

Abdominal Pregnancy with a live baby at term: An incidental finding at Emergency Caesarean section for type ii Placenta Praevia in a Private Healthcare Facility in Ebonyi state, Nigeria: Case Report

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Abstract

We present a case of an unbooked 33yr old G4P2+1 with abdominal pregnancy and a live baby at term. This was an incidental finding at an emergency cesarean section for type II placenta praevia in a secondary facility in Ebonyi State, Nigeria. She had a previous history of left tubal ectopic pregnancy with salpingectomy. She presented with complaints of continuous abdominal pain, ultrasound diagnosis of type II placenta praevia and a previous history of centennial bleeding. On examination, though her vital signs were unremarkable, the lie and presentation were not appreciable and the fetal heart rate was not heard. An assessment of type II placenta praevia at term was made and she was worked up for an emergency Cesarean section. Intraoperatively, a highly vascularized placenta with anastomotic branches to the peritoneum was seen. The placenta was firmly attached to the left uterine cornus but was adherent to the left broad ligament, transverse and sigmoid colon.

A normal right fallopian tube and ovary were seen. A live healthy female fetus was extracted with a birth weight of 2.7 kg and an Apgar Score of 7¹10⁵ and with no obvious deformities. The placenta and membranes were gradually separated and haemostasis achieved. She received a total of 7 units of blood before discharge and was offered intra uterine contraceptive device at six weeks.

KEYWORDS: abdominal pregnancy, life ectopic baby, term ectopic gestation

Introduction

Abdominal pregnancy is a rare subset of ectopic pregnancy accounting for 1% of ectopic pregnancy and is usually defined as implantation within the peritoneal cavity.¹ It usually carries a grave prognosis and can account for significant morbidity and mortality especially when advanced, that is beyond 20 weeks of gestation.² It has been classified into primary and secondary.² The precise prevalence of advanced abdominal pregnancy in Nigeria is not known.^{3,4} However, a 30-year review done in a hospital setting in South Eastern Nigeria showed an incidence of 1 in 2761 births while a ten-year review in South Western Nigeria gave an incidence of 1 in 654.^{3,4} The reason for the wide disparity in incidence cannot be readily explained. Incidence data from other parts of Africa showed rates of 1:1320 in Ghana, 1:3259 in Tanzania, and 1:9500 in Zimbabwe.⁵⁻⁷

There is a wide clinical spectrum of presentation that makes abdominal pregnancy a diagnostic dilemma, especially in low-resource settings.^{2,3} Abdominal pain was the commonest presentation in about 85% of the patients, followed by absent fetal movement and abdominal mass (25% each).^{2,3} There is a substantial rate of missed diagnosis of abdominal pregnancy (AP) before surgery.⁸ A 32-year review in China showed that only 29.4% of cases were diagnosed before surgery and suggested that increased gestational age and appearance of fetal heartbeat were predictive of increased accuracy of pre-operative diagnosis.⁸ Another study in the United States admitted that only 11.1% of cases were diagnosed before surgery.⁹ However, two studies done in Nigeria gave a prevalence of 33.3% and 50% accurate pre-operative diagnosis, and attributed missed diagnosis to non-specificity of clinical features/

presentation.^{2,3}

Ultrasonography remains the cheapest, safest and readily available tool for the diagnosis of abdominal pregnancy, especially in low-resource settings. Ultrasound helps in differentiating intrauterine and extrauterine pregnancies and can also differentiate primary and secondary abdominal pregnancy.¹⁰ The Studdiford criteria is useful in the diagnosis of primary abdominal pregnancy and is based on three important findings viz: normal bilateral fallopian tubes and ovaries, absence of uteroplacental fistula, and a peritoneal pregnancy, which is a rare type of ectopic pregnancy where the embryo implants directly on the peritoneal surface. This condition often occurs early, potentially following a primary implantation in the fallopian tube, which later results in secondary implantation onto the peritoneum. Despite its usefulness, ultrasonographic diagnosis may still be tasking due to operator dependence, gestational age, maternal obesity, fibroid and a retroverted uterus, and false reassurance from multiple previous scans reporting intrauterine gestation.¹¹ Magnetic resonance imaging is another investigation used for the diagnosis of AP; its ability to differentiate tissues with higher accuracy makes it superior to ultrasound in fetal and placental localization.^{12,13}

There are no specific guidelines on the management of AP.^{16,17} However, a case-by-case review, revealed that certain approaches were adopted depending on the gestational age, time of diagnosis (i.e. preoperative or intraoperative), placental characteristics, site of implantation and region of practice (low- vs high- resource setting).^{16,17} Three approaches are commonly employed viz: conservative, laparoscopic and laparotomy.^{16,17} The

conservative approach whereby the fetus is followed till viability before surgical intervention is often employed with variable success.¹⁷ Expectant management in one cohort showed that 72% of women with AP had live babies with 11% of neonatal death and 2 cases of stillbirth.¹⁸ Anesthetic considerations for AP usually involve general anesthesia.^{19,20} Blood must be grouped and crossmatched because of the risk of hemoperitoneum especially after placental separation; this was noted in a review of 163 cases which showed that 80% of patients required blood transfusion.²¹

A very important decision is the management of the placenta. Several approaches have been employed viz: umbilical artery embolization,²¹ post-operative methotrexate injection¹⁶ and conservative to radical surgical approaches,²² all these depend on findings during surgery. However, with the surgical option, placental localization and separation with control of hemostasis is paramount.²² Other surgeries like salpingoplasty/salpingectomy or even hysterectomy may be considered in selected cases.²² Post operative management should be in the intensive care unit for the hemodynamically unstable mother. Blood transfusion and close monitoring of maternal hemodynamics as well as surveillance for sepsis must be undertaken. Other complications to look out for include paralytic ileus, postoperative hemoperitoneum, anemia, hypovolemic shock, and acute kidney injury. Newborn screening for fetal malformations must be carried out, as 40% of cases are associated with fetal malformation.²² There is also a risk of maternal death.

Case presentation

This is the case of an unbooked 33yr old G4P2+1, 2 alive who was unsure of the date of her last menstrual period but had an estimated ultrasound gestational age of 39 weeks + 4 days. She had a previous history of left tubal ectopic pregnancy, for which she underwent left salpingectomy. She presented at a private

secondary healthcare facility in Ebonyi State on March 2023 with complaints of continuous abdominal pain. The pain was worse around the right lumbar and hypochondriac regions, was noted to have started 13hrs prior to presentation and was associated with urinary frequency. There was also a history of bleeding per vagina that occurred during the first trimester of the index pregnancy.

Examination findings revealed a woman that was afebrile (36.8°C), anicteric, neither pale, cyanosed, nor dehydrated with a regular pulse rate of 77 beats per minute but blood pressure of 160/90 mmHg. Abdomen examination showed a gravid uterus with a symphysio-fundal height of 33 cm. The fetal lie and presentation were not appreciable. The fetal heart rate was not heard. Emergency obstetric ultrasound done at two different facilities on the same day of presentation showed a viable fetus at 39 weeks with type II placenta praevia and associated intraplacental hemorrhage. An initial assessment of type II placenta praevia at term was made. She was subsequently worked up for an emergency lower segment caesarean section. Preoperative packed cell volume was 30%. Serum electrolytes, retroviral screening, Hepatitis B and C and urinalysis were normal. Three units of blood were grouped and crossmatched. A written consent was obtained from the woman and the husband.

An extended Pfannenstiel incision was made with entrance into peritoneal cavity. A highly vascularized placenta with anastomotic branches to the peritoneum was seen. The placenta was firmly attached to the left uterine cornus and also adherent to the left broad ligament, transverse and sigmoid colon. A normal right fallopian tube and ovary were seen. A live female fetus was extracted with a birth weight of 2.7 kg and an Apgar score of 7₁10₅. The membranes were gradually separated from their attachment to the peritoneum, gut and omentum. The lower edge of the placenta at the left round ligament was double clamped, excised and ligated.

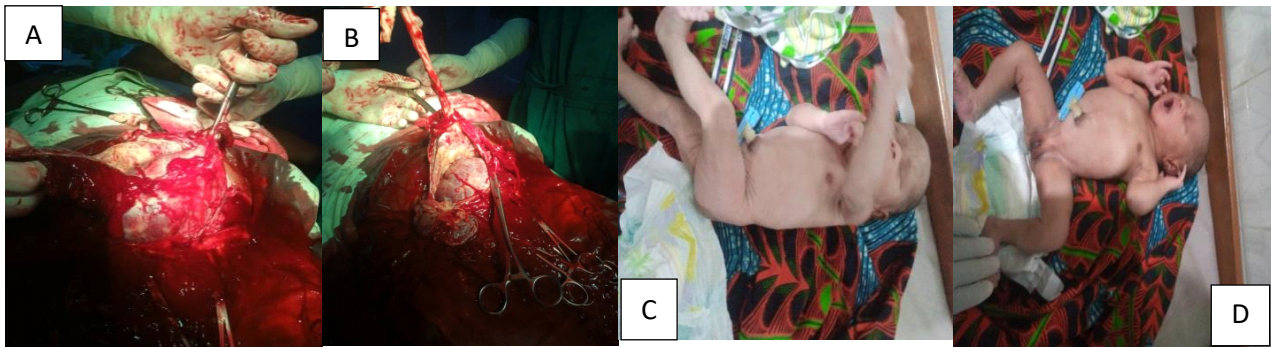


Figure I: Pictures A & B show the gestational sac and cord attached to the peritoneal surface and pelvic structures following delivery of the fetus. Pictures C & D show the viable and normal fetus

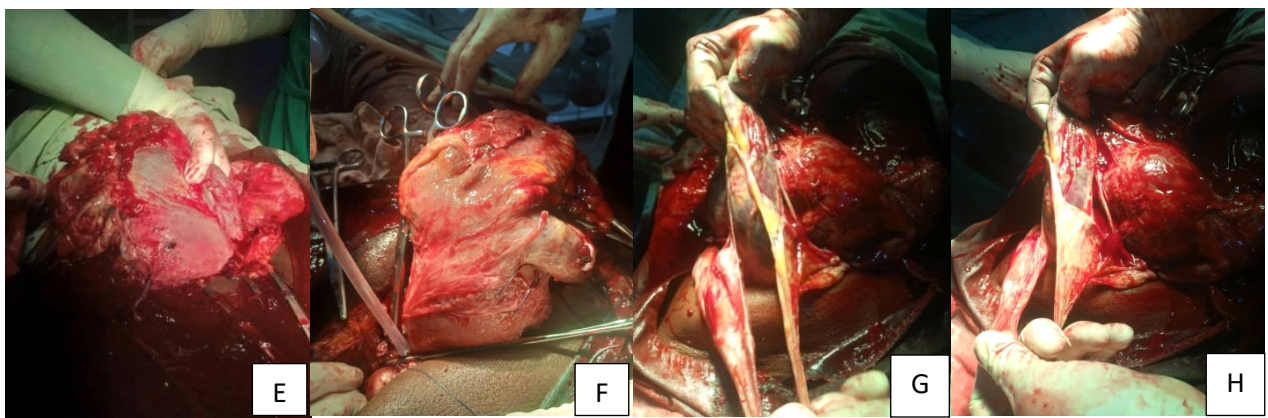


Figure II: Pictures E & F show the placenta bulk delivered from the abdomen with attachments. Pictures G & H show the gradual separation of the placenta from the peritoneum and pelvic structures.

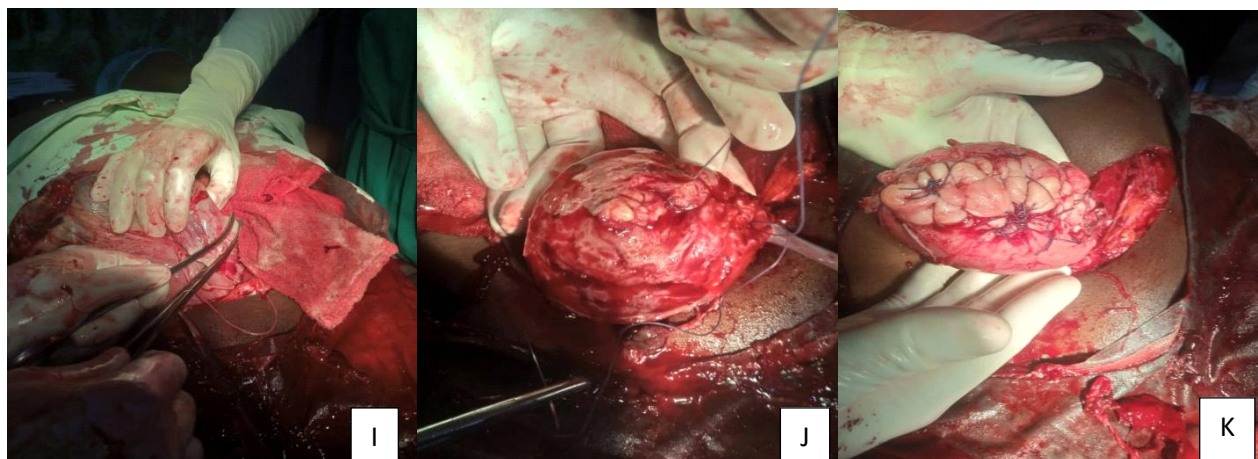


Figure III: Picture I shows the clamping of the placenta attachment to the left broad ligament before separation. Picture J shows wedge resection of the placenta attachment to the left tubal stump. Picture K shows the metroplasty.

There was massive hemorrhage which was controlled with interrupted sutures at the area of bleed using vicryl 2. A wedge resection at the left uterine cornus and left lateral uterine wall was done and the placenta was completely separated. Metroplasty was done and hemostasis was secured using vicryl 2. An intraabdominal drain was inserted and secured. Rectus sheath and skin were sutured using vicryl 2 and vicryl 2/0 cutting respectively.

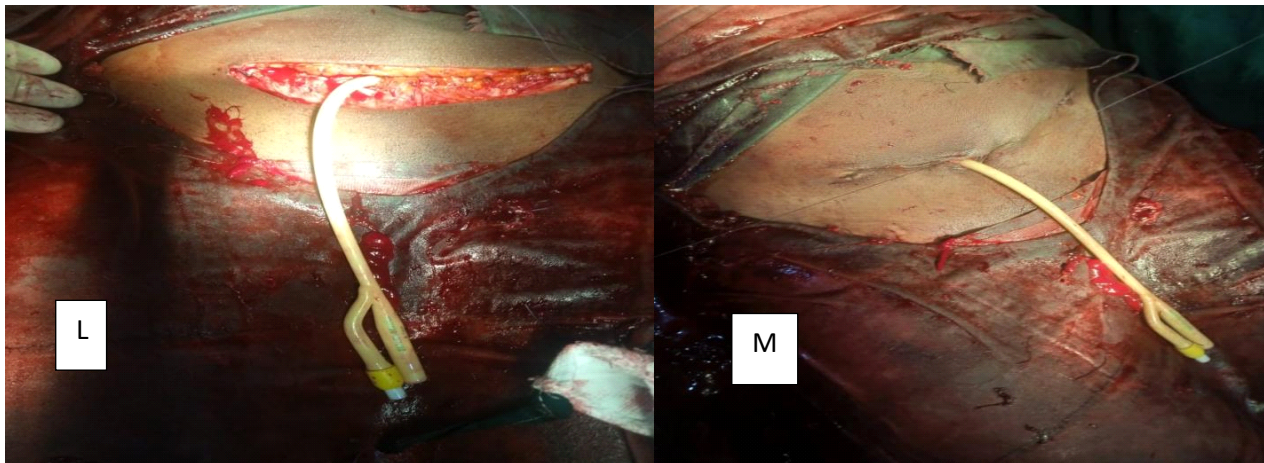


Figure IV: Picture L & M show the abdominal wound with catheter insertion

She received 1000 ug of misoprostol rectally and 3 units of blood were transfused intraoperatively with the fourth unit given in the immediate post-operative period. Estimated blood loss was 3 litres. Immediate post-operative blood pressure was 90/60 mmHg and pulse rate was 110 beats per minute. Post-op packed cell volume was 23% which warranted the need for further 3 units of blood transfusion. She had an in-hospital stay of 9 days with stable vital signs and was subsequently discharged home. Newborn screening did not reveal any abnormality of the baby. At six weeks she was stable and the baby was healthy. She was subsequently discharged from the clinic after receiving intrauterine contraceptive device.

Discussion

We presented an unbooked multipara with a previous ectopic pregnancy and left salpingectomy, who was billed for emergency Cesarean section but

intraoperatively noted to have an advanced viable primary abdominal pregnancy with good feto-maternal outcome. Our case had sparing of the uterus with the fetus identified within the peritoneal cavity. Our case was primary ectopic pregnancy, as the right tube, ovary and the uterus were spared. The only attachment of the fetus to the reproductive tract was to the round ligament and left salpingectomy scar. The documented prevalence in studies showed that it is rare.³⁻⁷ This is evident as this was the first seen by the team in the past 5 years in a Centre with an average cesarean section rate of 3 per day.

The wide spectrum of presentation makes it a diagnostic dilemma especially in low-resource settings.^{2,3} There is a substantially high rate of missed diagnosis of abdominal pregnancy (AP) before surgery⁸ and this case was one of such. A thirty-two-year review in China showed only 29.4% of cases⁸ and in the United States only 11.1%

of cases were diagnosed before surgery.¹¹ This corroborates with two studies in Nigeria where preoperative diagnosis was made in only 33-50% of the cases.^{2,3} This may be why a diagnosis was not made in our case preoperatively despite multiple ultrasounds done in specialized centers on the same day of the surgery. Abdominal pain was the commonest presentation in about 85% of the patients, followed by absent fetal movement and abdominal mass (25% each).^{2,3} Abdominal pain of 13 hours was the clinical symptom necessitating the presentation of this patient. However, this missed diagnosis was attributed to non-specificity of clinical features/presentation. This was seen in the case as the clinical features were suggestive of placenta praevia while abdominal pregnancy was diagnosed intraoperatively.

Ultrasound remains the readily available tool for the diagnosis of abdominal pregnancy. However, it was not helpful in the index case as consecutive ultrasounds done did not diagnose the AP. This was the reason we presumed that this case was a case of primary abdominal pregnancy, however we missed the opportunity of an early scan to rule out the possibility of primary nidation as patient was unbooked. Diagnosis can still be challenging despite its benefits. Factors like operator skill, gestational age, maternal obesity, fibroids, a retroverted uterus, and misleading reassurance from multiple prior scans reporting intrauterine pregnancy can complicate the process¹¹. These may be some of the reasons for the missed diagnosis in the index case.

Case-by-case review shows that there is no clear-cut guideline in the management of AP.^{16,17} Three approaches are commonly employed viz conservative, laparoscopic and laparotomy.^{16,17} The conservative approach whereby the fetus is followed till

viability before surgical intervention is often employed with variable success.¹⁷ However, ours was an incidental finding and the only option left was laparotomy. This was employed in the index case and was successful. Our patient was unbooked and the pregnancy was carried to term with good fetomaternal outcome, even at the 6th week post-natal visit. Expectant management in one cohort showed that 72% of women with AP had live babies with 11% of neonatal death and 2 cases of stillbirth.¹⁸ The possibility that the fetus in our study grew to term may be that there was good blood supply as the placenta was adherent to the blood vessels of the broad ligament. This high rate of fetal survival may explain why our patient had a live baby irrespective of her booking status. Anesthetic considerations for AP usually involve general anesthesia,^{19,20} which was also used general anesthesia in this case. Blood transfusion is almost always required because of the risk of hemoperitoneum especially after placental separation. A review of 163 cases showed that 80% of patients required blood transfusion.²¹ Our patient received three units of blood intraoperatively, one unit in the immediate postoperative period and three units in the ward before discharge making it a total of seven units.

In the management of the placenta, our patient was managed with a near-radical surgical approach as she had wedge resection and metroplasty.²² This option was the only option left as the finding was incidental, the baby alive and need to save the baby and the mother paramount. She was managed in the ward as she was fairly stable postoperatively. There were no postoperative complications and newborn screening for fetal malformations showed normal findings.

Conclusion

This case report shows the difficulty of advanced primary abdominal pregnancy, which remains a diagnostic and management challenge, particularly in low-resource settings. It emphasizes the importance of sensitive clinical examination, thorough preoperative evaluation, and prompt multidisciplinary care in ensuring positive outcomes in such rare conditions. The successful management of this patient exemplifies how challenges associated with advanced abdominal pregnancy can be overcome with meticulous care and teamwork.

Limitations

1. The patient's lack of antenatal care limited the opportunity for early detection and intervention, which could have provided clearer diagnostic insights.
2. As a low-resource setting, advanced diagnostic modalities like MRI, which could have improved diagnostic accuracy, were not utilized.
3. Despite multiple ultrasounds at specialized centers, abdominal pregnancy was not diagnosed preoperatively due to the non-specific presentation and limitations of ultrasonography such as operator dependence.
4. The conclusions drawn are limited to this single case, and generalizations may not apply to all instances of advanced abdominal pregnancy.
5. Early pregnancy histological data, which could definitively establish the primary nature of the abdominal

pregnancy, was not available due to delayed diagnosis.

Declaration of patient consent

Informed consent was obtained from the patient for the publication of this case report with the accompanying images.

The authors certify that they have obtained all appropriate consent from the patient. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patient understands that their names and initials will not be published and due efforts have been made to conceal their identity.

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Nil

Conflicts of interest

There are no conflicts of interest.

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