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Research Letter

Fertility following morbidly adherent placenta treated conservatively

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Placenta that is morbidly adherent is considered as an abnormality in placentation leading to its abnormally firm attachment to the myometrium because of the absence of deciduas basalis leading to its incomplete separation at the time of delivery. One of the potentially catastrophic obstetric complications, placenta accreta is alarmingly on the rise with high maternal morbidity and mortality rate being as high as 7% [1]. The untoward complications may include severe postpartum hemorrhage with its resultant coagulopathy, postpartum curettage, uterine perforation, shock, infection, loss of fertility, and even death [2].

A patient aged 33 years reported overshooting her periods by 10 days and tested positive for pregnancy. Her obstetric history reads—third gravida and parity two with one alive issue. The last time she was pregnant she had retained placenta following full-term vaginal delivery at home, complicated by postpartum hemorrhage (Fig. 1). Thereafter, taken to a private hospital, she underwent three unsuccessful attempts of manual removal/uterine dilatation and curettages and five units of blood transfusion interspersed with repeated episodes of excessive bleeding per vaginally. Failing to manage by this surgical approach, she was referred for hysterectomy. Her first gestation period and vaginal delivery was uneventful.

On admission at Maharishi Markandeshwar Institute of Medical Sciences and Research after 18 days of parturition, she was conscious, cooperative having stable general condition with normal vitals but significant pallor, no cyanosis, and no abnormality detected in cardiovascular or respiratory system. On abdominal examination, her uterus was felt enlarged to 20 weeks size, well contracted with pelvic examination showing moderate amount of bleeding per vaginum, and patulous but closed os of 20–22 weeks sized uterus.

On investigating, her hemoglobin was 7.5 g/dL, blood group B positive; and rest of the hemogram, urine routine examination, platelet count, coagulation profile, and liver and renal function tests were normal. Vaginal swab was sent for culture sensitivity, which was later reported to be sterile. Sonography revealed uterus to be of enlarged size with endometrial cavity showing an echogenic mass of dimensions 8.1×5.8 cm, suggestive of placenta.

On color Doppler, there was absence of a hypoechoic retroplacental zone, presence of dilated vessels extending from the placenta through the myometrium, irregular cystic spaces in the placenta, and pulsatile maternal blood flow within these hypoechoic spaces; these findings were highly suggestive of placenta accreta and confirmed the provisional diagnosis of adherent placenta earlier diagnosed at the failed attempts at manual removal.

Supportive measures, such as one unit blood transfusion and broad-spectrum antibiotics, were initiated. Considering the hemodynamically stable condition and minimal vaginal bleeding, she was managed conservatively. The modalities adopted were the placenta was left *in situ* and methotrexate injection was given intramuscularly in the dosage of 1 mg/kg body weight repeated at 72–96 hourly intervals for three doses depending on the dimensions and vascularity of the endometrial mass representing adherent placenta with serial ultrasonography and color Doppler studies, which showed gradual reduction. Total and differential leukocyte counts were routinely done and they remained within normal limits. Size of the uterus decreased remarkably and was not palpable abdominally after 7 days. Vaginal bleeding never became alarming and vaginal discharge never smelt obnoxious.

Patient was discharged satisfactorily after 11 days. On subsequent three follow-ups, every 5 days, patient remained afebrile with no evidence or history of infection and near normal sonological findings after a fortnight. Complete resorption of placenta was confirmed on ultrasonography carried out at 12 weeks. Patient started menstruating regularly after about 4 months.

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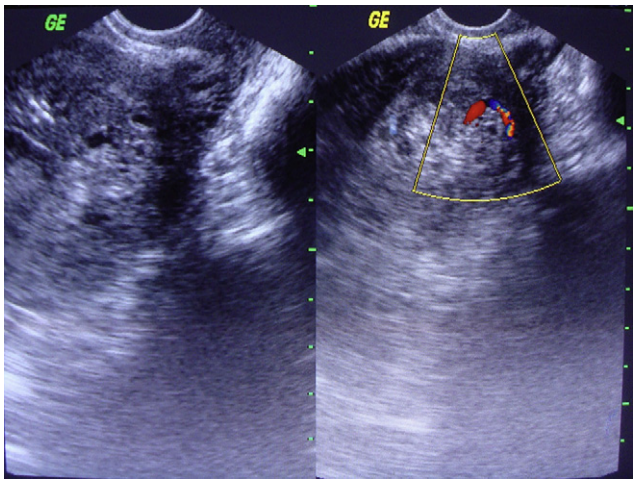

Fig. 1. Retained placenta.

Present pregnancy happened after 8 months of the above-mentioned previously eventful postnatal period. In her regular antenatal visits, ultrasonography and color Doppler were conducted at frequent intervals to rule out any evidence of recurrent placenta accreta. At term, she had Caesarean section for fetal indication. The placental separation was normal and postnatal period was uneventful.

The ever-increasing incidence of this life endangering condition of placenta accreta is considered between 1 in 7,000 and as high as 1 in 540 pregnancies [3]. The risk factors for placenta accreta are previous uterine surgery (such as caesarean sections, myomectomy), previous dilatation and evacuation, placenta previa, advanced maternal age, multiparity, Asherman's syndrome, and presence of fibroids [2]. It is important to make an early and accurate diagnosis for appropriate management and reduction of associated morbidity, thereof, and prenatal diagnosis may be established by ultrasound, color Doppler, and magnetic resonance imaging [4].

Presently, there has been a gradual shift toward its conservative management pioneered by Arulkumaran et al [5] away from the age-old traditional approach of hysterectomy. The current trend is of uterine conservation and leaving the adherent placenta *in situ* with adjuvant treatment of methotrexate [6]. The outcome varies widely ranging from expulsion at 7 days to progressive resorption in roughly 6 months [7].

Mussalli et al [8] in 2000 managed three cases of placenta accreta with methotrexate and succeeded in preserving the uterus in two cases. One case of placenta percreta and three cases of partial placenta increta were managed effectively with methotrexate by Sonin [9] in 2001 and Pinho et al [10] in 2008, respectively.

Another study on conservative management mentions leaving the placenta accreta *in situ* with one of these associated treatments, such as bilateral hypogastric artery ligation and medical treatment with methotrexate or uterine artery embolization; placental resorption happened in most cases, although there was no maternal mortality, but the conservative treatment failed in 2 of the 13 cases where hysterectomy had to be resorted to [11]. Moreover, conservative approach in selected cases is beneficial in preserving fertility [12].

Conservative strategy is the best approach available for hemodynamically stable patients of placenta accreta especially in those categories of patients where retention of fertility is a necessity/desperation.

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