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Case Report

A rare case of advanced abdominal pregnancy with good maternal and fetal outcome

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ABSTRACT

Advanced abdominal pregnancy is an uncommon and potentially precarious variant of ectopic pregnancy in which the fetus develops in the abdominal cavity. A 30-year-old multigravida presented at 33+5 weeks of gestation with abdominal pain. Ultrasonography revealed a single live fetus lying in the abdominal cavity, with the uterus seen separately. Previous ultrasonography done at 15 weeks of gestation was suggestive of intrauterine pregnancy. She underwent emergency laparotomy at 33+6 weeks, which confirmed secondary abdominal pregnancy with the placenta deriving its blood supply from the left uterine artery and omental vessels. A peripartum hysterectomy was performed. The postoperative period was uneventful, and both mother and baby were discharged after one week. Despite notable advancements in prenatal care and medical imaging technologies, abdominal pregnancies, even if advanced, may remain undiagnosed, emphasizing the necessity for healthcare professionals to maintain a heightened level of suspicion regarding this condition. If conservative management has to be sought, the case selection should be done carefully due to the high risk to both the mother's and fetus's life. There is a pressing need for the standardisation of treatment protocols in order to optimise maternal and fetal outcomes in abdominal pregnancy.

Keywords: Secondary abdominal pregnancy, Uterine rupture, Viable fetus, Advanced abdominal pregnancy

INTRODUCTION

Abdominal pregnancies, a subset of ectopic pregnancies, are rare, accounting for approximately 1% of all ectopic pregnancies and complicate 1 in 10000 to 1 in 30000 of all pregnancies.[1] Advanced abdominal pregnancy, i.e., pregnancy beyond 20 weeks of gestation with a growing fetus, is even rarer.[1] Abdominal pregnancies are challenging to diagnose and associated with several complications resulting in considerable maternal mortality, which is 7.7 times more than tubal and 89.8 times more than uterine pregnancy and a perinatal mortality rate of 40-95%.[1,2] There are few case reports and small series published on abdominal pregnancy in the last 10 years and even fewer on advanced abdominal pregnancies. We report a case of advanced secondary abdominal pregnancy with a viable fetus without any malformations and with good maternal and fetal outcomes.

CASE REPORT

A 30-year-old lady (G3P2L2) presented with acute severe abdominal pain of three days' duration at a gestational age of 33+5 weeks. She was evaluated elsewhere, where ultrasonography revealed a bicornuate uterus with a low-lying adherent placenta. She had conceived spontaneously with excellent dating and uneventful 1st trimester. Ultrasonography done at 15 weeks revealed a single live intrauterine fetus without any malformation. She had bleeding per vaginum (soakage of one pad) with abdominal pain at 5-months gestational age, which was not evaluated. Since then, she complained of mild abdominal

pain without any bleeding along with constipation, for which she did not consult any doctor. There was no history of diabetes, hypertension, pelvic inflammatory disease, endometriosis or sexually transmitted disease.

For the past three days before the presentation, she was having acute abdominal pain with the perception of the fetus more towards the right side. General physical examination was routine and there was no abdominal tenderness. Ultrasonography revealed a single live fetus corresponding to 34+4 weeks' gestational age in a transverse lie with hydramnios. The placenta was low-lying with multiple lacunae, and the uterus was lying separately along the postero-inferior wall of the fetus. Doppler velocimetry and biophysical profile were normal. Detailed hematological (hemoglobin, total and differential leucocyte counts, platelet counts, erythrocyte sedimentation rates), biochemical profile (blood sugars, liver, renal and thyroid function tests, serum electrolytes, testing for human immunodeficiency, hepatitis C and B viruses) and coagulation profile was normal, save for anemia (hemoglobin- 9 g%).

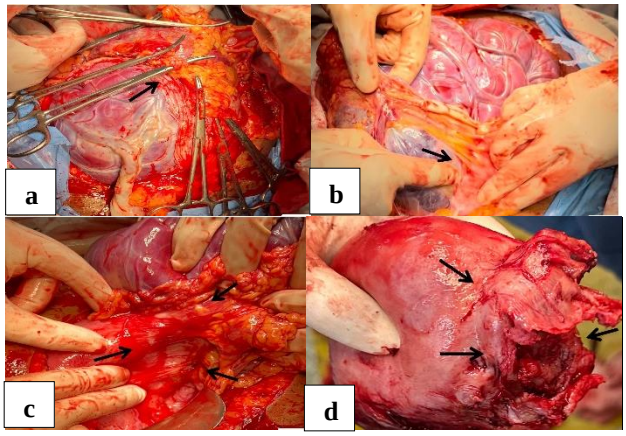

Figure 1: Intraoperative images of placental supply, (a) placenta deriving blood supply from multiple omental vessels; (b) flimsy adhesions present between gut and placental tissue; (c) placenta originating from uterine cavity surrounded by a fibrosed scar (at left cornua of uterus); and (d) left cornua of the uterus with fibrotic tissue, likely suggestive of chronic rupture.

The possibilities considered were uterine rupture/ bicornuate uterus with adherent placenta/ abdominal pregnancy, with the latter being considered more likely in view of the stable hemodynamic status and normal biophysical profile of the fetus. She underwent an emergency laparotomy. Intraoperatively, the single live fetus was found in the right upper quadrant of the abdomen just beneath the peritoneum without any amniotic sac, liquor or hemoperitoneum. The baby was delivered with an APGAR score of 9 at five minutes. Placenta originated from uterine cavity surrounded by a fibrosed scar (at left cornua of uterus), deriving its main blood supply from left uterine artery. It also received blood from multiple omental vessels with flimsy adhesions to bowel loops, which were released. The uterus was approximately 20-22 weeks in size. She underwent a peripartum hysterectomy. Histopathology revealed gestational changes in the serosa of the uterus and omentum. She received multiple infusions of packed red blood cells, fresh frozen plasma and platelets during surgery. The postoperative period was uneventful, and both the mother and newborn were discharged after one week. Mother and baby are doing fine at 6-week follow-up.

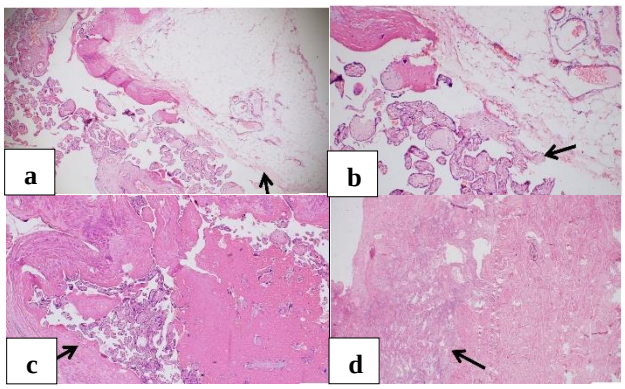

Figure 2: A panel of microphotographs of a case of secondary abdominal gestation, (a) omental adipose tissue [arrow] along with chorionic villi (H&E x20X); (b) omental adipose tissue along with chorionic villi [arrow] (H&E x40X); (c) uterine serosal aspect [arrow] with areas of haemorrhage and chorionic villi (H&E x10X); and (d) endometrium [arrow] with focal decidualisation and myometrium (H&E x10X).

DISCUSSION

Abdominal pregnancy can be classified as primary, wherein the ovum is fertilized in the abdominal cavity or secondary when implantation occurs in the abdomen consequent to tubal (more common) or uterine rupture. Common sites of implantation in abdominal pregnancies include omentum, vital organs or large blood vessels. Only 20-45% of abdominal pregnancies are diagnosed antenatally because of highly variable clinical presentation and low index of suspicion.[1] Clinical symptomatology is often subtle with complaints such as pain in the abdomen with or without constipation, painful fetal movements, unusual fetal lie and easily palpable fetal parts. It can also present with hemoperitoneum, sudden fetal death, disseminated intravascular coagulation, bowel obstruction, and fistula formation and even maternal death. Birth defects such as facial or cranial asymmetry, congenital talipes equinovarus (club foot), hypoplastic limbs or central nervous system malformations are seen in 24% of viable fetuses due to fetus compression consequent to absent amniotic fluid.[1] Ultrasonography may be diagnostic, revealing the absence of a myometrial wall between the gestational sac and bladder, or may raise suspicion through findings such as unusual fetal attitude, fetus lying eccentrically in the abdomen and abnormal vascularity of the placenta. Magnetic resonance imaging

helps in the confirmation of diagnosis as well as a plan of treatment by showing the extent and type of involvement of vital organs. Another valuable diagnostic clue is the non-responsiveness of the uterus to oxytocin.

In the index case, bleeding and abdominal pain at 5th month of gestation suggest chronic uterine rupture (likely rupture of a rudimentary horn), expelling the fetus into the abdominal cavity whereas the placenta becoming partially adherent to the uterus (deriving blood from left uterine artery) and partially adherent to omentum and omental vessels. This persisting uterine supply to the placenta might have led to the advancement of pregnancy till 34 weeks of gestation.

Management is straightforward in early abdominal pregnancy or when the fetus is dead or malformed with laparotomy with removal of the fetus and placenta. The dilemma arises in cases of advanced abdominal pregnancies with live fetuses, where the question is whether to perform stat termination of pregnancy and reduce the risk of maternal morbidity or to manage expectantly to achieve successful fetal and maternal outcomes. However, in advanced abdominal pregnancies with a live fetus, a conservative strategy (till 34 weeks) may be adopted provided there are facilities for strict maternal-fetal monitoring and the placenta is localized in the uterus, broad ligament or near gut due to less chance of massive hemorrhage, though there is no agreement on standard treatment.[1] In our patient, laparotomy was done within 24 hours of presentation as gestational age was approximately 34 weeks. Intraoperatively, placental bleeding was controlled by ligating the left uterine artery and omental vessels. A hysterectomy was done due to dense adhesion between fibrosed uterine scar at cornua and placental tissue.

Some of the keys to success include adequate preoperative preparation and careful intraoperative decisions regarding whether or not to remove the placenta. Placental blood supply should be inspected carefully, and feeding vessels should be ligated before its removal. Placental removal is possible in 55% of cases, and if not, excessive manipulation should be avoided, and the placenta can be left in situ with umbilical cord ligation, with continuous beta human chorionic gonadotropin estimation at follow-up.[3,4]

CONCLUSION

Advanced abdominal pregnancy with good maternal and fetal outcomes is extremely rare. A high index of suspicion with appropriate diagnostic tests and multidisciplinary care are the keys to improving maternal and fetal outcomes in abdominal pregnancies. Standardisation of treatment principles is still required.

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