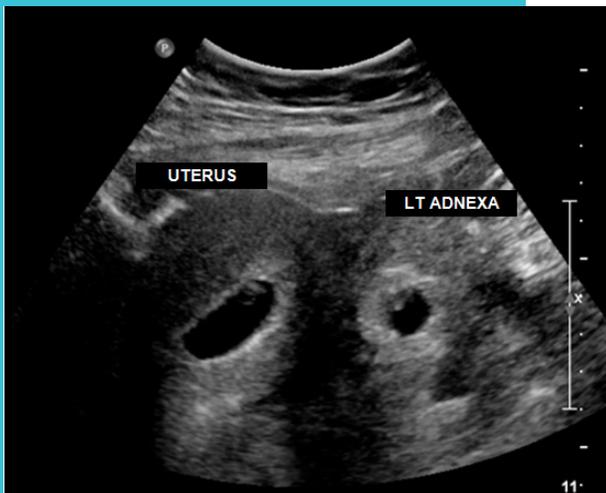
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Case presentation

A 36-year-old woman G4P2A2 (gravida 4, parity 2, abortion 1) presented to her local medical officer with a four day history of lower abdominal discomfort and light vaginal bleeding, assumed to be her menstrual cycle. Her local general practitioner suspected diverticulitis and referred the patient for investigations including a Computed Tomography (CT) Scan. The pain escalated that afternoon prompting presentation to her local emergency department. On admission she was haemodynamically stable with a haemoglobin level of 12.8 g/dL and a tender lower abdomen with guarding and rebound tenderness in the right iliac fossa. Urine beta human chorionic gonadotropin (β hCG) was positive and a transvaginal pelvic ultrasound revealed an intrauterine pregnancy consistent with 6 weeks and 4 days gestation with a fetal heart rate (FHR) of 150 beats per minute as well as right sided tubal ectopic pregnancy, 6 weeks and 4 days gestation with FHR of 150 beats per minute (Figure 1).

The patient was diagnosed with a heterotopic pregnancy and transferred to our hospital for further management. Soon after arrival the patient's blood pressure dropped to 88/45mmHg. The patient underwent emergency laparoscopy which revealed a ruptured right tubal ectopic pregnancy with a 2,500mL haemoperitoneum. Laparoscopic findings were similar to Figure 2 which shows a ruptured left tubal pregnancy with large haemoperitoneum. A right salpingectomy was performed. The patient required resuscitation with a total of 8 units of packed red blood cells. The patient had an uneventful recovery and was discharged day 2 post operatively. An ultrasound 7 days later showed a viable intrauterine pregnancy at 7 weeks gestation.

Figure 1.



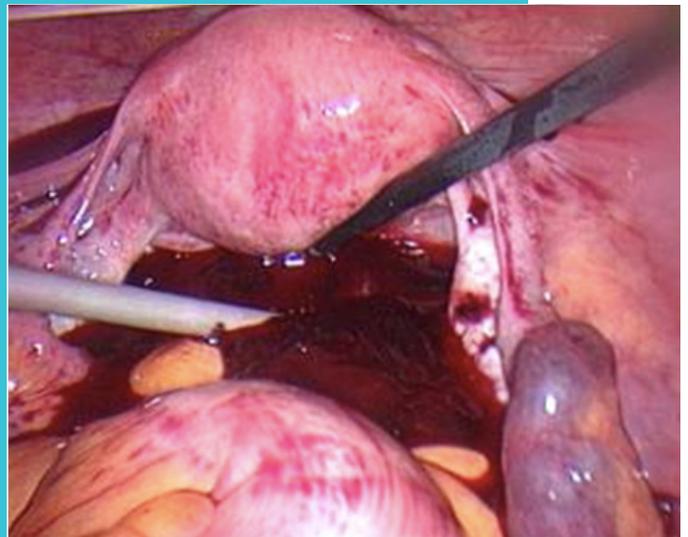
Coexisting intrauterine pregnancy and right tubal ectopic pregnancy

Discussion

Heterotopic pregnancy is a dangerous condition with increasing prevalence that poses diagnostic and management challenges. To avoid delay in diagnosis, practitioners need to suspect heterotopic pregnancy particularly in those women with identified risk factors. Similar to ectopic pregnancy, the most common presenting symptoms of a heterotopic pregnancy are abdominal pain and vaginal bleeding [5]. Where intrauterine pregnancy (IUP) has been confirmed on ultrasound, false reassurance can lead to significant delay in diagnosis of heterotopic pregnancy [6].

In vitro fertilization, in utero insemination and ovarian stimulation carry a significant increased risk for heterotopic pregnancy [5]. A report from the United States on all registered pregnancies utilizing ART from 1999-2002 reports a prevalence of 1.5 in 1000 [7]. The increased incidence of multiple pregnancy with ovulation induction and in vitro fertilization increases the risk of heterotopic pregnancy [3, 8]. The hydrostatic forces generated during embryo transfer are also thought to play a role [9].

Figure 2.



Ruptured left tubal ectopic pregnancy with haemoperitoneum

Other associated risk factors for heterotopic pregnancy are similar to that of ectopic pregnancy and include a past history of pelvic inflammatory disease, smoking, current intrauterine device (IUD) usage and previous ectopic pregnancy or tubal surgery [8]. In many cases the above risk factors may be responsible for the need to employ ART. The location of the extrauterine pregnancy in heterotopic pregnancies is most commonly tubal (90%), with implantation occurring at the cervix, ovary, interstitial tubal segment, abdomen or previous caesarian scar less common [10]. As with ectopic pregnancy skilled transvaginal pelvic ultrasound is essential in aiding the diagnosis of heterotop-

ic pregnancy. Even in the case of IUP being identified, a thorough USS assessment of the pelvis and the adnexa should be performed with the aim of excluding heterotopic pregnancy [4, 11]. The visualization of intrauterine and extrauterine fetal heart activity as seen in this case is rare (Figure 1) [4]. The suspicious adnexal mass is often misdiagnosed as a luteal cyst in the presence of IUP. Management options are limited in heterotopic pregnancy due to the presence of a simultaneous IUP. In cases when the patient is haemodynamically unstable surgical management is indicated. The laparoscopic approach as opposed to laparotomy carries less risk for the spontaneous IUP but should only be performed where the surgeon is competent in this technique and willing to convert to laparotomy if required [6, 8, 12]. In the stable patient with heterotopic pregnancy, systemic medical treatment is contraindicated [13]. Local injection of potassium chloride or hyperosmolar glucose into the unruptured pregnancy has the potential to preserve the affected fallopian tube with low toxicity to the concurrent IUP. There is however significant risk of failure of the treatment with need for subsequent surgery [2]. The prognosis for the simultaneous IUP is much better with early intervention [3, 5, 13]. Following successful removal of the extrauterine pregnancy, follow-up to assess viability of the existing IUP is required. Whilst successful pregnancy to term is often reported, data sug-

gested that one third of concomitant IUP's will spontaneously abort following treatment for heterotopic pregnancy [7, 14]. Heterotopic pregnancy is a potentially life threatening condition and is difficult to diagnose clinically due to concomitant IUP. Heterotopic pregnancy can result from natural conception in women with no identifiable risk factors as described in this case presentation. With the increasing use of ART clinicians must include heterotopic pregnancy in their differential diagnosis for any woman of reproductive age presenting with an acute abdomen regardless of whether IUP has previously been confirmed.

Acknowledgements

This work was presented as a poster presentation at the 13th World Congress in Fetal Medicine, June 29–July 3, 2014, Nice, France.

Conflict of Interest

None

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