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Early abdominal pregnancy diagnosed in pre-rupture: A case report

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Abstract
Abdominal pregnancy, one of the varieties of ectopic pregnancy, is defined as the implantation and primary or secondary development of all or part of the egg in the abdominal cavity. A rare entity, it accounts for 0.6 to 4% of all ectopic pregnancies. Because of delays in diagnosis and difficulties in managing abdominal pregnancies, the risk of mortality is significantly higher than for uncomplicated ectopic pregnancies.
We report here a case of early abdominal pregnancy diagnosed pre-rupture, unruptured on ultrasound and ruptured at laparotomy.

Keywords: Early abdominal pregnancy, pre-rupture, ultrasound

Introduction

Abdominal pregnancy is defined as the implantation and primary or secondary development of all or part of the egg in the abdominal cavity. It accounts for 0.6% to 4% of all ectopic pregnancies (1). It is said to be “early” if the diagnosis is made before 20 weeks' amenorrhea (SA), and “late” beyond this term (2). It is a diagnostic emergency, as it can be life-threatening in the event of rupture. Because of delays in diagnosis and difficulties in managing abdominal pregnancies, the risk of mortality is significantly higher than for uncomplicated ectopic pregnancies.
We report here the case of an early abdominal pregnancy diagnosed pre-rupture, leading to immediate and appropriate management, with a favorable outcome for the mother.

Observation

29-year-old primigravida woman, 13 SA 1 day pregnant according to last menstrual period, referred to our department for pelvic ultrasound indicated for acute pelvic pain on pregnancy.
She presented with intermittent pelvic pain for three weeks, followed by metrorrhagia with blackish blood. The pain was exacerbated two days ago, localized in the left iliac fossa. The pain evolved in an apyretic context. Her history included recurrent genital infections.
Clinical examination revealed a palpable, painful pelvic mass over the left iliac fossa. Umbilical cry was present. Hemodynamic vitals were stable, and the urine pregnancy test was positive. Her blood group was O+.
On ultrasound, we detected :

- Empty uterus with thickened endometrium (figure 1).
- Normal ovaries
- A large, well-limited left latero-uterine mass (figure 1), the site of a gestational sac containing an embryo measuring 45 mm craniocaudal in length, i.e. 11 SA 2 days of ultrasound age. Cardiac activity was positive at 158 bpm (figure 2). Active movements were present. The internal surface of the placenta was in contact with the left ovary. The upper contours of the mass were superficial (figure 3).
- There was no intraperitoneal fluid effusion.

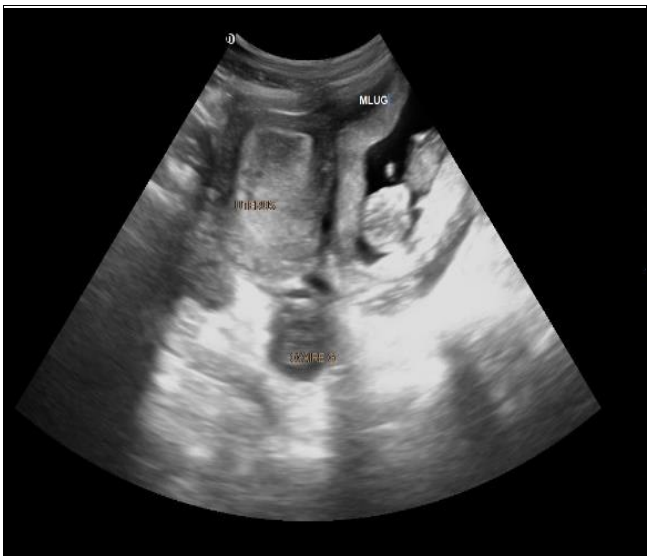

Fig 1: Ultrasound section showing an empty uterus with thickened endometrium and a left latero-uterine mass containing the fetus

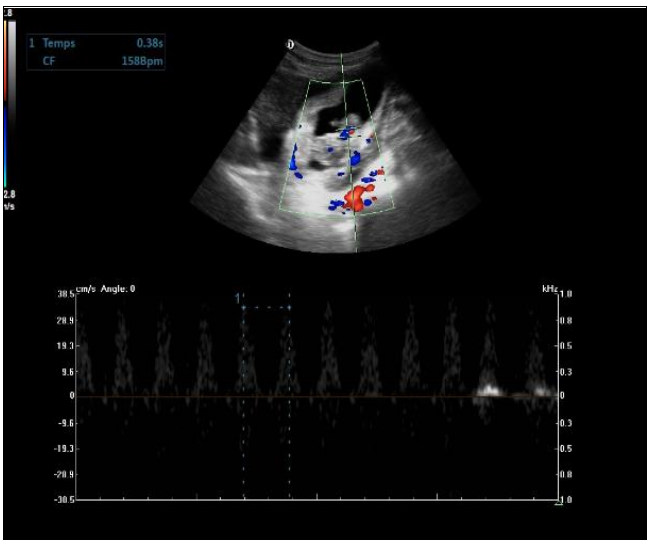

Fig 2: Ultrasound section showing positive fetal cardiac activity

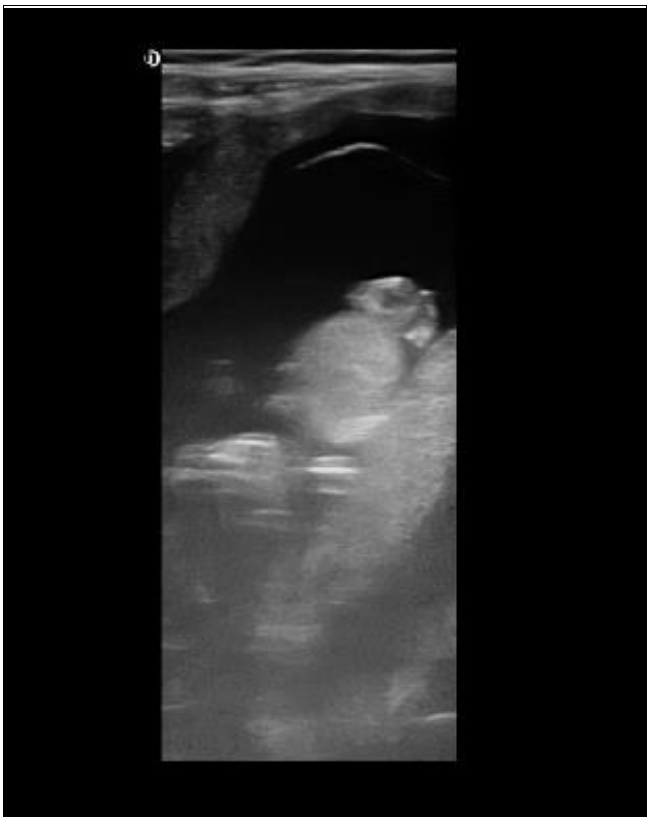

Fig 3: Ultrasound section showing the superficial contours of the mass

On ultrasound, we suggested the diagnosis of an evolving, pre-rupture abdominal pregnancy, as there was no hemoperitoneum but the pain was increasingly intense.
She was transferred to the obstetrics and gynecology department, where an emergency laparotomy was performed, revealing a ruptured abdominal pregnancy with moderate hemoperitoneum. Extraction of the live fetus was performed in conjunction with a left oophorectomy, with many adhesions. Post-operative management was straightforward, and the patient was discharged on postoperative day 3.

Discussion

Abdominal pregnancy is a diagnostic and therapeutic emergency, with a maternal mortality rate of up to 20%. This is mainly due to the risk of massive hemorrhage due to partial or total separation of the placenta (3).
Abdominal pregnancies may be primitive, with direct implantation of a fertilized egg in the peritoneal cavity. They may be secondary to a tubal pregnancy (by abortion or tubal rupture) or to a primitively intrauterine pregnancy through a hysterotomy scar or perforation. Our case can be classified as a secondary abdominal pregnancy, as its location is very close to the uterus and its adnexa, the patient presented with metrorrhagia and the rupture was early at 11 SA.
As with all ectopic pregnancies, risk factors include previous ectopic pregnancy, fallopian tube lesions, previous pelvic surgery, complications of ascending pelvic infection, previous fallopian tube surgery or pathology, infertility, smoking, age over 35, pelvic inflammatory disease, endometriosis, variant anatomy of the reproductive tract, pregnancy with an intrauterine device in place, and use of antiretroviral therapy. However, half of all patients have no known risk factors (4). In our case, the risk factor was recurrent genital infections.

It should be noted that the classic signs of ectopic pregnancy are generally present in cases considered to be secondary abdominal pregnancies as they are diagnosed early, but that symptoms are highly variable in cases recognized as primary pregnancies that are unrecognized or of late discovery (5). Any sexually active woman presenting with abdominal pain and vaginal bleeding after an amenorrheal interval is, until proven otherwise, carrying an ectopic pregnancy.
Ultrasound plays an important role in confirming the diagnosis, showing an empty uterus with a gestational sac separated from the uterus and adnexa.
Ultrasound also indicates fetal vitality and the site of placental insertion (6). In our case, cardiac activity and active fetal movements were clearly present. The placenta was partially inserted in the left ovary.
Surgery is the main method of managing abdominal pregnancy. Removal of the ectopic pregnancy mass may cause refractory hemorrhage and/or organ damage due to deep trophoblast invasion of surrounding tissue. Management of the placenta poses the greatest problem (7). As the placenta was attached to the left ovary in our case, oophorectomy enabled its total removal.
The natural evolution of these abdominal pregnancies is inevitably towards the onset of serious complications.
In Madagascar, a case of early abdominal pregnancy discovered by chance has been reported (8).

Conclusion

Abdominal ectopic pregnancy is a rare but dangerous complication of pregnancy. Today, diagnosis is made earlier, thanks to beta-HCG assays and early ultrasound scans to confirm the location of the pregnancy. As a result, abdominal pregnancies diagnosed for the first time late in pregnancy will become very rare. As the mortality rate for abdominal pregnancies can be higher than for other ectopic pregnancies, the prudent clinician should always suspect this possibility and treat it promptly.

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