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Abdominal ectopic pregnancy still a diagnostic dilemma: A case report

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Abstract

Abdominal pregnancy is a very rare occurrence; however it poses great diagnostic and therapeutic challenges. We present a 30 year old unbooked G4P2+1(1alive) lady who was referred following failed attempt at both medical and surgical management of ultrasound scan confirmed intra uterine missed miscarriage at 17 weeks. She had multiple doses of vaginal misoprostol with no appreciable cervical changes, necessitating a suspicion of extrauterine gestation. A repeat TVS was done that showed abdominal pregnancy. She had exploratory laparotomy with finding of abdominal ectopic pregnancy with an intact amniotic sac located over the right adnexa with extension into the pouch of Douglas and the placenta attached to the jejunum all covered by omentum.

Abdominal ectopic pregnancy still remains a diagnostic challenge despite availability of ultrasound. High index of clinical suspicion and early management with a multidisciplinary team is necessary to avert maternal morbidity and mortality.

Keywords: Abdominal ectopic pregnancy, laparotomy, ultrasound

Introduction

Abdominal ectopic pregnancy is rare but probably the most serious of the extra uterine pregnancies^[1]. It is associated with high maternal and perinatal morbidity and mortality^[1]. It is a form of ectopic pregnancy where the developing embryo implants and grows within the peritoneal cavity exclusive of tubal, ovarian or broad ligament locations^[1, 2]. The pouch of Douglas (POD) has been reported as the most common location of abdominal pregnancy followed by the mesosalpinx and omentum^[2]. However implantation on other abdominal organs such as the spleen, liver and appendix have also been reported^[2].

Abdominal ectopic pregnancies constitute about 1.4% of all ectopic pregnancies with an estimated incidence of 1:10,000 live births^[1, 3, 4].

Due to the risk of massive haemorrhage from a partially or totally separated placenta at any stage of the pregnancy, abdominal pregnancies could be a potentially life threatening condition^[2, 3]. Maternal mortality is around 7.7 times that of other ectopic pregnancy sites and 90times that of an intrauterine pregnancy^[2].

Abdominal pregnancies could either be primary or secondary^[5]. Most abdominal pregnancies are secondary, resulting from early tubal abortion or rupture and subsequent implantation of the pregnancy into abdominal structures^[5, 6]. For the diagnosis of primary abdominal pregnancy, Studdiford's criteria needs to be fulfilled. These include normal bilateral fallopian tubes and ovaries, absence of utero-peritoneal fistula and pregnancy related exclusively to the peritoneal surface, early enough to eliminate the possibility of secondary implantation following a primary implantation in the tubes^[7, 8].

The clinical symptoms of an uncomplicated abdominal pregnancy are usually non-specific^[1, 9, 10], among which the most frequently encountered are persistent abdominal or suprapubic pain, missed periods, bloody vagina discharge and gastrointestinal symptoms like nausea and vomiting.¹Other symptoms and signs to aid diagnosis include fetal movement beneath the abdominal wall, presence of fetal movements high in the upper abdomen, cessation of fetal movement, fetal malposition, closed and uneffaced cervix amongst others.

Early diagnosis and multidisciplinary care is required in other to avert maternal mortality.

Case Presentation

A 30 year old unbooked G4P2+1(1alive) lady with one previous caesarean section referred following failed attempts at medical evacuation of missed miscarriage at 17 weeks, confirmed on ultrasound. On presentation, she was a young lady in no obvious distress, she was afebrile and not pale. Her blood pressure was 130/80 mmHg, pulse rate was 96 beats per minute. The abdomen was enlarged and moved with respiration, there was a previous lower abdominal transverse scar. There was a palpable abdominopelvic mass of about 16 weeks size. There was no area of undue tenderness. There was a normal vulva and vagina. The cervix was closed, medium, 3cm long, posterior and Station 0⁻³.

Medical evacuation with was recommenced with intravaginal misoprostol 100µg six hourly with no appreciable cervical changes. This necessitated a suspicion of an extra uterine pregnancy. A repeat TV scan was done that confirmed an extra uterine gestation.

She was then counseled on the need for an exploratory laparotomy. Her laboratory results showed a PCV of 32%, WBC of 5400, platelet count of 230,000cells/mm³. Her serum electrolytes, urea, creatinine and urinalysis were within normal limits. Her blood group was O Rhesus 'D' positive.

She had laparotomy under general anaesthesia with findings of haemoperitoneum of about 100mls, bulky anteverted uterus of approximately 12weeks size, grossly normal fallopian tubes and ovaries bilaterally, presence of an abdominal ectopic pregnancy within an intact amniotic sac located over the right adnexa with extension into the pouch of Douglas with the placenta sitting on the mesentery of the jejunum, all covered in omentum. Figures 1 and 2 shows the dead fetus and gestational sac with part of its implantation. The dead fetus was extracted uneventfully and placenta was gently separated from the gut leaving only serosal excoriations. Figure 3 shows the dead fetus, gestational sac and placenta after extraction while Figure 4 reveals the excoriations on the gut after separation. An abdominal drain was left insitu which drained scanty effluent and was removed after 24hours. Estimated blood loss was 400mls. She had an uneventful post-operative recovery and was discharged after 7 days on admission.

Discussion

Numerous cases of this rare entity have been reported worldwide since it was initially reported in 1708 as an autopsy finding ^[1, 3]. The diagnosis of abdominal ectopic pregnancy is often missed even with availability of ultrasound ^[9, 10].

Most of the cases of abdominal pregnancies are secondary to an aborted or ruptured tubal pregnancy ^[1, 11], however careful assessment of our patient suggests that she had a primary abdominal pregnancy as she met the Studdiford criteria.

A good number of patients with abdominal pregnancy have persistent abdominal or gastrointestinal symptoms during pregnancy ^[12] surprisingly our patient had no symptoms whatsoever.

The risk factors for abdominal pregnancy are the same as

those for tubal pregnancy which includes pelvic inflammatory disease, previous ectopic pregnancy, previous tubal surgery, use of assisted reproductive techniques, intrauterine device amongst others ^[5]. The identifiable risk factor for this patient was a previous caesarean section done on account of fetal macrosomia and probably her use of the two monthly Progesterone injectable (Noristerat) for contraception.

In most of the cases, the diagnosis is made by an early obstetric ultrasound. The diagnostic criteria of abdominal pregnancy by an ultrasound may include; demonstration of a fetus in a gestational sac outside the uterus, or the presence of an abdominal or pelvic mass identifiable as the uterus separate from the fetus, failure to see a uterine wall between the fetus and urinary bladder, recognition of close approximation of the fetus to the maternal abdominal wall, localization of the placenta outside the confines of the uterine cavity, the classic finding of an empty uterine cavity, which can be associated with no sign of ectopic tubal pregnancy ^[1]. Ultrasound especially transvaginal remains a first line tool for the diagnosis of abdominal pregnancy ^[2]. The earlier scans done by our patient were trans abdominal. A transvaginal scan could have probably hastened the diagnosis. Other radiological studies such as magnetic resonance imaging and computed tomography scan could also be helpful in the diagnosis of abdominal pregnancy. Diagnostic laparoscopy can also be used when imaging techniques are not conclusive ^[2]. An oxytocin stimulation test and the finding of an abnormally high maternal serum AFP have also been proposed ^[13].

Surgery is often the mainstay of management in abdominal pregnancy which could be via laparoscopy where the facilities and expertise exist or via laparotomy. This is usually dependent on the gestational age at diagnosis alongside the maternal haemodynamic status. As with other types of ectopic pregnancy, medical management has been reported for abdominal pregnancies using agents such as methotrexate (systemic and local), local instillation of potassium chloride, hyperosmolar glucose, prostaglandins, danazol, etoposide and mifepristone ^[1]. This type of management is usually for early abdominal pregnancy and in pregnancies where surgery may lead to potentially life threatening bleeding. A multidisciplinary team including general surgeons is key to successful surgical management.

Our Patient had laparotomy and removal of abdominal pregnancy under general anaesthesia with good maternal outcome. Various options have been described for the management of the placenta after delivery which ranges from complete removal through partial removal to leaving the placenta insitu. This to a good extent depends on the site of the placenta implantation ^[1]. For our patient, though the placenta was attached to the bowel, it was easily removed gently probably due to the fetal demise.

The use of methotrexate to accelerate the resorption of the left over placenta is controversial due to the risk of sepsis following accelerated placental necrosis ^[14]. When the placenta is left in place, it is necessary to keep watch over the appearance of the following maternal complications in post-operative period such as bowel obstruction, infection, haemorrhage, anaemia and fistula ^[15].



Fig 1: The abortus insitu



Fig 2: Gestational sac with abortus insitu and implantation site



Fig 3: Abortus with complete placenta



Fig 4: Implantation site on the gut after removal of the placenta

Conclusion

Experience, vigilance and a high index of suspicion are of importance in unraveling a diagnosis of abdominal pregnancy. This is followed by prompt management to reduce the associated morbidity and mortality that may ensue from this entirely rare clinical entity.

Abbreviations

PCV: Packed cell volume, **WBC:** White blood cell, **AFP:** Alpha feto protein.

Ethical Approval

Ethical approval was obtained from the ethics committee of the Federal Medical Centre, Asaba.

Competing Interests

The authors declare no competing interest.

Acknowledgement

The patient whose story is told in this case report gave her written consent for publication of this report and accompanying images on the premise that others who have similar condition may get timely assistance as appropriate.

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