

Clinical report

Expectant management of abdominal pregnancy with good maternal and perinatal outcome

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Background: Abdominal pregnancy is a life-threatening condition. The incidence appears to be increasing in both developed and developing countries. Management varies from patient to patient and expectant management is controversial.

Objective: To present a rare condition of ectopic pregnancy, abdominal pregnancy with good outcomes.

Method: Case report.

Results: A 17 year-old primigravida at a gestational age of 31 weeks was diagnosed to have an abdominal pregnancy. She was successfully treated by expectant management until 33 weeks gestational age when delivery occurred via laparotomy with good maternal and perinatal outcome. After delivery of the fetus, the placenta was left in-situ. The patient recovered post-operatively and did not have additional complications.

Conclusion: An advanced abdominal pregnancy can be managed expectantly at a tertiary care center.

Keywords: Abdominal pregnancy, expectant management.

Abdominal pregnancy is a rare and life-threatening variant of ectopic pregnancy [1, 2]. It occurs when the gestational sac is implanted within the peritoneal cavity. The incidence of abdominal pregnancy ranges from 1:2,200 to 1:10,200 pregnancies with high maternal and perinatal mortality [3-7]. The maternal and perinatal mortality rates are 0.5-18 % and 40-95 %, respectively. These rates are high due to the difficulty in making the diagnosis of abdominal pregnancy [2, 8]. Although it is uncommon to reach advanced gestation that results in a successful outcome, this has been reported in the literature [9-11].

We present a case of advanced abdominal pregnancy, diagnosed by sonohysterography assisted with ultrasonography and successfully managed conservatively with good maternal and perinatal outcome.

Case report

A 17 year-old primigravida at a gestational age of 31 weeks presented to the emergency room at Thammasat University Hospital on September 22, 2004 with severe abdominal pain for 6 hours. Her last menstrual period was February 17, 2004. She had a regular cycle of 30 days before pregnancy. She had 7 antenatal care visits at Thammasat University Hospital which started at 11 weeks of gestation with good correlation between the fundal height of the uterus and gestational age. She felt the fetus move and had minor abdominal pain early in July.

At the emergency room, she complained of severe abdominal pain especially when the baby moved. She had no vaginal bleeding. On physical examination, her body temperature, blood pressure and pulse rate were normal. The abdomen was generally distended with tenderness. The fundal height was 29 cm above the umbilicus without contraction. The fetal heart rate was 170 beats/ min.

Transabdominal ultrasonography showed a single live fetus in transverse lie at 30 weeks of gestational age without amniotic fluid around the fetus. A solid

mass, a uterus like structure, was noted in the pelvic cavity with the placenta attached to the right side of the solid mass, extending superiorly to the ascending colon. We performed sonohysterography to confirm that the fetus was outside the uterine cavity by instillation of normal saline through the cervix. It showed a normal size uterus with a normal appearing endometrial cavity (**Fig. 1**). The diagnosis of abdominal pregnancy was confirmed.

After the diagnosis was made, the patient and her family were informed about the prognosis and the potential risks of continuing the pregnancy. The patient decided to continue the pregnancy with hospitalization until completion of pregnancy. Color Doppler ultrasound and arterial magnetic resonance imaging were performed to delineate the vascular supply of the placenta. The result showed, the placenta was supplied by the right uterine artery (**Fig. 2**). During hospitalization, the ultrasonography after two weeks showed no fetal growth with reverse end

diastolic flow of the umbilical artery. A decision to deliver the fetus was made after administering a dexamethasone for enhancing fetal lung maturity.

A laparotomy was performed under general anesthesia. Preoperative hematocrit was 40.4 %. A paramedian incision was performed to avoid the placenta; the diagnosis of abdominal pregnancy was confirmed. A preterm fetus was found inside the amniotic sac with minimal amount of amniotic fluid in abdominal cavity. No hemoperitoneum was detected. The fetus was delivered with a weight of 1,275 grams, Apgar scores of 7 and 10 at 1 and 5 minutes, respectively. The placenta was attached to the right side of uterus, extending superiorly to the ascending colon and omentum. There was no sign of placental separation, the placenta was left in situ after the the umbilical cord at its insertion (**Fig. 3**). The newborn was examined by a neonatologist and was found to be small for gestational age without congenital anomalies or deformities.



Fig. 1 Illustration of the empty uterine cavity.



Fig. 2 The placenta supplied by right uterine arteries.

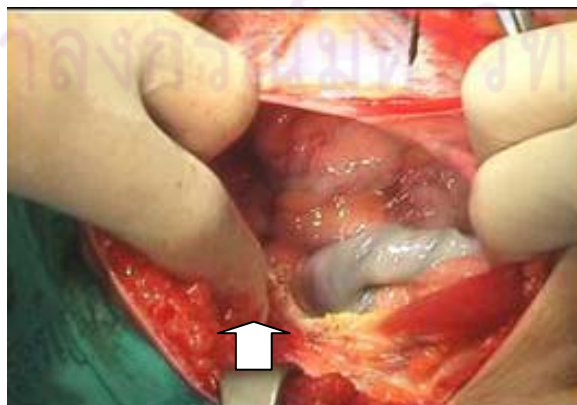


Fig. 3 The umbilical cord and placenta lining out of uterine cavity.

Because of the risk for hemorrhage due to placental separation, the patient remained hospitalized for close monitoring. Her postoperative course was uneventful and she was discharged on postoperative day 9. The patient was followed up at the outpatient clinic with serial serum beta-hCG and ultrasonography. The serum beta-hCG levels showed a drop to undetectable levels after 8 weeks. The last sonogram, 6 months postoperatively, revealed a placental mass measuring 6x7 cm at the right lower abdomen without complications.

Discussion

Abdominal pregnancy, where implantation occurs within the peritoneal cavity, is a rare condition [3, 4]. The reported incidence varies widely depending on variables such as the degree of antenatal care, and socioeconomic status [1]. It can be regarded as either primary or secondary, the latter most commonly resulting from tubal rupture and subsequent implantation onto the peritoneal surface [1].

In most cases of abdominal pregnancy, the patient presents with recurrent abdominal pain, vomiting in second and third trimester, painful fetal movements and easily palpated fetal parts with the fetus in transverse or oblique lie [12]. Anemia is occasionally noted in advanced abdominal pregnancy, due to intraabdominal bleeding [2].

Ultrasonography is currently the diagnostic procedure of choice in obstetric practice, but the findings are often equivocal. Sonographic findings suggestive of abdominal pregnancy include oligohydramnios, poor placental location, abnormal fetal lie, empty uterus and no uterine wall between the maternal bladder and the fetus [12, 13]. Magnetic resonance imaging (MRI) has been used successfully in abdominal pregnancy following a suspicious sonographic finding [14-16]. Also, it is valuable in demonstrating the location of the placenta and where the placenta adheres [12]. A lateral abdominal X-ray in advanced gestations showing the fetus high in the abdominal cavity and fetal parts overlying the maternal spine may also be helpful [17]. Elevated maternal serum alpha-fetoprotein (MSAFP) has been reported associated with abdominal pregnancy [15, 18]. In our case, we used real-time ultrasonography for diagnosis and sonohysterography to confirm a diagnosis of an empty uterine cavity. Arterial magnetic resonance imaging was used to identify the vascular supply to the placenta.

The high maternal mortality rate associated with this diagnosis can be reduced by early diagnosis and treatment. Many factors should be considered before defining a management such as gestational age at presentation, maternal complications, fetal congenital anomalies, fetal viability, and facilities of the neonatal intensive care unit [19]. There has been some debate in the literature in cases when the pregnancy is at more than 20 weeks' gestation with the mother and fetus doing well, if the patient should be closely observed in the hospital with compatible blood available and elective surgery being delayed until the fetus reaches a viable stage [8, 20]. A review of 11 cases from Dubinsky, et al found that expectant management in advanced abdominal pregnancy with the placenta attached to the uterus appears to be related to fetal survival [21].

Laparotomy is the only possible route for delivery. Laparoscopy has been reported and performed in early abdominal pregnancy with a stable hemodynamic status [22-24]. The management of the placenta in abdominal pregnancy is still debated. In the majority of cases, the placenta was left in situ and the umbilical cord was ligated proximally to its insertion same as was done in this case [2, 25]. Preoperative embolization of placental vasculature has been reported to limit intraoperative blood loss and prevent postoperative hemorrhage [6]. The use of metotrexate for placental involution and resorption is controversial. It can cause placental destruction with accumulation of necrotic tissue and abscess formation. In our case, placenta involution was followed by serial ultrasonography with color Doppler and serial measurement of serum beta-hCG. When the placenta is left in situ, complications such as bowel ileus, peritonitis or abscess formation can occur [2, 6, 14, 26].

In conclusion, abdominal pregnancy is a dangerous and often misdiagnosis condition. Awareness of the possibility of this condition allows prompt detection. Also, a multidisciplinary approach is required to ensure the best outcome. We suggest that expectant management in a tertiary care center should be the choice for management of an advanced abdominal pregnancy.

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