



## Abdominal pregnancy with a live newborn in a low-resource setting: A case report

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### ABSTRACT

Abdominal pregnancy is defined as pregnancy anywhere within the peritoneal cavity, exclusive of tubal, ovarian, or broad ligament locations. It is a rare form of ectopic pregnancy with high morbidity and mortality for both the mother and the fetus.

Diagnosis can be frequently missed in low-resource settings because of poor antenatal healthcare provision, low socioeconomic patient status as well as lack of adequate medical resources. Clinical diagnosis can be difficult and ultrasound scan is helpful during the early stages of gestation but can be disappointing thereafter.

A case of abdominal pregnancy in a 25-year-old woman, who presented at 26 weeks of gestation with severe abdominal pain not relieved by any medication, is reported. An emergency laparotomy was undertaken as her vital signs deteriorated. An abdominal pregnancy was found and a live neonate delivered.

Ministries of health in developing countries should ensure routine access to ultrasound in early pregnancy. Obstetricians should bear in mind that abdominal pregnancy can present late in gestation.

### 1. Introduction

Abdominal pregnancy is defined as pregnancy anywhere within the peritoneal cavity, exclusive of tubal, ovarian, or broad ligament locations [1]. Abdominal pregnancies can be classified into primary and secondary. Primary abdominal pregnancy occurs when the blastocyst implants directly in the abdominal cavity. Secondary abdominal pregnancy occurs after tubal rupture or abortion or uterine rupture with secondary peritoneal implantation [2]. It is a rare form of ectopic pregnancy with high morbidity and mortality for both the mother and the fetus [3]. Abdominal pregnancy represents 1–1.5% of all ectopic pregnancies, with an estimated incidence of 1:8000–10,000 pregnancies [1]. Diagnosis can be frequently missed in low-resource settings because of poor antenatal healthcare provision, low socioeconomic patient status as well as lack of adequate medical resources [3].

Maternal complications can occur in the antepartum, peripartum or postpartum periods. These complications include spontaneous

separation of the placenta leading to massive haemorrhage, shock, disseminated intravascular coagulation, organ failure, and death. [4].

The case of a woman at 26 weeks of gestation who presented with severe abdominal pain not relieved by any analgesia is described. An emergency laparotomy was undertaken at which an abdominal pregnancy was found and a live neonate delivered.

### 2. Case Presentation

A 25-year-old woman (G5P4 + 0) at 26 weeks of amenorrhea was admitted with a complaint of generalized abdominal pain without vaginal discharge or bleeding for the past month. She had attended another facility for antenatal care on four occasions during this pregnancy. Ultrasound examination revealed no abnormality. She had been admitted for 3 weeks in the same health facility with similar complaints but with no improvement. She had 2 living children, 1 intrauterine death and 1 neonatal death from the most recent pregnancies. It was also

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noted that she had 3 previous caesarian sections in the past, had not used contraception and had no history of hypertension or diabetes.

On examination, she was sick looking and afebrile. Her blood pressure was 100/77 mmHg and her heart rate was 125 bpm.

At abdominal examination, uterine height of 32 cm, the presenting part was not well defined and a hand-held Doppler device was used to assess fetal heart rate. There were no uterine contractions. She was managed as threatened preterm labor with salbutamol 1.5 mg in 500 ml of dextrose for the two following days.

Her laboratory results were as follows: hemoglobin 110 g/l; HIV negative; VDRL negative; blood group A +; malaria test positive; and urinalysis positive for leukocyte esterase. The ultrasound scan was not conclusive with features of extensive placental tissue and only the fetal heart and movements were visualized.

She was started on ceftriaxone 2 g/24 h and artesunate 140 mg according to national guidelines as well as paracetamol 1 g twice daily. As there was no improvement, salbutamol was stopped and phloroglucinol 80 mg twice daily was given, but to no effect. Thus, tramadol 100 mg twice daily was prescribed, again with little improvement.

On day 5, she started having profuse sweating, tachycardia at 152 bpm with blood pressure at 110/83 mmHg. Per abdomen, fundal height was 38 cm; on speculum, the cervix was closed. The random blood sugar was 8.89 mmol/l, negative glycosuria, proteinuria ++, hematuria ++, normal blood count with hemoglobin at 135 g/l.

Ultrasound scan revealed excessive placental proliferation without calcification, perception of fetal cardiac activity and gestational age of 26 weeks and 4 days by biparietal diameter but the limbs were not well visualized.

The patient was still taking phloroglucinol 80 mg two times a day and tramadol.

On day 7, the patient's condition worsened with anxiety, agitation, vomiting and dyspnea. On examination, there was significant abdominal distention, an oxygen saturation of 97%, blood pressure at 100/60 mmHg and heart rate at 156 bpm. In view of this clinical picture, the medical staff decided to proceed to emergency caesarean section.

A midline incision was performed (Fig. 1) after removing the old scar and on opening the peritoneal cavity meconium-stained liquor was found. Attempts to detach the amniotic sac resulted in its rupture and presentation of a fetal foot. A breech extraction of a live newborn was undertaken (APGAR scores of 9/10/10, birthweight 2000 g, cranial circumference of 31 cm and length of 39 cm without external deformity).

The placenta was large and inserted into the uterine fundus like the



**Fig. 1.** Gestational sac visible just beneath the rectus abdominis muscle on entry into the abdominal cavity.

1. Abdominal wall.
2. Amniotic sac with greenish aspect.

cap of a mushroom, taking up the uterus and its appendages like the stem of the mushroom (Fig. 2). Its edge was spread more to the left than to the right, going so far as to insert itself on the abdominal wall.

As placental removal is difficult with a friable uterus, total hysterectomy conserving the right ovary was undertaken. Some membranes were removed; the rest, lining the intestines, were left in place. A drain was left for three days; two units of blood were given during surgery and a further two postoperatively.

Postoperative follow-up was unremarkable and the patient's hemoglobin at 48 h was 80 g/l. The patient and the neonate were discharged on day 14.

### 3. Discussion

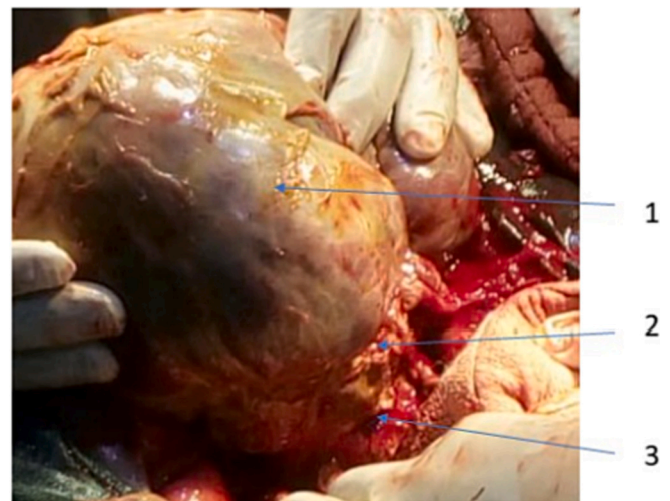
Abdominal pregnancy is a serious and potentially life-threatening condition, mainly due to the risk of massive haemorrhage from a partially or totally separated placenta [1]. Preoperative diagnosis of abdominal pregnancy can be difficult as clinical symptoms vary [5]. Ultrasound is more helpful in early rather than late pregnancy, where MRI and CT scan may be useful [6]. Abdominal pregnancies usually do not survive to term and may be complicated by congenital malformations [6]. Abdominal pregnancies diagnosed in early gestation can be managed through laparoscopic surgery [7]. Placental removal at term may be problematic because of the risk of haemorrhage and thus leaving it in situ after ligating the umbilical cord is an option that can be considered [8,9].

The lesson from this case report is that in low-resource settings ultrasound scan should be undertaken routinely in the first trimester. Ministries of health in developing countries should ensure routine access to early pregnancy ultrasound and provide training. Obstetricians should also bear in mind that abdominal pregnancy can present late in gestation and that symptoms vary and can be non-specific.

### Contributors

Olivier Mulisya contributed to conception of the case report, patient care, drafted the manuscript, undertook the literature review and revised the article critically for important intellectual content.

Guelord Barasima contributed, drafted the manuscript, to patient care and the literature review and revised the article critically for



**Fig. 2.** The placenta was large and inserted into the uterus fundus like the cap of a mushroom, taking up the uterus and its appendages like the stem of the mushroom

1. Placenta, fetal surface.
2. Placenta inserted to the uterus fundus.
3. Uterus.

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Henry Mark Lugobe contributed to patient care and the literature review and revised the article critically for important intellectual content.

Philémon Matumo contributed to patient care and the literature review and revised the article critically for important intellectual content.

Bienfait Mumbere Vahwere contributed to patient care and the literature review and revised the article critically for important intellectual content.

Hilaire Mutuka contributed to patient care and the literature review and revised the article critically for important intellectual content.

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### Patient consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

### Provenance and peer review

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### Conflict of interest statement

The authors declare that they have no conflict of interest regarding

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