

# Unexpected Advanced Abdominal Pregnancy from a Placenta Previa Suspicion: A Case Report

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## Abstract

Advanced abdominal pregnancy is a condition of pregnancy that continues beyond 20 weeks of gestational age in the abdominal cavity. Estimation of the case occurrence is between 1:10,000 to 1:30,000 live birth. This happens as a result of fertilization in abdominal cavity, tubal rupture, or tubal abortion. This condition causes a high morbidity and mortality rate in the mother and baby. We presented a case of a 41-year-old woman with G2P1 term pregnancy referred to our OBGYN clinic in Dr. Zainoel Abidin Hospital, Banda Aceh, from a regional hospital with morbidly adherent placenta previa with no suspicion to abdominal pregnancy. She had no history of antepartum hemorrhagic. The patient was put through several examinations and prepared for elective c-section to hysterectomy. After opening the peritoneum during C-Section, we had difficulty identifying the lower segment of the uteri. The amniotic membrane was covered with omentum. We incised the amniotic membrane and delivered a 3500gr, AS 8/9 male baby. Placental implantation was identified at the omentum, uterine fundus, and some of the pelvic wall. Bleeding was controlled and a large part of the placenta was evacuated adequately, but some part was left in the abdominal cavity. The patient's and the baby's condition were stable after the surgery and was discharged after the fifth day of hospitalization in a good condition. This case report provided insights that advanced abdominal pregnancy shows no typical symptom and is similar to placenta previa. Its diagnosis at an advanced gestational age is apparently more challenging. Some cases were able to be diagnosed preoperatively, but most other cases were only diagnosed intraoperatively.

Keywords: Abdominal pregnancy, placenta previa

## 1. Introduction

Advanced abdominal pregnancy (AAP) is a pregnancy that progresses past 20 weeks of gestation with a growing fetus inside the abdominal cavity. It is a part of ectopic pregnancy with a high rate of morbidity. An ectopic pregnancy occurs approximately in 1-2% of total pregnancies and happens mainly in the fallopian tube. Conceptual implantation in advanced abdominal pregnancy can take place in the omentum, ligamentum latum, abdominal organs, or blood vessels located in the abdomen and pelvis. The estimated occurrence of advanced abdominal pregnancy with live birth is about 1:10,000 to 1:30,000 from all pregnancies and 1% from ectopic pregnancy [1-3]. Advanced abdominal pregnancy occurs as a result of fertilization taking place in the abdominal cavity, tubal rupture, and tubal abortion. Clinical symptoms often vary, posing diagnostic challenges of AAP conditions. Some cases even turn out to be asymptomatic with continuous pregnancy and are rarely diagnosed until childbirth. In a good antenatal diagnosis, 20-40% of AAP are able to be diagnosed preoperatively.

AAP is related to maternal and fetal complications as it can lead to a high risk of bleeding, coagulopathy, emboli, and fetal malformation occurrence. The estimated maternal mortality of AAP is 0.5-18%, which is seven times higher compared to that of ectopic pregnancy. Perinatal deaths occur in 5-25% of the total AAP cases which are mainly caused by prematurity, impaired fetal growth, and bleeding. Nowadays, with improved neonatal management, 70-80% of babies with gestational age older than 30 weeks can survive [1, 2].

## 2. Case Report

A 41-year-old Gayonese woman, G2P1 with a gestational age of 37-38 weeks, referred from Bireuen Regional Hospital to Polyclinic of Dr. Zainoel Abidin Hospital, Banda Aceh. The patient was diagnosed with a single living fetus with cephalic presentation and a complete placenta previa, suspected as placenta accreta. The patient underwent regular antenatal checkups with an obstetrician. Findings during the antenatal examination showed no other significant problem except the condition of the placenta covering the birth canal. Therefore, a history of bleeding from the birth canal was denied. In the initial phase of pregnancy, the patient admitted that she had a complaint of severe abdominal pain that interfered with her activities. She also experienced a balance disturbance while doing her activities and looked pale. The nurse who did the assessment on the patient claimed that the complaints were normal during pregnancy. The patient never consulted a doctor for her complaints due

to her inability to mobilize. As the pregnancy advanced, the patient complained of pain, especially when the fetus was moving.

The patient underwent her first ultrasound examination at the gestational age of 20 weeks and result did not suggest any suspicion of abnormality. At the gestational age of 37 weeks, the patient went to have herself checked by an obstetrician for delivery process preparation. However, the patient was referred to a higher medical facility since there was a suspicion of a complete placenta previa condition accompanied with accreta.

Thorough examination was done at Dr. Zainoel Abidin Hospital, Banda Aceh. Physical examination revealed a change in the fetal position from the cephalic presentation at the first admission to a horizontally lying position in the uterus. Further, more prominent fetal body curves were found during abdominal palpation. In the ultrasound examination, the single living fetus was found to match the term of gestational age, lying horizontally with the estimated weight matching the gestational age. The amniotic fluid was found adequate (Amniotic Fluid Index 10) and the placenta was located in the anterior corpus blocking the birth canal. Further ultrasound examination using Placenta Accreta Index (PAI) was performed to evaluate the possibility of placental invasion. The result of PAI revealed a 19% possibility of a placental invasion. As perioperative conclusion, the patient was finally diagnosed with placenta previa with invasion possibility of 19%, hence c-section procedure up to an elective total hysterectomy were prepared.

Table 1. Placenta Accreta Index Score

No C-section Mark	0
Complete Anterior Placenta Previa	1
Positive Bridging Vessel	0.5
Myometrium Thickness 5 mm	0.25
Lacuna Grade II	1
Total	2.75 → 19%



Figure 1. Preoperative ultrasound image

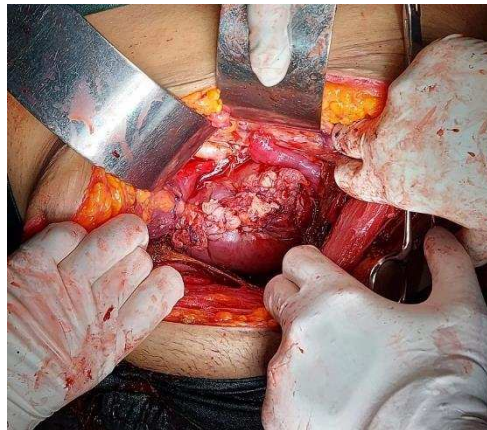
## 2.1. Intraoperative findings

We faced some obstacles in identifying the uterine lower segment once peritoneum was opened. There were amniotic membrane and a hint of placenta covered by omentum, raising a suspicion of an abdominal pregnancy. We performed incision to the omentum with the base directly hit the amnion and placental membrane. We continued cutting through the placenta and delivered the baby by pulling out the legs. A male baby was born with a weight of 3500g, APGAR score of 8/9, and the amniotic fluid was clear. The umbilical cord was cut, while the uterus was hard to be assessed. When the umbilical cord was gently pulled out to deliver the placenta, the omentum

and intestines came along as most part of the placenta implanted to omentum, uterine fundus, and some to the pelvic wall. After maximum evacuation of the placenta and bleeding control, the uterus was able to be identified as 10x10 cm in size with both tube as well as the ovarium within normal boundary. A fimbriectomy measure was conducted. The patient experienced shock during intraoperative stage as a 2,500-cc bleeding occurred. Resuscitation and blood transfusion of 1,250 cc PRC and 500 cc FFP was conducted to stabilize the patient condition. The patient was then treated in post operation intensive care unit.



**Figure 2.** Intraoperative finding: Placenta was implanted to omentum



**Figure 3.** Intraoperative finding: Seen above uterus, both tube and normal ovarium



**Figure 4.** The baby and placenta

## 2.2. Postoperative condition

The patient condition was stable after a 2-day treatment in intensive care unit. Hemoglobin level after transfusion was 9 gr/dl. There was no sign of decline in bowel movement. The patient was then moved to an inpatient room to be treated for 3 more days before finally discharged on the fifth day in a good condition and ability to mobilize. The condition of the baby was stable and cared in the same room as the mother.



### 3. Discussion

Advanced Abdominal Pregnancy is a very rare case. Clinical or ultrasonographical diagnosis are difficult to be performed, especially at an advanced gestational age. About 45% of the cases can be treated during the antenatal period, while the rest were diagnosed intraoperatively. The symptoms showed by patients were usually related to the digestive tract. However, such symptoms were absent in this patient, in which, the patient had no considerable complaint about her pregnancy [4]. Approximately 57.6% of abdominal pregnancy cases, as reported in several case reports, were diagnosed preoperatively; however, there were also numerous cases identified intraoperatively. The most frequent indications suggesting the condition of abdominal pregnancy were abdominal pain, easily palpated fetus on the mother's abdomen, and induction failure in labor [1]. Chun et al. reported a case of abdominal pregnancy at a gestational age of 38 weeks with placental depiction similar to placenta previa [4]. Whereas, Dabiri et al. discovered an abdominal pregnancy with an acute picture of abdomen, which was assumingly due to uterine rupture in the gestational age of 33 weeks [5].

Embryo implantation in abdominal cavity can occur primarily and secondarily. Primary implantation happens when fertilization takes place directly in the abdominal cavity. Meanwhile, secondary implantation occurs after tubal rupture, tubal abortion, or uterine rupture. Secondary implantation is the most frequently occurring process in abdominal pregnancies [3, 6]. In some cases, patients experienced a history of abdominal pain during the first trimester, and the uterus and both fallopian tubes were found intact. There is potential occurrence of secondary implantation in this case as a result of tubal abortion.

Ultrasound examination, performed especially during the first trimester, can help improve the diagnosis of abdominal pregnancy. Additional examination such as MRI can also be done to assess the level of placental adhesion that can be used as a consideration of whether the placenta can be born or aborted [7].

Several criteria of abdominal pregnancy diagnosed through ultrasound examination, as suggested by [8], are as follow: (1) the presence of fetus in the gestational sac outside the uterus or a mass feature in the abdomen or pelvic showing the uterus is separated from the fetus, (2) obscured uterine wall between the fetus and bladder, (3) the fetus is seen to be adjacent to mother's stomach wall, and (4) the placenta is located outside of the uterine area. Additional criteria include oligohydramnios, fetal location abnormalities, the presence of features of placenta previa and intestinal gas that is close to the fetus [4, 8]. In this case report, a features of placenta previa was observed.

Diagnosis of abdominal pregnancy at a gestational age of over 20 weeks will increase the chance of expectative management to achieve fetal viability, despite some maternal-related risks might occur. In several case reports, pregnancies could continue to develop up to normal gestational age without any complication on the fetus and mother [1]. Nevertheless, newborn deformities have also been found as much as 21% of the total abdominal pregnancy cases. Facial and skeletal asymmetry, joints abnormalities, and extremity deformities were the common form observed in newborn deformities [5]. In our case report, we found an asymmetry on the face and skull of the baby.

There is no particular consensus on whether the placenta should be left inside the abdominal cavity or has to be evacuated during the process of laparotomy. Evacuation of the placenta can increase the risk of heavy bleeding, whereas leaving the placenta inside can increase the risk of infection and formation of abscess. In several case reports, the placentas were left inside the abdominal cavity since it can lower the risk of morbidity and blood transfusion, as well as shorten the treatment duration. Administration of methotrexate or expectant management can be applied as potential follow-through management when it comes to a decision to leave the placenta. Administration of methotrexate can accelerate the destruction of the placental tissue; however, it can increase the risk of infection since the speed of the placental tissue destruction by methotrexate can lead to tissues necrosis, permitting infectious microorganisms to grow [2].

Evaluation of beta hCG level and ultrasound can be done to assess residual placenta. The level of beta hCG can decrease to a normal level >5 weeks post-action such as administration of 4 doses of methotrexate. In addition, vascularization evaluation using Doppler ultrasound can assess the blood flow of the residual placenta.

### 4. Conclusion

Abdominal pregnancy is a rare case. Although preoperative and intraoperative diagnosis can be performed, most of the cases were diagnosed intraoperatively due to its non-typical clinical symptom. Antenatal examination, especially a good ultrasound, can increase the diagnosis of this case.

Some efforts such as expectative management can be performed to reach fetal viability by considering the condition of the fetus and mother. Option to leave or evacuate placenta can be chosen by considering the occurrence of any possible risks. Residual placenta governance can be in the form of methotrexate administration or expectative management. Assessment towards residual placenta can be performed through beta hCG level and ultrasound evaluation.

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