Delayed diagnosis of an advanced abdominal pregnancy with optimal maternal and neonatal outcome: a case report

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SUMMARY

Abdominal pregnancy is a rare form of ectopic pregnancy with hazardous maternal and perinatal morbidities which increases with advancing gestation. Despite advancement in ultrasound technology, this variant of ectopic pregnancy is still being missed. We present a case of 39-years-old, Orang Asli Gravida six para four at 35 weeks of gestation with two previous caesarean scars, referred to our centre for suspicion of placenta accreta spectrum. Ultrasound findings showed a non-gravid uterus measuring 12 cm × 8 cm × 4 cm with endometrial thickness of 10 mm. Extrauterine gestational sac with viable foetus corresponding to gestational age with estimated weight of 2200 g. The placental mass appears to be attached to the right posterolateral uterine wall and was not in continuity with abdominal wall anteriorly and liver superiorly. Right uterine vessel plexus appears tortuous with turbulent flow within. Magnetic resonance imaging was arranged to facilitate surgical planning and preparation. Exploratory laparotomy was performed. Intraoperatively, uterus, bilateral fallopian tubes and left ovary appears normal. Gestational sac with viable foetus arising from the right adnexal complex with placental attachment seen likely to right mesosalpinx. Laparotomy completed without maternal morbidity. Histopathological examination reported most likely placental implantation site is mesosalpinx or broad ligament.

INTRODUCTION

About 2% of all the pregnancies are ectopic pregnancies and commonly encountered in fallopian tube. Abdominal pregnancy is a rare form of ectopic pregnancy with a reported incidence of one in 10,000 live births, which is about 1% of all the ectopic pregnancy cases.[1] In abdominal pregnancy, the gestational sac will be implanted in the peritoneal cavity outside of the uterine cavity or fallopian tube. Abdominal pregnancy rarely presents at advanced gestation and if it presents it is usually associated with maternal or perinatal morbidity or even congenital anomalies.[1] Since, it is a rare condition that the diagnosis usually made based on complications such as abdominal pain and bleeding or based on high index of suspicion.[1,2] Maternal mortality resulting from uncontrolled haemorrhage during surgical evacuation was reported as high as 20% and perinatal mortality has been reported as high as 40–95%.[2] The challenge in managing an abdominal pregnancy begins with recognising the extra uterine location of the pregnancy during ultrasonography and continues with dilemma of placenta management during the surgical evacuation.

CASE PRESENTATION

We present a case of 39-years-old, Orang Asli, Gravida six Para four with two previous caesarean scars, referred to our centre for suspicion of placenta accreta spectrum at 35 weeks of gestation. She had an uneventful antenatal follow up in local health clinic since 10 weeks period of gestation. Early ultrasound was done but there were no abnormalities detected. Her previous deliveries were uneventful, and she had a history of complete miscarriage which did not require surgical intervention.

On general examination, she looked well, small built, not in pain and had pink conjunctiva. Her vital signs were within the normal limits. Her systemic examination did not reveal any abnormalities. On abdominal examination, her symphysial-fundal height was at 34 cm, and foetus was in transverse lie. Vaginal examination was not done as patient was not in labour. Upon assessment at 35 weeks ultrasound finding (Figure 1A) revealed a small non-gravid uterus measuring 12 cm × 8 cm × 4 cm with endometrial thickness of 10 mm. Extrauterine gestational sac seen with viable foetus corresponding to gestational age with estimated weight of 2200 g. Foetal liquor and dopplers were normal. There was no myometrial tissue seen in between the gestational sac and maternal bladder (Figure 1C). The placental mass appears to be attached to the right posterolateral uterine wall and was not in continuity with abdominal wall anteriorly and liver superiorly (Figure 1B). Right adnexal vessel plexus appears tortuous with turbulent flow within (Figure 1D). Magnetic resonance imaging was arranged to evaluate site of placental attachment, particularly the underlying vessels and organ to facilitate surgical planning (Figure 2). Discussion made with interventional radiologist regarding identification and occlusion of the major feeding vessels, but occlusion of the vessels is not wise before the baby is delivered.

Preoperatively, her blood parameters were at normal limits. Exploratory laparotomy was performed with midline skin incision (Figure 3H). Intraoperatively, uterus, bilateral fallopian tubes and left ovary appears normal. There was no evidence of uterine scar rupture. Right ovary not visualised.

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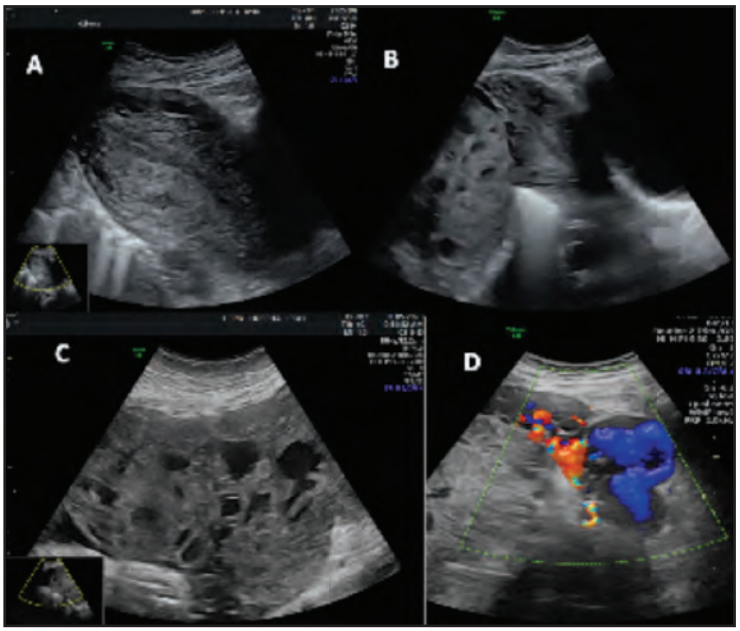

Fig. 1: Ultrasound images (A) Empty uterus; (B) Placental attachment to right posterolateral uterine wall; (C) Loss of intervening myometrium between placenta and anterior abdominal wall; (D) Adnexal vessel plexus with doppler enhancement.

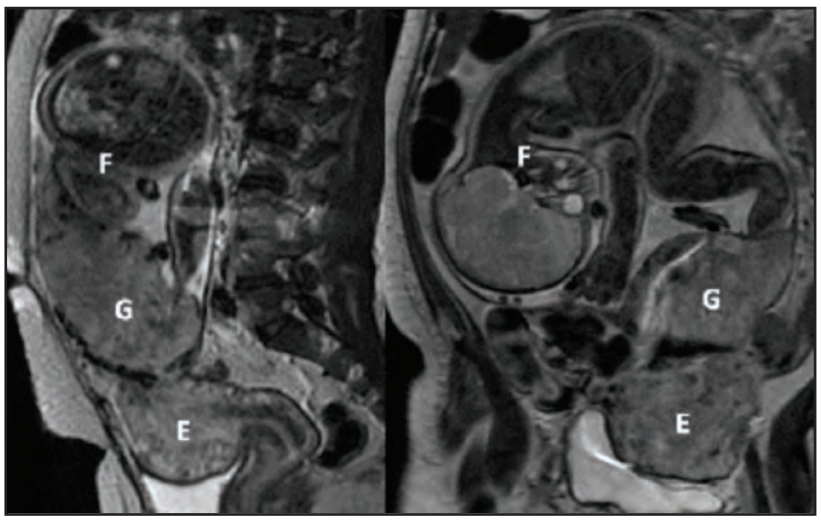

Fig. 2: MRI image. Left sagittal view, right coronal view; (E)uterus; (F) fetus; (G) placenta.

Gestational sac with viable foetus arising from the right adnexal complex with placental attachment seen likely to right mesosalpinx (Figure 3 I, J&K). A healthy newborn weighing 2200 g delivered with good Apgar score. Right infundibulopelvic ligament was clamped, cut and ligated. Placenta was removed completely. Laparotomy completed without maternal morbidity. Estimated blood loss was about 300 mls. Histopathological examination reported most likely placental implantation site is mesosalpinx or broad ligament. Post operatively, patient and baby were discharged home well after three days.

DISCUSSION

An abdominal pregnancy is defined by implantation of the product of conception (gestational sac, foetus and placenta) within the peritoneal cavity but external to the fallopian tubes and myometrium. Potential sites include omentum, pelvic side wall, broad ligament, posterior cul-de- sac, uterine serosa, non-uterine abdominal organs (spleen, bowel, liver), large pelvic vessels and diaphragm. The diagnosis is based on the sonographic or surgical visualisation of the abdominal location of the pregnancy.[3] Advanced abdominal pregnancy defined as abnormal pregnancy after 20 weeks of gestation due to abnormal placentation.[1,3]

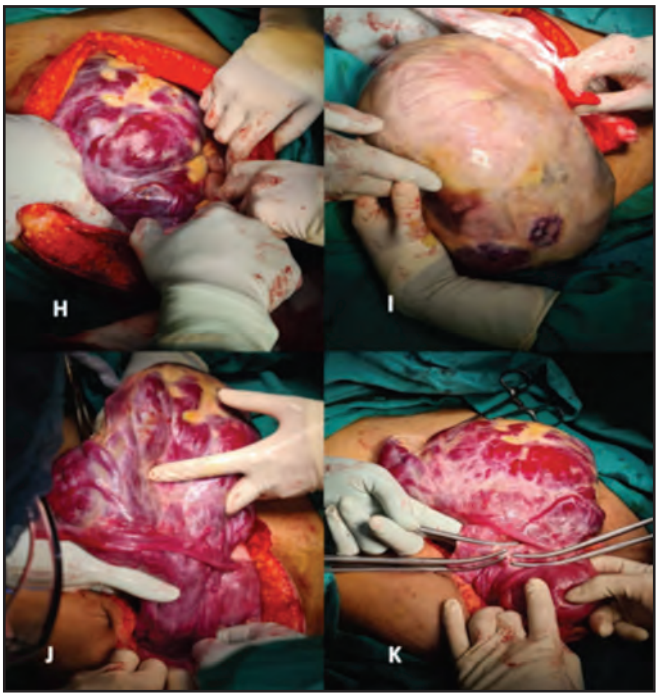

Fig. 3: (H) Image of exploratory laparotomy; (I) Gestational sac with viable fetus; (J & K) Placenta attachment to mesosalpinx with normal uterus.

The risk factor for abdominal pregnancy is in-vitro fertilisation, tubal damage, pelvic inflammatory disease, tubal damage and multiparity.[4] As for this case, the only risk factor was multiparity.

Despite advancement in ultrasound technology, this variant of ectopic pregnancy is still being missed. An advanced abdominal pregnancy may be misinterpreted as intrauterine if the ultra-sonographer does not evaluate the relationship between the pregnancy and myometrium during the examination.

The extrauterine location may not be readily visualised, thus sonographic features that should raise suspicion of an abdominal pregnancy is empty small uterus (often missed), poor definition of placenta, absence of myometrial tissue between the pregnancy and maternal bladder, membranes not visible at internal cervical os and in advanced gestations, the foetus maybe in unusual lie with oligohydramnios.[4]

Magnetic resonance imaging can be useful in confirming diagnosis if there is uncertainty but more importantly for surgical planning.[5] It helps in determining placental attachment site particularly the underlying vessels and organ.

Interventional radiologist can be consulted regarding the occlusion of the feeder vessels supplying the placenta circulation to minimise maternal haemorrhage. Interventional radiologist offer therapeutic options that obviate surgery, therefore reducing mortality and morbidity.[7] Abdominal pregnancy even if advanced are surgically interrupted at diagnosis. Expectant management to gain foetal maturity has been attempted however this approach is not recommended because of high maternal and foetal morbidity from sudden maternal haemorrhage requiring emergency laparotomy in an unplanned environment.

The management of placenta during surgery can pose problem. In this case, it was easily removed because of its location. Individualised management is deemed appropriate. Removing the placenta at surgery may lead to life threatening maternal haemorrhage if site of implantation is on vital organs or large vessels as the normal myometrial mechanism that control placental site haemorrhage is absent. The safe option when the placenta is attached to small or large bowel or mesentery is to leave the placenta in-situ, and close follow-up for haemorrhage and infection is essential and the placenta will slowly regress.[1,4,6]

In some case reports, they have reported about 40% risk of foetal congenital anomalies and only about 50% of the baby survives 1 week post-delivery. In this case, there was no foetal anomalies detected.[1,5]

CONCLUSION

The diagnosis and management of an advanced abdominal pregnancy still poses challenges to obstetricians, even in the era of increased access to advanced diagnostic imaging modalities. High index of suspicion and planned surgical intervention is essential to improve maternal and foetal outcome.

ACKNOWLEDGEMENT

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CONSENT

Written and informed consent was taken from patient prior to publication of the case.

CONFLICT OF INTEREST

There was no conflict of interest.

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