■ *Case Report*

Management of retained placenta in patient with valvular heart disease with pulmonary edema

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Abstract

A case of retained placenta following full-term vaginal delivery with an unscarred uterus where surgical management of delivering the placenta was not attempted due to unfavorable cardiac condition is presented. Although she was planned for hysterectomy, she was successfully managed medically with injection methotrexate.

Introduction

Retained placentas affect 0.5%–3% of women following delivery, and is a major cause of maternal death from postpartum haemorrhage (PPH) and puerperal sepsis.[1, 2] After uterine atony, retained placenta is the second major indication for blood transfusion in the third stage of labour[3]. Independent risk factors associated with retained placenta include non-use of antenatal care, previous retained placenta, previous caesarean section, maternal age 35 years or more, grand multiparity, previous dilatation and curettage, preterm delivery and placenta weight less than 501 gm.[4] The ensuing complications may include- severe post-partum haemorrhage with its resultant coagulopathy, postpartum curettage, uterine perforation, shock, infection, loss of fertility and even death. The conventional treatment is manual removal of placenta (MRP) under general anaesthesia(GA) followed by hysterectomy if it fails. Not only does this approach preclude future fertility, but it is also a procedure synonymous with significant perioperative risks. For women who wish to conserve their reproductive function, other treatment options have been described. In some settings, uterine conservation (with the placenta left in situ) may be an alternative strategy.[5–8] Adjuvant therapy with methotrexate has also been used to expedite resorption of placental tissue.[6–8]

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Case report

A lady, 21 years P_1 L_1, reported at BPKIHS, 16 hours following vaginal delivery, with retained placenta after failed attempt of MRP. She was conscious, with normal vital signs, moderately pale, with a diastolic murmur at aortic area. Uterus was 20-22 weeks size, well contracted with pelvic examination showing moderate amount of bleeding with patulous but closed cervical os and cord hanging out of vagina

Her investigations read hemoglobin 10.9gm/dl, total and differential counts within normal limits, with normal readings of routine urine analysis, platelet count, coagulation profile, hepatic and renal function tests. There was prolonged QT interval and T wave inversion in electrocardiography. Echocardiography showed concentric left ventricular hypertrophy, severe aortic stenosis, severe aortic regurgitation, mild mitral regurgitation and tricuspid thickened AV leaflets without pulmonary artery hypertension with ejection fraction of 60%.

On 4th post partum day, she was planned for MRP. However, before GA, after inserting epidural catheter she developed severe pulmonary edema. MRP was postponed and she was shifted to maternal intensive care unit (MICU) for further management. Considering the desire of the patient for retaining her uterus, conservative management was planned.

On sixth postpartum day transabdominal sonography revealed uterus of post partum size with endometrial cavity showing an echogenic mass of dimensions 9.8cm x 8cm x 7cm, suggestive of placenta, with vascularity on colour doppler confirming it to be adherent to the uterine wall (placenta accreta), but with no definite invasion (figure 1). Modality adopted was: placenta left in-situ and injection methotrexate given intramuscularly in the schedule of 1 mg/kg body weight, weekly. Complete blood counts, liver and renal function tests were done before giving each dose of methotrexate which remained within limits. Injection folinic acid 0.1 milligram per kilogram body weight was given twenty-four hours after methotrexate.

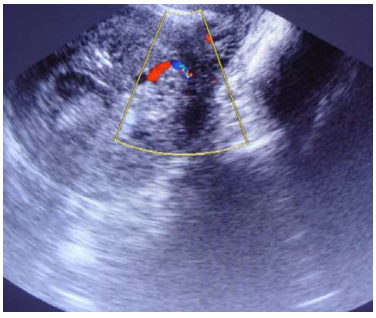

Figure 1: Placenta accreta

First dose of methotrexate was given on 6th post-partum day after which she passed brownish vaginal discharge along with bits of tissue. Broad spectrum antibiotics and antiseptic vaginal douching was continued. Size of the uterus decreased remarkably and on 9th postpartum day it was 14-16 week size. 0n 13th day second dose was given and her trans-abdominal sonography was repeated which revealed decrease in placental size. However on 16th postpartum day, at night she started to have moderate amount of vaginal bleeding, she was tachycadiac, with normal blood pressure without evidence of pulmonary edema. On abdominal examination, uterus was 14 weeks size, well contracted with pelvic examination showing moderate amount of bleeding per vaginum with patulous cervical os about two cm dilated. She was planned for dilation and evacuation under paracervical block which was successfully performed and about 150gm of placental chunk was removed.
With this conservative strategy, vaginal bleeding never became alarming and vaginal discharge never purulent. Patient was discharged in a satisfactory condition, fulfilling her initial desire of conserving the uterus, after 18 days of hospitalization. On subsequent follow-ups, for one month, patient remained afebrile with no evidence of infection, and normal sonographic and colour doppler findings after a fortnight.

Discussion

Presently, the only effective treatment of retained placenta is MRP under GA. The role of systemic oxytocics in the management of retained placentas is controversial. Oxytocics given prophylactically at the time of delivery increase the number of placental deliveries at 20 and 40 minutes but have no effect on the number of placentas that eventually need manual removal[9].Injection of oxytocin into the umbilical vein has been suggested as an alternative. Despite several placebo controlled trials of this technique, no firm conclusions have been reached regarding its efficacy.[10]
Methotrexate has also been described an as adjuvant therapy for the conservative management of placenta accrete.[5–8, 11] It has been hypothesized that methotrexate acts by inducing placental necrosis and expediting a more rapid involution of the placenta[12]. This contradicts the belief that methotrexate acts only on rapidly dividing cells, given that trophoblast proliferation is not felt to occur at term[13]. Thus, there is controversy as to the effectiveness of methotrexate as an adjuvant treatment. Also, there is a lack of consensus regarding optimal dosing, frequency, or route of administration. Dose in this particular case was weekly 1 mg/kg body weight. In a recent review, conservative management was utilized in 167 cases of placenta accreta/percreta[14].The failure rate was 22% and hysterectomy, either primary or delayed, was required mostly for severe hemorrhage. Severe maternal morbidity, including one maternal death, occurred in 6% of cases. The death was attributed to aplasia and nephrotoxicity secondary to intraumbilical administration of methotrexate. This case highlights the adverse effects that may occur following even a single dose of adjuvant methotrexate. Although conservative management of placenta accrete appears to be successful at preventing hysterectomy in most cases, there is still potential for morbidity. If such an approach is used, intensive monitoring for complications is required. Women may continue to be at risk for weeks to months after delivery. Sentilhes et al. reported a median period to delayed hysterectomy of 22 weeks.[14]

Another controversy surrounding the use of methotrexate in the management of placenta accreta has been the utility of monitoring serum βhCG. The prognostic implications of decreasing βhCG levels following administration of methotrexate are better described in the setting of ectopic pregnancy. For placenta accrete, it is not clear whether decreasing levels correlate with the rate of involution of placental tissue. In one study, the serum âhCG levels decreased with a half-life of 5.2 days in women managed by leaving the placenta in situ and did not vary with the volume of remaining tissue.[15] So it was not monitored in our patient.

Conclusion

Our case demonstrates, conservative treatment of persistent retained placenta can be successful. This could have important public health implications where facilities for manual removal are scarce or when medical conditions of patient do not favor MRP under GA. If an improvement in the conservative management of placenta can be achieved, then medical management of the retained placenta will become the treatment of choice, even where theatre facilities are available.

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