

Conservative Management of Placenta Increta: Case Report and Literature Review

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Abstract- Placenta increta, a rare complication of pregnancy, is associated with significant postpartum hemorrhage often requiring emergency hysterectomy. We report a case of conservative management, with a combination of parenteral methotrexate, serial ultrasound and β -hCG assessment. Serum β -hCG levels were undetectable after 8 weeks of therapy. A scan at 6 months showed complete involution of the uterus. Review of the literature discussing the diagnostic tools, clinical features, management and outcome of pregnancies with placenta increta.

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Introduction

Abnormal placentation is associated with increased maternal morbidity and mortality. Severe hemorrhage can be life threatening, and often a hysterectomy is required (1). Since this leads inevitably to loss of fertility, a conservative approach is desirable. We report a case of placenta increta, which was successfully managed with methotrexate.

Case Report

A 36-year-old woman, G3P0, was admitted to the delivery suite, with the complaint of primary rupture of membranes for 6 hours. She was about 18 weeks pregnant according to the date of her last menstrual period. She gave a history of having dilatation and curettage of the uterus for two miscarriages, at 8 and 12 weeks of her past pregnancies. Also she had a history of secondary infertility for 3 years and hysteroscopy and laparoscopy revealed adhesion of left ovary and fallopian tube to the lateral wall of uterus. A cervical stitch had been inserted at 14 completed weeks of gestation after the ultrasound finding of a shortened cervix.

She was afebrile and the ultrasound examination showed a large placental mass located on the fundal

anterior and posterior uterine wall, the fetal heart was absent and AFI= 0 (Amniotic Fluid Index).

The cervical stitch was removed and after 30 minutes a stillborn infant weighing 1200 gram was delivered. Continuous cord traction failed to deliver the placenta. One hour later the placenta was still adherent and she was prepared for a manual removal of the placenta under epidural anesthesia. A manual curettage was performed but it was unsuccessful.

The day after, Ultrasound examination showed the absence of a normal sub placental sonolucent layer and the anterior and posterior uterine wall was deeply invaded by the placenta at the fundus (Figure 1, 2). Abnormal blood vessels connecting from placenta to the serosa were seen on color Doppler imaging (Figure 3). Maternal serum β -hCG (human chorionic gonadotrophin) concentration was 48560 IU/ML.

The diagnosis of placenta increta was clinically obvious. Because of her strong desire to retain the uterus, a nonoperative approach was decided.

Methotrexate 50 mg intramuscularly was administered (1 mg/kg) and then 50 mg/IM/weekly over the next 8 weeks. High-dose antibiotics (keflin+ metronidazole + gentamycin) were performed for 10 days. Then low-dose prophylactic antibiotic (oral co-amoxiclav) was administered to reduce the risk of infection.

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Figure 1 & 2. Ultrasound examination showed the absence of a normal subplacental sonolucent layer and the anterior and posterior uterine wall was deeply invaded by the placenta at the fundus

The patient was discharged home 3 weeks postpartum with the residual placenta still *in situ*. Complete blood count, liver function tests (SGOT, SGPT, LDH, total bilirubin, alkaline phosphatase), and renal function tests (electrolytes, blood urea nitrogen, creatinine) were measured, weekly; all values remained within the normal range.

Weekly serial ultrasound scans and serum β -human chorionic gonadotrophin (β -hCG) levels were monitored to assess progress. Follow-up scans showed gradual shrinkage of the placenta with reduced vascularity. Serum β -hCG levels were undetectable after 8 weeks of therapy.

Her menstruation returned 6 months after delivery. A scan at 6 months showed complete involution of the uterus.



Figure 3. Abnormal blood vessels connecting from placenta to the serosa were seen on color Doppler imaging

Discussion

Placenta accreta occurs when there is a defect of the decidua basalis, resulting in abnormally invasive implantation of the placenta. The three subtypes are placenta accreta vera (attachment to the myometrium without invasion), placenta increta (subtotal invasion into the myometrium), and placenta percreta (total invasion into the myometrium including perforation through the uterine serosa). About 80% of cases are placenta accreta vera, 15% increta, and 5% percreta (1). Although this complication was already known to the ancients, the first reported case in modern literature comes from Plater in 1588 (2). The most important complication of abnormally invasive placentation is massive hemorrhage. This is often a result of attempted manual placental separation from its poorly formed decidual bed, which opens up large-caliber spiral vessels and sinuses (3). Its occurrence at early spontaneous miscarriage is very rare (4) and its etiology is unknown, although, an association has been noted with Maternal age, anterior placentae, placenta praevia, previous miscarriages, termination of pregnancies, previous caesarean and myomectomy scars (5). Placenta accreta occurs in approximately 1 in 2500 deliveries. The incidence has increased ten-fold over the past 50 years, reflecting the higher numbers of caesarean section performed (6). Modern advances in technology make the early detection of placenta percreta possible. Ultrasonography and magnetic resonance imaging are good diagnostic tools. Placenta percreta has been successfully diagnosed as early as in the first trimester with magnetic resonance imaging (MRI) (7).

Conservative management of placenta increta

Hysterectomy immediately after delivery resulted in lower mortality and morbidity rates, so this procedure became the recommended treatment modality, since 1972 (8). However, hysterectomy is not always safe, especially in cases of a placenta percreta and fertility is not preserved. The conservative approach was first described by Arulkumaran and colleagues in 1986. Systemic methotrexate 50 mg as an intravenous infusion (total dose 250 mg) was administered on alternate days and the placental mass was expelled on day 11 postnatally (9). Over the past 20 years, 22 cases of conservatively managed abnormally invasive placentation have been reported. In 2 patients, methotrexate was combined with adjuvant selective arterial embolization. In 5, therapy failed. Two women experienced subsequent pregnancies, both uneventful (10). Although after treatment with methotrexate, the placental size reduced rapidly, there is not enough evidence to suggest its routine administration in all cases of placenta accreta, especially considering its toxicity. The optimal management in such cases is not well established because of the paucity of literature. Preferably, a randomized study should be performed to investigate safety, efficacy, and effects of the several techniques.

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