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Case Report

Accidentally diagnosed placenta accreta managed conservatively with methotrexate

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ABSTRACT

Placenta accreta is a life-threatening obstetrical emergency that requires multidisciplinary approach. The incidence of placenta accreta is increasing over years. In some cases, its diagnosis is occasionally discovered at the time of delivery when there occurs difficulty to deliver placenta. In general, the recommended management of suspected placenta accreta is planned preterm caesarean hysterectomy with the placenta left in situ because attempts at removal of the placenta are associated with significant hemorrhage. Recently, adjuvant therapy with methotrexate has been tried in the treatment of morbidly adherent placenta in patients desiring further child bearing. This case is presented to highlight the conservative management of accidently diagnosed placenta accreta with inj. Methotrexate in hemodynamically stable patient and it a safe alternative than extirpative management. A 28-year-old, G4P1L1A2 with a previous normal vaginal delivery, with GDM (on medical nutritional therapy) with hypothyroidism presented at 38 weeks 1 day of gestation with raised blood pressure. Patient was induced for labour and patient delivered vaginally. Placenta could not be delivered out and accidental morbidly adherent placenta accreta was diagnosed. Patient was hemodynamically stable. After discussing the treatment option with her family, she was being managed with Inj. Methotrexate and followed up regularly with ultrasound scan and antibiotic cover. Placental tissue reabsorbed gradually and patient expelled out retained placental tissue completely after 14 weeks of her delivery. One of the potentially catastrophic obstetric complications, placenta accreta is alarmingly on the rise due to repeated D and C and increasing caesarean section rate. It can be diagnosed accidently during third stage of labor. Methotrexate being a cytotoxic drug can be considered to promote placental tissue resorption in hemodynamically stable patient with regular follow up desiring uterus preservation.

Keywords: Placenta accreta, Injection methotrexate, Expulsion of placenta

INTRODUCTION

Placenta accreta is described as an abnormality in placental development. Placenta accreta spectrum is due to defective decidualization of implantation site and the absence of both decidua basalis and nitabuch layer resulting in direct attachment of chorionic villa to myometrium. This leads to firm attachment of placenta to uterine wall. Hence separation of placenta at the time of delivery becomes difficult. Attempt to remove retained placenta further it increases risk of hemorrhage and maternal mortality. It is mostly diagnosed on ultrasound and magnetic resonance imaging (MRI) in antepartum period. But incidence of accidental diagnosis during delivery is increasing now a days because of various risk factors like advanced maternal age, history of repeated D and C, previous history of caesarean section or myomectomy, vigorous repeated curettage, presence of fibroid, multiparity.

Though traditional management of this entity has centered upon hysterectomy but there has been a gradual shift towards its management which involves uterine conservation and leaving the adherent placenta in-situ with either adjuvant treatment with methotrexate in some cases or by simply awaiting its spontaneous resorption.[1,2]

Methotrexate is a well-known cytotoxic agent used in treating trophoblastic tumours and in selected cases of

ectopic pregnancy. It reduces the placental vascularity and induces placental necrosis. We present case of accidently diagnosed morbidly adherent placenta managed successfully in hemodynamically stable patient with inj. methotrexate.

CASE REPORT

A 28-year-old woman, gravida 4, para 1, living 1, abortion 2 (G4P1L1A2), at 38 weeks and 1 day of gestation, presented to the labour room of Tirath Ram Shah Hospital, Delhi, with complaints of headache and elevated blood pressure recordings at home. She was a booked antenatal case. Her obstetric history included one full-term normal vaginal delivery 8 years back, followed by two first-trimester abortions, the most recent of which had been managed with dilatation and curettage (D and C) one year prior to the current pregnancy. There was no history of abdominal pain, vaginal bleeding, or leaking per vaginum at the time of admission. Her previous menstrual cycles were regular, and she had no history of hypertensive disorders during her previous pregnancy.

Her antenatal period she was diagnosed with gestational diabetes mellitus, hypothyroidism and managed with medical nutritional therapy.

On admission, she was afebrile with a blood pressure of 140/90 mmHg. Abdominal examination revealed a term-sized, relaxed uterus with a singleton foetus in cephalic presentation and a regular fetal heart rate. On vaginal examination, the cervix was soft, posterior, and partially effaced. Laboratory investigations were within normal limits except for mild anaemia (haemoglobin 9.2 g/dl). Non-stress test was reactive.

Considering the presence of headache with elevated blood pressure and gestational diabetes mellitus, labour was induced using intracervical dinoprostone gel. Labour progressed rapidly, and the patient achieved full cervical dilatation within 6 hours. During the second stage of labour, she had an uncomplicated vaginal delivery of a healthy neonate.

Active management of the third stage of labour was started with intramuscular oxytocin (10 IU). However, the placenta failed to separate after 15 minutes. In view of retained placenta, informed consent was obtained for manual removal under general anaesthesia. Intraoperatively, repeated attempts at placental removal were unsuccessful because of firm placental adherence, raising suspicion of placenta accreta spectrum. Despite intermittent vaginal bleeding, the patient remained hemodynamically stable without evidence of massive postpartum hemorrhage.

After multidisciplinary discussion and detailed counselling of the patient's family regarding the risks and benefits of available treatment options, a decision was made to pursue conservative management with preservation of the uterus. The placenta was left in situ, and inj. methotrexate 75 mg was administered intramuscularly. A Bakri balloon was inserted and kept in situ for 48 hours as a prophylactic measure to minimize postpartum hemorrhage. Broad-spectrum intravenous antibiotics were initiated.

Ultrasonography performed 48 hours later demonstrated a bulky postpartum uterus with a well-defined heterogeneous predominantly hypoechoic lesion measuring approximately 10×7.6 cm in the uterine fundus, suggestive of retained placental tissue. An additional ill-defined heterogeneous lesion measuring 6.9×3 cm was noted in the lower uterine segment and cervix, consistent with retained products of conception associated with blood clots and air foci.

At the 1-week follow-up visit, the patient reported intermittent passage of blood clots. On abdominal examination, the uterus corresponded to approximately a 12-14-week gestational size. Liver function tests were within normal limits; therefore, a second intramuscular dose of methotrexate (75 mg) was administered. She remained clinically stable and was discharged on oral antibiotics with advice for close weekly follow-up. On weekly follow up, there was progressive involution of uterus clinically with no signs of heavy bleeding or sepsis.

Figure 1: USG image showing retained placental tissue, 48 hours after delivery.

At 6 weeks postpartum, she continued to report intermittent passage of blood clots. The uterus was no longer palpable abdominally. Pelvic ultrasonography demonstrated residual placental tissue measuring 72×62 mm within the fundal region of the uterine cavity. Doppler examination revealed only peripheral (capsular) vascularity without a significant internal vascular pedicle, suggestive of involuting retained placental tissue. After confirmation of normal liver function tests, a third dose of intramuscular methotrexate (75 mg) was administered.

Two months after the final methotrexate dose, the patient presented with a history of spontaneous passage of a large tissue mass per vaginum. Follow-up pelvic ultrasonography demonstrated a marked reduction in the residual placental tissue, with only fragmented residual tissue along the endometrial lining and a small central

collection of blood within the endometrial cavity, consistent with progressive resolution of the retained placenta.

Figure 2: Image showing expulsion of large placental mass.

Figure 3: USG showing empty uterine cavity after expulsion of placental tissue.

DISCUSSION

One of the potentially catastrophic obstetric complications, placenta accreta is alarmingly on the rise in the developed as well as developing world due to current trend towards elective repeat caesarean sections.[3] It is a life-threatening condition associated with high maternal morbidity and mortality rate being as high as 7%.[4]

Arulkumaran et al in 1986 first reported the successful treatment of placenta accreta with methotrexate.[5] They used 250 mg of intravenous methotrexate (5 doses on alternate days from postpartum day 1); expulsion of a necrotic placenta occurred on the 11th day of treatment.

Raziel et al reported a case of placenta accreta treated with two doses of 20 mg of methotrexate IM, on the fourth and fifth postpartum day, which resulted in expulsion of a necrotic placenta on postpartum day 7.[6]

In the report by Legro et al, in a case of placenta percreta they used ten doses (1 mg/kg per week) of intramuscular methotrexate, and the outcome was a slow involution of placenta over five to six months postpartum.[7]

Tong, Tay, Kwek pioneered the conservative method by administering systemic methotrexate.[8] The outcome varies widely ranging from expulsion at seven days to progressive resorption in roughly six months.

Study done by Rajiv et al, injection methotrexate given intramuscularly in the schedule of 1 milligram per kilogram body weight, with repetition at 72-96 hourly intervals for three doses.[9] They monitored the dimensions and vascularity of the mass (representing adherent placenta) with serial sonographic and colour doppler studies which regularly showed the reducing trend. Leucocyte counts were routinely done on daily basis which remained within limits. Size of the uterus decreased remarkably and was not palpable abdominally after 9 days.

Cour-biere et al conducted a study on conservative management in which placenta accreta was always left in situ with one of these associated treatments like bilateral hypogastric artery ligation, medical treatment with methotrexate or uterine artery embolization: placental resorption happened in majority of their cases with no report of maternal mortality.[10]

Study done by Topuz et al, three cases of partial placenta increta managed with methotrexate are described.[11] The patients were assessed with clinical surveillance, serum β human chorionic gonadotrophin (β-hCG) and imaging (ultrasonography and magnetic resonance in one case). In all cases conservative management with methotrexate resulted in undetectable serum β-hCG, a decrease in the size of partial placenta retained, and undetectable vascularization.

Study done by Singh et al, systemic administration of methotrexate (total four doses) in two cases, followed up with serial β-hCG and ultrasound resulted in reduction of placental size, decreased uteroplacental vascularity eventually resulting in decrease and disappearance of the placental tissue.[12] So, they recommend in selected cases, conservative management with methotrexate may be tried.

Also, Vidya et al managed a case of accidently diagnosed placenta accreta by inj. methotrexate and inj. leucoverin.[13] The patient is being given two cycles of inj. methotrexate 60 mg intramascular on day 1, 3, 5, 7, and 9 and inj. Leukoverin on day 2,4,6,8. Patient is being followed up with serial β-hCG and ultrasound scan (volume of retained placenta). They observed resorption of placental tissue and partial expulsion of mass per vaginum on day 95 postpartum.

CONCLUSION

Conservative management appears to be a safe alternative to the extirpative management and it is a logical option in well selected hemodynamically stable patients. Considering the cytotoxicity of methotrexate, it should probably be reserved for cases of placenta percreta or when

there is continuing active vascularity associated with persistent serum β-hCG levels.

Unless a life-threatening hemorrhage occurs, a conservative approach is recommended even in women who do not want to preserve their fertility, considering the morbidity associated with cesarean hysterectomy.

The utility of methotrexate treatment in the conservative management of placenta accreta requires further evaluation, and there is need for an agreement on a standardized protocol. Although, conservative management with methotrexate appears to be safe there are potential risks of infection and bleeding and side effects of methotrexate, hence, patient should be under close observation.

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REFERENCES

1. Fergal M. Placenta accreta percreta. Contemp Ob/Gyn. 2002;4:116-42.
2. Flam F, Karlström PO, Carlsson B, Garoff L. Methotrexate treatment for retained placental tissue. Eur J Obstet Gynecol Reprod Biol. 1999;83(2):127-9.
3. Khong TY. The pathology of placenta accreta, a worldwide epidemic. J Clin Pathol. 2008;61(12):1243-6.
4. Resnik R. Diagnosis and Management of Placenta accreta. ACOG Clin Rev. 1999;4:8-9.
5. Arulkumaran S, Ng CSA, Ingemarsson I, Ratnam SS. Medical treatment of placenta accreta with methotrexate. Acta Obstet Gynecol Sand. 1986;65(3):285-6.
6. Raziel A, Golan A, Ariely S, Herman A, Caspi E. Repeated ultrasonography and intramuscular methotrexate in the conservative management of residual adherent placenta. J Clin Ultrasound. 1992;20(4):288-90.
7. Legro RS, Price FV, Hill LM, Caritis SN. Nonsurgical management of placenta percreta: a case report. Obstet Gynecol. 1994;83(5):847-9.
8. Tong SY, Tay KH, Kwek YC. Conservative management of placenta accreta: review of three cases. Singapore Med J. 2008;49(6):e156-9.
9. Rajiv M, Malik S, Mittal A. Methotrexate therapy for placenta accreta- A rare case report. Curr Pediatr Res. 2010;14(1):69-70.
10. Courbière B, Bretelle F, Porcu G, Gamerre M, Blanc B. Conservative treatment of placenta accreta. J Gynecol Obstet Biol Reprod (Paris). 2003;32(6):549-54.
11. Topuz S, Kalelioglu I, Iyıbozkurt AC, Akhan S, Has R, Tunaci M, et al. Cranial imaging spectrum in hypertensive disease of pregnancy. Clin Exp Obst Gyn. 2008;35(3):194-7.
12. Singh Y, Raghav V, Kapur A. Medical Management of Placenta Accreta with Methotrexate: Review of Two Cases. J South Asian Feder Obst Gynae. 2015;7(2):86-8.
13. Vaidya A, Panchbudhe S, Satia M. Conservative management in a case of retained adherent placenta in a primigravida patient. Int J Reprod Contracept Obstet Gynecol. 2017;6(7):3188-91.

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