
A CASE REPORT OF A FULL TERM PRIMARY ADVANCED EXTRAUTERINE ABDOMINAL PREGNANCY

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ABSTRACT

Background: Extra-uterine abdominal pregnancy is extremely rare and is frequently missed during antenatal care. This is a report of a full-term extra-uterine abdominal pregnancy in a grand multipara who had recently used progesterone-only contraceptive and had laparotomy with good maternal outcome.

Case presentation: A 35-year-old, grand multipara presented at term having been managed over the previous 2 days in a primary health care facility. A diagnosis of cervical dystocia with intrauterine fetal death was made, and she was taken for emergency Caesarean section under general anaesthesia. Intraoperatively, an intact uterus with the fetus lying in the abdomen and surrounded by an amniotic fluid-filled sac, was found. The baby was extracted uneventfully, and the placenta was delivered easily from its location in the pouch of Douglas, without serious haemorrhage. The mother subsequently made progressive recovery and was discharged home in good condition.

Conclusion: Primary abdominal pregnancy is the rarest type of ectopic pregnancy which requires a high index of clinical suspicion supported by radiological exploration to diagnose, but is so often missed that progression to advanced gestation will continue to grace the medical literature. Hence, there is need for continued vigilance for detection and appropriate management.

Key words: Primary abdominal pregnancy, ectopic, extra-uterine, Depo-Provera

INTRODUCTION

An abdominal pregnancy is a form of ectopic pregnancy where the embryo implants and develops in the abdominal cavity. Primary abdominal pregnancy is very rare and occurs when a fertilized ovum implants itself directly on abdominal viscera. Most cases of abdominal pregnancy are secondary in that the embryo first implants in the Fallopian tube, ovary or uterus and subsequently establishes as an intraperitoneal pregnancy.¹⁻⁴

Exposure to progestogens has been identified as a risk factor for a higher incidence of ectopic pregnancy by affecting the luminal transition of the fertilized oocyte along the Fallopian tube or by promoting intraperitoneal fertilization and conception.^{5,6}

The diagnosis of abdominal pregnancy is frequently missed during antenatal care, despite the routine use of abdominal ultrasonography. However, it is extremely important to detect an extra-uterine abdominal pregnancy because the associated case fatality rate is reported to be as high as 7.1% in Nigeria,⁴ though a much lower rate of 5.1 per 1000 deliveries has been documented in the United States; yet this rate is reported to be about seven times more than the estimated rate for ectopic pregnancy in general, and 90 times the maternal mortality attributed to normal delivery.⁷ Perinatal outcome is also reported to be significantly compromised in some series.⁴

We report on a grand multipara who had used Depo-Provera successfully for contraception but stopped to achieve another pregnancy which turned out to be an abdominal pregnancy discovered only at laparotomy done because of poor response to oxytocin, outcome of which was a fresh stillbirth.

Case presentation

A 35-year-old grand-multipara (with one

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living child) was referred from a primary health centre with a diagnosis of obstructed labour. She had been induced because of prolonged pregnancy in the referring centre for about 48 hours without any obvious progress. She was referred to our medical centre due to her inability to achieve vaginal delivery. She was not certain of the last time she had experienced foetal movements.

She booked index pregnancy at 20 weeks' gestational age at the referring centre and had regular uneventful antenatal care visits. She was unaware of results of her booking investigations but revealed taking tetanus toxoid immunization twice during the pregnancy. Ultrasound scan done at about 20 weeks was said to be normal. The last of 6 deliveries between 1990 and 2014 was Caesarean section (CS) done because of prolonged obstructed labour and outcome was a fresh stillbirth. Following the last pregnancy and delivery she commenced Depo-Provera for contraception but discontinued it in order to get pregnant. There was no other significant past history.

On examination, she was anxious, afebrile with a temperature of 37°C; she was dehydrated but not pale. Pulse rate was 96bpm, respiratory rate was 26cpm and breathe sounds were normal. The abdomen was uniformly enlarged and moved with respiration. The symphysio-fundal height was 39cm, and was compatible with the gestation. There was a single foetus in longitudinal lie, cephalic presenting in the right occipito-posterior position with the head five-fifths palpable per abdomen. There was no contraction in 10 minutes. The foetal heart tone was not heard with the Pinard stethoscope or a Sonicaid. The estimated foetal weight was 3.2kg clinically.

There was a normal vulvo-vagina. The cervical os was closed, which made the position of the presenting part difficult to confirm. We entertained a clinical impression of cervical dystocia and intrauterine foetal death considering the history of prolonged exposure to oxytocin. She was counselled on the diagnosis and options of management were discussed. She gave consent for



Fig I: Location of the placenta in the pouch of Douglas and intact right and left adnexae

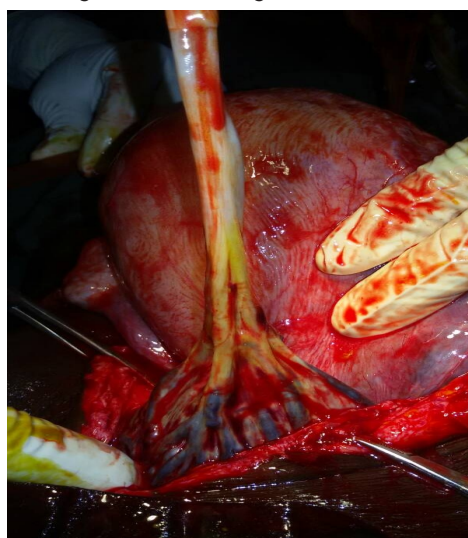


Fig II: Placental delivery by gentle traction on the umbilical cord



Fig III: Removal of the placenta from the pouch of Douglas and associated minimal bleeding

emergency CS.

Her laboratory results showed a haematocrit of 35%, white blood cells 5700 cells/mm³, platelets 307 cells/mm³, serum urea 36mg/dl and serum creatinine 0.5mg/dl. Her serum electrolytes, bedside clotting time and urinalysis were all within normal limits. Her retroviral screening was negative, the random blood sugar was 118mg/dl, and blood group was O Rhesus positive while genotype was AA.

She subsequently had emergency laparotomy with findings including male 2.8kg fresh stillbirth beneath the anterior abdominal wall in an amniotic membrane and meconium stained liquor. Other findings were bulky uterus of 20 weeks' size displaced towards the left and without any obvious fistula to the fetoplacental unit [fig I,II], placenta attached to the pouch of Douglas [fig II,III] which was easily delivered by gentle cord traction, as well as normal Fallopian tubes and ovaries. The estimated blood loss was 400ml.

She had an uneventful post-operative recovery and was discharged to the lying-in ward the following day, beyond which she continued to make steady recovery. She was counselled on the outcome of delivery on the second postoperative day and was discharged home 8 days after surgery in good condition. She was seen at the 6th week postnatal clinic and in good condition. A pelvic scan showed the uterus was normal size and non-gravid. She was further counselled and discharged from follow up with a referral to the family planning clinic.

DISCUSSION

Extra-uterine abdominal pregnancy beyond 20 weeks' gestation and with a viable fetus is a rare condition. It is reported to have an incidence of 1:10,000 deliveries in the USA.⁷ In Nigeria, estimated prevalence ranges between 0.34 and 1.52 cases in 1000 hospital deliveries,^{3,4} contributing 4.3% of all ectopic pregnancies.⁴ Primary abdominal pregnancy, which refers to pregnancy where implantation of the fertilized ovum occurs directly in the abdominal cavity, is the rarest type of ectopic pregnancy. In such cases, the

Fallopian tubes and ovaries are intact. In contrast, secondary abdominal pregnancy accounts for most cases of advanced extra-uterine pregnancy. It occurs following an extra-uterine tubal pregnancy that ruptures or aborts and gets re-implanted within the abdomen. Under these circumstances, there is evidence of tubal or ovarian damage; hence the strong indication that our reported case was a primary abdominal ectopic having fulfilled the Studdiford's criteria for diagnosing primary abdominal ectopic pregnancy.⁸

The recent use of progesterone-only injectable contraceptive, a possibility of previous pelvic inflammatory disease and sexually transmitted disease might have increased the risk of ectopic pregnancy in our patient. She had been using Depo-Provera but did not report a history of other significant risk factors.

The major highlight in this case is the unrecognized extra-uterine pregnancy that did not only progress to term but was also subjected to attempted labour including the use of oxytocin. Symptoms of an ectopic pregnancy develop as the fetus grows by distorting contiguous structures or rupturing and leading to peritoneal irritation. The classic triad of abdominal pain, delayed menses and vaginal bleeding is neither sensitive nor specific for ectopic pregnancy.⁶ Symptoms and physical findings are highly variable among patients, making the diagnosis extremely challenging. Unfortunately, the majority of patients with an ectopic pregnancy have normal vital signs until they have experienced significant blood loss.

The diagnostic value of ultrasonography alone is limited. When the intestines are close to the abdominal pregnancy, ultrasound diagnosis is of a lesser value.^{6,9} Most patients do not have definitive evidence of an ectopic pregnancy on ultrasound. Ultrasound signs of an ectopic include an empty uterus, extra-ovarian mass, tubal ring sign and pelvic free fluid.^{10,11} When added to the investigation, magnetic resonance imaging (MRI) can help locate and identify the relationship between

the placenta and the adjacent organs and tissues.¹² The patient we reported had a scan done at 20 weeks which unequivocally but wrongly reported an intrauterine gestation. Clinical suspicion in the setting of an early pregnancy assessment programme based on transvaginal ultrasonography will improve the first trimester detection rate of extra-uterine abdominal pregnancy.⁶

For stable patients without significant pain, diagnosing an ectopic pregnancy in the absence of an intrauterine pregnancy is often accomplished in the outpatient setting by gynaecologists using serial ultrasonography in conjunction with serial serum quantitative beta human chorionic gonadotrophin (-hCG) levels. Patients with a rise in serum -hCG level slower than expected are highly suspicious for ectopic pregnancy. The doubling rate of -hCG in ectopic pregnancy is not consistent and cannot be used as the sole diagnostic marker.^{6,9} Hence, these cases should warrant close follow up to prevent adverse outcome. Furthermore, first trimester ultrasound scan in pregnancy attended by a high index of suspicion will improve the diagnosis of early abdominal pregnancy which can be safely terminated medically.⁶

Although rarely used since the advent of ultrasound, culdocentesis is a simple, bedside procedure that can be performed when ultrasonography is not readily available on a potentially unstable patient to detect the presence of intraperitoneal blood. A spinal needle is advanced through the posterior vaginal wall into the peritoneal space. Greater than 2ml of non-clotting blood is suggestive of hemoperitoneum and ruptured ectopic pregnancy.¹³

The definitive treatment for our patient was intended as CS but turned out to be laparotomy and removal of an abdominal pregnancy. Previous observations of advanced abdominal pregnancies have shown the common findings of prolonged pregnancy, absence of labour at term or unyielding cervix during induction of labour¹⁴ which was the situation in our patient. These observations should trigger a suspicion of

extra-uterine gestation when no other explanation is likely. Laparotomy in advanced abdominal pregnancy may be complicated by injury to the fetus due to the proximity to the anterior abdominal wall. This risk may be reduced or prevented by blunt dissection into the peritoneal cavity from the primary site of incision. In our case, the amniotic membrane was visible beneath the anterior abdominal wall, which was easily opened up by tissue forceps and bluntly separated. Considering that abdominal pregnancy was unanticipated and outcome was expected to be stillbirth, these precautions were not applied.

Removal of the placental tissue is less difficult in early pregnancy as it is likely to be smaller and less vascular. In our patient, the placenta was easy to deliver and this also did not provoke serious bleeding. It is likely that the implantation in the pouch of Douglas prevented a wide and vascular connection between the placenta and adjoining intraperitoneal organs. Successful laparoscopic management of early abdominal ectopic pregnancies have been reported; however, a minimally invasive procedure of ultrasound guided feticide has also been described.¹⁵ These modalities of treatment are not promoted for advanced abdominal pregnancies like the case we reported. In situations where risk of serious haemorrhage is anticipated, the option of leaving the placenta in situ and administering methotrexate is advocated, though not without the possibility of complications like ileus or sepsis.⁶

Fetal complications of abdominal pregnancy include birth asphyxia, fetal death as occurred in our patient and perinatal mortality. In surviving babies, many malformations such as talipes equinovarus have been documented.⁴

CONCLUSION

There have been many reports of advanced abdominal pregnancies with favourable maternal and/or perinatal outcome. Since the diagnosis is frequently missed preoperatively, and adverse fetal and

maternal outcome is not invariable, it is arguable that allowing the continuation of an advanced abdominal pregnancy to improve neonatal outcome may be feasible.

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Authors' contributions

OO and TD were involved in the initial drafting and writing of the manuscript. NE contributed to the final writing and also edited the manuscript. All authors read and approved the final manuscript.

Consent for publication

The patient gave written informed consent for the publication of the case report as well as the images.

Competing interests

The authors declare that no competing interests exist.

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