

Advanced Abdominal Pregnancy: The Challenges of Management

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Abstract

Advanced abdominal pregnancy is a rare form of ectopic pregnancy with a high morbidity and mortality rate for both mother and fetus. It is usually seen in low resource setting where antenatal care attendance is poor resulting in late presentation and often with complications. While diagnosis can present a puzzle, a high index of suspicion is important. The management is challenging especially when undiagnosed. A case of an unbooked abdominal pregnancy that presented at 31 weeks 2 days' gestational age which resulted in a live female newborn with severe hydrocephalus at a tertiary hospital in North-central Nigeria is presented.

Keywords: Abdominal pregnancy, congenital anomalies, ectopic, placenta

INTRODUCTION

Abdominal pregnancy is defined as an implantation in the peritoneal cavity exclusive of the tubal, ovarian, or intraligamentous implantation.^[1] It is a rare form of ectopic pregnancy with an incidence of about 1 per 10,000 births and about 1.4% of all ectopic pregnancies. Possible sites of implantation in the abdominal cavities include the omentum, pelvic sidewall, posterior cul-de-sac and abdominal organs (such as spleen, bowel and liver), large pelvic vessels, diaphragm, and the uterine serosa.^[2,3] The pouch of Douglas has been described as the most common location followed by the mesosalpinx and omentum. While it is a rare occurrence, its potential for severe maternal morbidity and mortality, especially from the risk of massive intra-abdominal hemorrhage from the detached placenta cannot be overemphasized. It can be either primary or secondary abdominal pregnancy. Primary abdominal pregnancy is diagnosed using the Studdiford's criteria, i.e., normal ovaries and tubes, no evidence of abnormal communication between the uterus and peritoneum (uteroperitoneal fistula) and the pregnancy is related solely to the peritoneal surface with no evidence of an antecedent tubal pregnancy.^[4]

Most cases are often secondary abdominal pregnancies, with prior tubal or ovarian implantation before settling in the peritoneum. Risk factors are similar to those of tubal ectopic pregnancy such as tubal damage, pelvic inflammatory

disease, endometriosis, assisted reproductive techniques, and multiparity.^[5,6] Maternal mortality associated with abdominal pregnancy is about 7.7 times that of other locations of ectopic pregnancy and 90 times that of intrauterine pregnancy.^[7] The overall perinatal mortality rate is about 40%–95%.^[8] This case report helps to illustrate the challenges of managing advanced abdominal pregnancy (AAP).

CASE REPORT

A 32-year-old unbooked primigravida at 31 weeks 1 day, she presented to the obstetric emergency unit with a complaint of generalized abdominal pain and fever. Pregnancy was conceived spontaneously and had an ultrasound at 12 weeks' gestation that made an impression of an extrauterine pregnancy and was referred to our facility; however, the patient failed to present on account of the absence of symptoms. Examination revealed a woman in intermittent pain, febrile (T 37.9°C), and blood pressure 140/90 mmHg. The abdomen was uniformly

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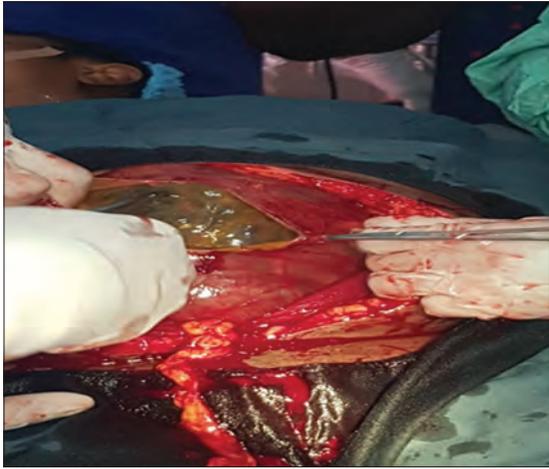


Figure 1: Opening the parietal peritoneum

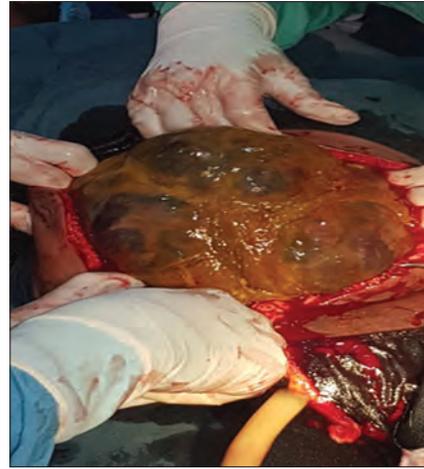


Figure 2: Intact gestational sac on abdominal entry with omentum attached



Figure 3: Female baby weight 3.9 with APGAR Score 3, 4 and 6 in 1st, 5th and 10th min with an occipitofrontal circumference of 44 cm

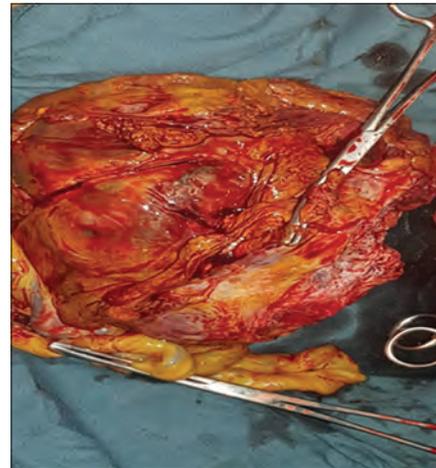


Figure 4: Placental bed

enlarged with easily palpable fetal parts and generalized tenderness which limited further examination. Investigations showed a hematocrit of 26%, with leukocytosis. An urgent departmental ultrasound (Abdominal ultrasound) done revealed a live intra-abdominal fetus. A diagnosis of AAP was made. A second opinion ultrasound was requested at a diagnostic facility which revealed an extrauterine gestation at 35 weeks with hydrocephaly.

An emergency laparotomy was scheduled with the general surgeons, neonatologist, and anesthesiologist in attendance with the hematologist. Intraoperative findings included an extrauterine sac with a live female fetus with severe hydrocephalus weighing 3.9 kg, APGAR 3, 4, and 6 in the 1st, 5th and 10th min, respectively, with an occipitofrontal circumference of 44 cm, and facial dysmorphism as shown in Figures 1-4 below. The placenta was attached to the omentum, gut, uterine fundus, and the right adnexa. The left tube and ovary were normal. Estimated blood loss was 3.1 litres. She had two units of blood transfused intraoperatively. Meticulous surgical dissection of the placenta from attached structures was

done and hemostasis secured. A surgical drain was placed and she was transferred to the intensive care unit. However, the baby died three hours after birth at the special care baby unit. Her hemoglobin level was corrected with a further two units of blood transfusions postoperatively. She made good recovery with a posttransfusion packed cell volume of 29% and was discharged on the 6th postoperative day. She was counseled on wearing a tight bra, family planning, and the likelihood of recurrence. She was also placed on hematinics and was given a one-week appointment to be seen at the postnatal clinic. At the postnatal clinic she was found to have recovered satisfactorily, and she opted for Copper T intrauterine contraceptive device (Cu T380A). She was also counseled on subsequent pregnancies, risk of recurrence, and need for early ultrasound when pregnancy is suspected for fetal localization. She was then referred to the family planning clinic.

DISCUSSION

The clinical presentation and diagnosis of abdominal gestation can pose a challenge, especially in AAP. It is associated

with a wide range of presentations. It may go undetected until an advanced gestation, unlike the more common tubal gestation. Implantation on bowels may present with nausea and vomiting while some may present in shock due to severe abdominal hemorrhage from a separated placenta or ruptured major maternal blood vessel or viscera.^[9,10] The diagnosis may be made following failed induction due to lack of myometrial response to oxytocin stimulation.^[11] Vaginal bleeding may occur since the endometrium still responds to pregnancy hormones, however, abdominal pain tends to be the most common symptom.^[10] Clinically, it can be suspected when fetal parts are easily palpable on abdominal exam as in the case presented.^[12] A high index of suspicion is very important in making a diagnosis of abdominal pregnancy. An advanced abdominal gestation may be misinterpreted as being intrauterine if the sonographer does not evaluate the myometrium during examination. The magnetic resonance imaging provides additional information in cases of ambiguity and can help define the extent of abdominal and pelvic organs invasion by the placental tissue, and is not contraindicated.^[12]

It is advocated generally that abdominal pregnancies, even when advanced, are interrupted at diagnosis, as the potential for delivery of a healthy infant is poor and the risk of maternal complications is high.^[2] However, some researchers have advocated for conservatively using Sapuri-Klufio criteria.^[10,13] Operative laparoscopy is an option of the management if the diagnosis is made in early gestation, however, it has a risk of uncontrollable hemorrhage which is better controlled at laparotomy.^[2] Primary methotrexate therapy has had minimal success compared to tubal gestation, this may be due to a more advanced gestational age at which the pregnancies are discovered.^[2,14] In AAP, the mainstay of treatment is surgery; while the fetus can be delivered easily, the key issue is how to manage the placenta. There is no consensus in either leaving the placenta *in situ* or removing it.^[2] In our patient, the placenta was removed with careful blunt dissection from adjoining structures, though this was not without significant maternal hemorrhage as estimated blood loss was about three litres. Ligating the umbilical cord and leaving the placenta *in situ* may be followed with allowing natural resorption, use of methotrexate to hasten its destruction or arterial embolization.^[2,15]

Outcomes of abdominal pregnancies are quite difficult to determine as most articles are case reports. A case fatality rate of 7.1% and 0% fetal survival rate was reported in Ibadan, Nigeria.^[16] Fetal deformation and perinatal death are also common findings as happened in our case where the baby had hydrocephaly and died six hours after birth.

CONCLUSION

AAP is a rare diagnosis, gynecologists need to have a high index of suspicion and be aware of the diagnostic dilemma

it could present with. While ultrasound is the first imaging modality of choice, the diagnosis can still be missed. The life-threatening challenges it could present with during surgery makes a good surgical preparation and anticipation of possible complications necessary.

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Conflicts of interest

There are no conflicts of interest.

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