

Case Report

First Trimester Placenta Accreta: A Rare Clinical Entity and Diagnostic Dilemma

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Abstract

First trimester placenta accreta is a rare occurrence but potential life threatening and catastrophic. Most of these cases ended up with emergency hysterectomy. We report a case of incidental finding of placental accreta during evacuation of retained product of conception (ERPOC) for missed miscarriage. A 33-year-old, Gravida 4 Para 2 + 1 at 15 weeks' gestation admitted for missed miscarriage, failed medical evacuation requiring ERPOC. There was excessive bleeding during the procedure and required hysterectomy and bilateral internal iliac artery ligation. Histopathological examination confirmed products of conception with evidence of placenta accreta. This case highlighted the diagnostic dilemma and importance of early accurate diagnosis of placental accreta prior to any surgical intervention for miscarriage.

Keywords: First trimester, hysterectomy, miscarriage, placenta accreta, ultrasonography

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Introduction

Morbidly adherent placenta (MAP) or abnormally invasive placenta (AIP) is a potential life-threatening emergency that might lead to significant morbidity and mortality (1). It occurs in 1.32-3.27/ 1000 pregnancies and the incidence have been rising particularly with the increasing trend of caesarean sections (2,3). AIP in the first trimester is rare and more challenging due to difficulty in diagnosis (4). Therefore, most of the cases of first trimester AIP were diagnosed intra-operatively while performing surgical evacuation for miscarriages (5). We report a case of an incidental finding of placenta accreta during evacuation of product of conception (ERPOC) for missed miscarriage. Intra-operatively this was complicated with excessive bleeding requiring hysterectomy and bilateral internal iliac artery ligation.

Case Report

A 33-year-old Gravida 4 Para 2 + 1 at 15 weeks 3 days period of amenorrhea (POA) was electively admitted for ERPOC. She had a history of surgical evacuation for incomplete miscarriage at 11 weeks of gestation and a previous lower segment caesarean section for oblique lie. She was diagnosed to have a missed miscarriage at 12 weeks POA. Trans-vaginal scan showed an intrauterine pregnancy with a fetal pole measuring 9.6 mm without fetal cardiac activity (Fig. 1). She was then admitted at 14 weeks for medical management. Misoprostol 400mg was given twice per vaginally but was unsuccessful. She opted for surgical evacuation after a week of rest.

Intra-operatively, uterus was 8 weeks' size and anteverted. During evacuation, there was profuse

vaginal bleeding after 20 cc of product of conception was removed. A decision was made for an exploratory laparotomy and hysterectomy with bilateral internal iliac ligation in view of persistent bleeding. Total estimated blood loss was 6.2 liters. She was transfused with 9 units of packed cells, 4 unit of fresh frozen plasma, 8 unit of platelet and 12 units of cryoprecipitate. She was nursed in the intensive care unit for 2 days without the need of inotropic support. She was discharged well on day 4 post-operatively. Histopathological examination showed products of conception confirmed with evidence of placenta accreta (Fig.2).

Discussion

Three degrees of abnormal placental adherence can be distinguished i.e. accreta (superficial invasion), increta (invasion deeper into myometrium) and percreta (invasion into or through the uterine wall); due to a defect in the decidua basalis (6). Predisposing factors include advanced maternal age, multiparity, history of uterine surgery such as caesarean section, uterine curettage or myomectomy (2,3,7). With the advancement in radiological imaging, the diagnosis of AIP can usually be established prenatally between 18-37 weeks (7). However, diagnosis of AIP during first trimester remains challenging as typical findings of AIP might not be present and there may be a low index of suspicion as in this case.

Several reports have described the use of ultrasonography in the first trimester to detect AIP. Presence of a well-vascularised hyperechoic lesion, loss of endometrium-myometrium interface, low resistive index and myometrium thinning near the lesion are all suggestive of AIP (6). A study by Rac et al. demonstrated that smaller anterior myometrial thickness measured in the sagittal plane significantly

improved prediction of placental invasion; whereas, distance from the gestational sac to the external os, location of the decidual basalis, presence of anechoic areas and uterine-bladder interface irregularity did not (8). This study was consistent with Mochos et al. in which the author managed to demonstrate that anterior trophoblastic distance from the uterine serosa were significantly smaller in pregnancy with placental invasion than the normally implanted groups (2.2 mm vs 7.9 mm) (9). Thus, early diagnosis is important to help the gynaecologist plan the most appropriate intervention. However, making a diagnosis in the first trimester is not straightforward.

The use of a power Doppler study in the first trimester in cases of suspected miscarriage at 7 weeks has been described by Shih et al. which showed diffuse dilatation of placental vessels bridging the subplacental area with increased vascularity of myometrial vasculature over the lower uterine corpus. A repeat scan later at 15 weeks showed multiple large and irregular lacunae with increased vascular flow.



Figure 1: Ultrasound showed a regular intrauterine regular gestational sac with fetal pole measuring 9.6 mm corresponding to 6 weeks and 6 days. There was no fetal heart activity seen.

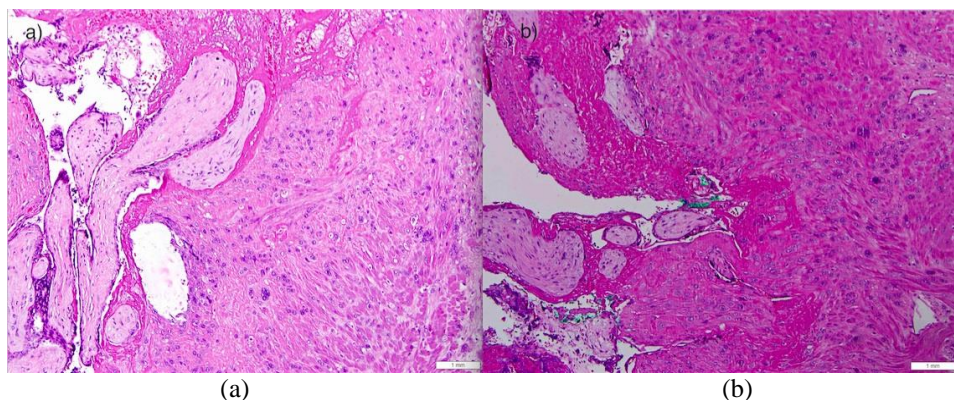


Figure 2: (a) Chorionic villi and fibrin in direct contact with smooth muscle without intervening decidua 10x; (b) Chorionic villi and myometrium smooth muscle at low power 10x

The patient underwent laparotomy hysterectomy and the final HPE diagnosis confirmed placenta increta (10). In comparison, magnetic resonance imaging (MRI) was reserved for patients with posterior praevia at later gestational age or when ultrasound findings were equivocal for abnormal placentation (11). Liao et al. successfully demonstrated unusual ultrasonography and MRI findings in two patients in the first trimester who subsequently underwent uterine artery embolisation (UAE) and hysterectomy (12).

Management of AIP in the first trimester is rather challenging. The option of conservative management offers the potential to preserve future fertility. Soleymani et al described the successful use of UAE in a patient who had persistent bleeding after surgical termination of miscarriage. MRI showed the presence of placenta tissue at the fundal region extending into the uterine wall in keeping with placenta increta (13). Liao et al also reported the use of UAE in their patient who diagnosed to have placenta increta at first trimester. But, it was complicated with massive bleeding 4 months after UAE and emergency hysterectomy was performed (12). Other reports of conservative management for AIP were mainly in the second or third trimester of pregnancy (5).

In other patient who had completed family, hysterectomy is definitive option in patients with AIP. When a hysterectomy is performed, it is important that a multidisciplinary team consisting of surgical expertise, an experienced obstetrician & gynaecologist, surgeon, anaesthetist and a blood transfusion specialist are available to ensure a safe surgery. Son et al reported a patient who presented with intra peritoneal bleeding 2 months after an uncomplicated uterine curettage in the first trimester. The patient underwent an emergency hysterectomy, which confirmed placenta increta post-operatively (14). Liao et al. described the use of laparoscopic assisted vaginal hysterectomy for their patient with placenta accrete at 9 weeks gestation although it was complicated with bladder injury intra-operatively (12). Uterine rupture due to a placenta percreta as early as 7th week gestation has also been reported as a rare complication of AIP in the first trimester. The patient had to undergo emergency hysterectomy as well (15).

Conclusion

This case highlighted the diagnostic dilemmas and importance of early accurate diagnosis of AIP prior to any surgical intervention for miscarriage. Patients at risk for AIP should be assessed thoroughly so that appropriate intervention can be planned in order to reduce serious morbidity and mortality.

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