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Is heterotopic pregnancy uncommon?

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ABSTRACT

Introduction
A heterotopic pregnancy is a multifetal pregnancy with the presence of a combined intrauterine and ectopic pregnancy. Its estimated incidence is accepted as between 1/7000 and 1/30,000 pregnancies. It is also reported to be as high as 1% after the use of assisted reproductive technology, Heterotopic pregnancies are diagnostic and therapeutic challenges for obstetricians. If they continue without diagnosis, a life-threatening situation may arise. The presentation of heterotopic pregnancy is at variance in presentation of classical disturbed tubal ectopic pregnancy.

Case presentation
We present two cases of early pregnancies that developed a simultaneously extra -and intrauterine pregnancy following spontaneous conception .In both the cases, there was diagnostic dilemma due to earlier ultra sound reports of normal single intrauterine pregnancy. In the first case patient had presented with history of amenorrhoea, colicky pain in abdomen, inability to lie in supine dorsal position, with features of intra peritoneal haemorrhage without any vaginal bleeding. In the second case, the patient had amenorrhoea with pain in right iliac region along with earlier ultrasound confirmed intra uterine pregnancy. Surgical intervention was done and intrauterine pregnancy could be salvaged.

Conclusion
These cases suggest that heterotopic pregnancy must always be considered in patients presenting with pelvic pain even in a confirmed intrauterine pregnancy, even with no induction of ovulation. Every clinician treating women of reproductive age should keep this diagnosis in mind. It also demonstrates that early diagnosis is essential in order to salvage the intrauterine pregnancy and avoid maternal morbidity and mortality.

Keywords: Heterotopic pregnancy, pelvic pain, haemoperitoneum, adenexal mass, early pregnancy ultrasonographic evaluation.

Introduction

A coexistence of an extra -and intrauterine pregnancy (IUP) is defined as a heterotopic pregnancy (HTP). It is a rare form of twin pregnancy, with an estimated incidence of 1/7000 to 1/30,000 in spontaneous pregnancies. It is also reported to be as high as 1% after the use of assisted reproductive technology (ART) [1-5]. Clomiphene Citrate (CC) which increases the rate of twinning could be associated with a HTP rate of 1/900[6]. Aside from the difficulty of diagnosing the problem, management can be difficult and may be life threatening even when surgical intervention is performed.

The study describes in first case the ruptured left tubal HTP in a patient who conceived spontaneously, who presented at ten weeks of gestation and was treated with an immediate laparoscopy. The second case was clinically diagnosed as a case of eight weeks pregnancy with acute appendicitis, and at laparotomy the disturbed right tubal ectopic pregnancy was detected and surgical management

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was done. The intrauterine pregnancies continued uneventfully.

Case presentation

Case A

A 27-year-old nulliparous woman presented with 10 weeks of amenorrhea, infrequent colicky abdominal pain, restlessness and inability to lie in supine dorsal position. She was pale with a pulse rate of 100 beats/minute and blood pressure of 100/60 mmHg. Laboratory findings revealed haemoglobin of 5.0 g/dL and hematocrit of 15% and blood group AB +ve . She was booked at outstation with ultasonographically confirmed intrauterine pregnancy. She was hospitalized and referred to the gynaecology ward for treatment. Over the subsequent hours, she had complained of a sudden worsening of her abdominal pain and giddiness and nausea. On examination, she had tenderness in the lower abdomen with guarding and rebound tenderness. She was increasing restlessness taking unusual postures and not able to lie flat in the bed.

An emergency sonography was carried out which showed an intra uterine pregnancy of ten weeks gestation with foetal cardiac activity; along with another echo complex mass in the left side of the pelvis and evidence of intra peritoneal haemorrhage. The pelvic cavity, particularly in the left lower quadrant, was full of echo complex images. The boundary of the ovaries and tubes, particularly in the left, was obscure. These findings demonstrated first an IUP with a ruptured tubal pregnancy and if not, then an IUP with a ruptured ovarian cyst. Because of the clinical presentation, laboratory and ultrasonographic findings, the patient was taken directly to the operating room. She was transfused with three units of whole blood. An emergency laparoscopy was done under general anaesthesia that revealed 2000 ml of old blood and abundant clots and a ruptured ampullary left tubal pregnancy. Left salpingectomy was performed. Postoperatively her recovery was smooth uneventful, and she was discharged in good general condition on the fifth post operative day. The histo pathological examination of tissue confirmed a left tubal ectopic pregnancy which was ruptured at the ampullary region. Two weeks after surgery, a live IUP with a CRL equivalent to12 week's gestation was visualized on a transabdominal ultrasound .The pregnancy continued without any significant complication.

Case B

A 21-year-old third gravida presented with 12 weeks of amenorrhea, dull aching abdominal pain, in right lower abdomen and nausea. She had a pulse rate of 94 beats/minute and blood pressure of 110/60 mmHg. Laboratory findings revealed haemoglobin of 9.0 g/dl and hematocrit of 27% and blood group B +ve. She was a booked patient with ultasonographically confirmed intrauterine pregnancy. She was referred for opinion of surgical specialist who admitted her as a case acute appendicitis. A second transabdominal & vagainal ultrasonography was carried out and showed an intra uterine pregnancy of 11 weeks gestational with foetal cardiac activity; along with small complex echogenic mass in the right adenexal region and small collection of fluid in the pelvis. The pelvic cavity, particularly in the left lower quadrant, was full of echo complex images. The appendix was inflamed. Because of the clinical presentation, laboratory and sonographic findings, the patient was taken for appendicectomy. An emergency laparotomy was done under general anaesthesia that revealed 200 ml fresh blood and and a ruptured right tubal pregnancy at isthmic region. The appendix showed features of chronic inflammation. Right salphingectomy followed by appendicectomy was performed and peritoneal lavage was done. Post operatively she was managed with analgesic, antibiotics and uterine relaxant. Subsequently both had delivered healthy baby at term. Chorionic and embryonic tissues were confirmed in the specimen by histopathological examination report.

Discussion

A heterotopic pregnancy (HTP) was first described by Duverney in 1708. Nowadays, the use of ART and fertility agents such as CC can increase a patient's risk of a HTP probably due to the combined effects of hyper stimulation and the subsequent, simultaneous transfer of several embryos into the uterus with retrograde flow into the fallopian tubes. Indeed, any factor predisposing a patient to an increased risk of ectopic pregnancy (EP) and/or multiple gestations may contribute to HTP .In our patients however; pregnancy occurred spontaneously the majority of HTP cases are diagnosed late. Significant morbidity and occasional mortality have been reported as a result of a delay in diagnosis. As no single investigation can predict the presence of a HTP, it should be suspected in any patient who presents with lower abdominal pain in the early phase of an obvious IUP. The locations and number of ectopic pregnancy might be variable causing different clinical features and use of different management protocols. The presentation may be variable such as post abortal acute abdominal pain, bilateral tubal ectopic along with single or multiple intrauterine pregnancy, ectopic in

LSCS scar, disturbed cervical ectopic presenting as torrential haemorrhage etc.

Often, abdominal and pelvic USG fails to show the EP or is misinterpreted because of the awareness of an existing IUP [3] but demonstration of an IUP is no longer a reliable indicator for excluding an EP [3,5]. Most ultrasonographic reports make no mention of a search for coexistent EP when evaluating intrauterine gestation, because a HTP is still thought to be extremely rare and for this reason, almost all EPs are diagnosed by excluding an IUP.

Our cases presented early in the pregnancy with history of nausea, and lower abdominal pain with features of intra peritoneal haemorrhage and were haemodynamically unstable. There was also a delay in the detection of the EP component, therefore diagnosis was not made until an EP rupture had occurred and the patient developed haemoperitoneum and instability of her vital signs. Although the primary USG helped to confirm the presence of an IUP, it failed to identify the EP, while a HTP as a cause for abdominal pain should have been suspected immediately in our case. The management of HTP remains controversial. Surgical therapy has been the traditional mainstay but involves surgical and anaesthetic risks to both the mother and IUP . Studies suggest that laparoscopic management is preferred over laparotomy in patients with a suspected EP, and with a documented IUP because of minimal manipulation of the uterus .

A non-surgical approach can be used safely and effectively to manage patients who are clinically stable and where a HTP is recognized relatively early in gestation. The successful non-surgical management of six cases of HTP using potassium chloride (KCl) injection into the tubal EP, expectant management has been reported. [7] Absence of vaginal bleeding in HTP except in disturbed cervical HTP also had added to diagnostic difficulty. The unusual nature of pain and behaviour instead of lying still and flat, the patient is excessively mobile, standing and walking around the room. Furthermore, when asked to return to bed, she would adopt several unusual upright positions, including kneeling on the bed and crouching on all fours. It is interesting to draw the attention of clinicians to this upright posturing in the presence of ruptured ectopic pregnancy, which is believed to the reluctance of patients to allow low-volume intrapelvic blood to swill further up the abdominal cavity and cause additional peritonitis and pain. By observing this behaviour, rather than be falsely reassured by the patient's mobility, the admitting clinician will be correctly concerned about the possibility of ongoing intra-abdominal haemorrhage. Tentatively this upright posturing and unwillingness to lie flat was named as Skipworth's sign[8].

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