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Case report

Conservative management of morbidly adherant placenta – A case report and review of literature

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ABSTRACT

Placenta accreta is a condition when the placenta is abnormally adherent to the uterus. This can result in complications like severe haemorrhage, injuries to pelvic organs, possible need for Caesarian hysterectomy. There is always high risk of maternal morbidity and mortality. Over the last decade there has been gradual shift towards conservative management of placenta accreta involving uterine and placental conservation, with the main aim to reduce pelvic injury and to achieve haemostasis with the aid of intervention radiology by means of Uterine Artery embolisation and use of medical chemotherapeutic agents like Methotrexate. This strategy has previously been shown to reduce morbidity and mortality in carefully selected cases of Placenta accreta. We have successfully managed a case of Placenta percreta conservatively using Uterine Artery embolisation followed by Injection methotrexate.

1. Introduction

Placenta accreta is one of the most feared complications in obstetrics. It is a consequence of the partial or total absence of the decidua basalis and imperfect development of the fibrinoid or Nitabuch's layer. Histologically, the condition is identified by trophoblastic invasion of the myometrium in the absence of intervening decidua. The placental villi are superficially attached to the myometrium in placenta accreta (80% of the cases), invades the myometrium deeply in placenta increta (15% of the cases) and penetrates through the myometrium reaching serosa and even adjacent pelvic organs in placenta percreta (5% of cases) [1].

The incidence of placenta accreta has increased over the past century from 1/7000 deliveries to 1/2500 deliveries due to increased rate of Caesarean deliveries [1]. The condition is often related to the previous uterine scars including caesarian sections and prior uterine curettage. Other risk factors associated with placenta accreta are multiparty (>6 pregnancies), placenta previa, prior intrauterine infections, elevated maternal serum alpha-fetoprotein and maternal age more than 35 years [2].

Under ideal circumstances, the diagnosis should be made during antenatal period in high-risk pregnancies which allows for planning & strategizing so that maternal morbidity and mortality is reduced. Unfortunately, most cases are identified only at the time of delivery when forcible attempts at manual removal of the placenta are unsuccessful and severe PPH ensues. This leads to complications like massive blood transfusions, DIC, acute renal failure, infectious morbidities, ARDS, loss of fertility. Maternal mortality has been reported to be as high as 7% [3].

A high index of suspicion is required for diagnosis. Therefore ultrasonographic features suggestive of accreta must be sought in cases with high risk factors. These include the presence of irregular shaped placental lacunae within the placenta, thinning of myometrium overlying the placenta, loss of retroplacental 'non-lucent line', protrusion of the placenta into the bladder, increased vascularity of the uterine serosa-bladder interface and turbulent blood flow through the lacunae on Doppler ultrasonography. MRI is the gold standard imaging modality for placenta accreta to better define the topography and area of placental invasion that helps in appropriate planning of surgery [4–6] (Figs. 1 and 2).

In the past years hysterectomy was often done to control haemorrhage but in cases of percreta, even hysterectomy might fail to control torrential haemorrhage associated with it. There has been high incidence of maternal morbidity and mortality associated with these conditions.

Various methods of managing placenta accreta have been described, ranging from conservative methods to extirpative management. Avoidance of haemorrhage is achieved by performing classical caesarean section to avoid the placental site, leaving the adherent placenta in situ. Doing the hysterectomy 2–6 weeks after delivery has achieved decrease in maternal morbidity and mortality [8].

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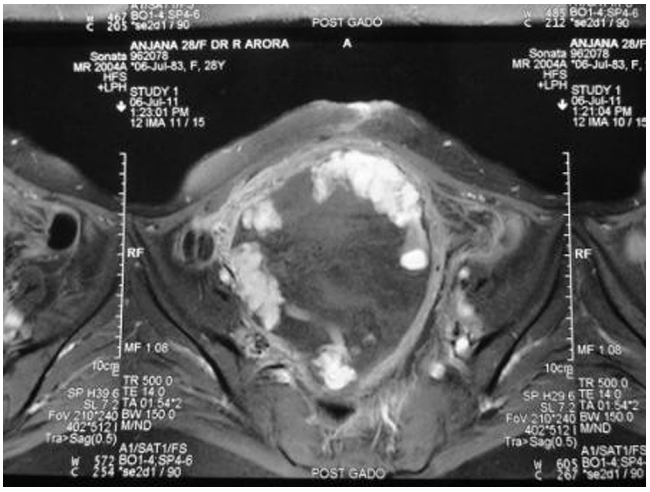

Fig. 1. MRI film of transverse section showing placental bulk after surgery.

There has been a paradigm shift in terms of treatment, from the historical caesarean hysterectomy to more conservative methods of management involving uterine conservation and leaving the placenta in situ with adjuvant treatment of methotrexate in some cases or simply awaiting spontaneous resorption of the placenta.

The conservative method was first described by Arul Kumaran et al. [7] in 1986 in which systemic Methotrexate [Mtx] was administered postnatally, and the placental mass was expelled 11 days postnatally. Since then a number of cases treated conservatively have been reported.

The paradigm shift is facilitated by development of methods of controlling blood loss during surgery, such as embolization, ligation or balloon occlusion of the arterial supplies, as well as the enhanced availability and safety of blood transfusion, either from autologous or donor sources and good modern intensive care support.

We report a case of placenta percreta successfully managed conservatively leaving placenta in situ. Bilateral uterine artery embolization was done prophylactically to prevent PPH. Injection Methotrexate was given to settle the persistent high levels of Beta HCG.

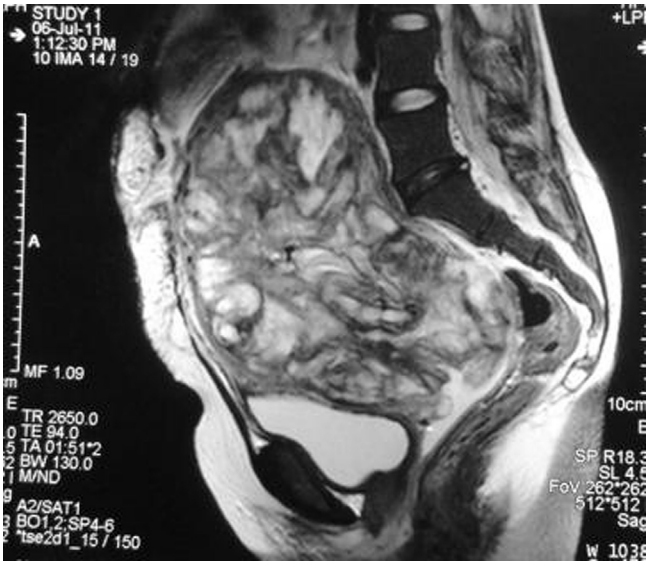

Fig. 2. MRI longitudinal section showing placental bulk after surgery.

2. Case report

A healthy 28 year old Indian woman Gravida3 Para2 live one with previous one caesarean section was accepted as a referred case in the Department of Obstetrics & Gynecology, Lok Nayak Hospital, Delhi, India with 33 weeks gestation. She was referred from a secondary care hospital where ultrasonography & Doppler revealed a placenta in the lower segment completely covering the os which was adherent to the scar with blood lakes in the myometrium, suggestive of placenta accreta. She was diagnosed as low lying placenta at 19 weeks and had given history of recurrent painless bleeding per vaginum at 4 months and 6 months, which was managed conservatively. She and her close relatives were counselled on the high risk of the condition and admitted for further management. MRI was done to confirm the diagnosis which showed the placenta covering the os, placenta percreta penetrating the anterior myometrium and indenting anteriorly the bladder wall with a pool of blood within.

The patient was kept on conservative management till 35 weeks + 5 days when she had an episode of bleeding. She was taken for an Emergency Caesarian section. Expert urologic Surgeon and Interventional Cardiology team had already been appraised and was involved on the day of surgery. Arterial embolization is done by cardiology unit in our hospital. During Cesarian section the lower uterine segment was noted to be thin, bulging and placental cotyledons were visible through the intact mucosa. The area was covered by plexus of blood vessels which extended over the bladder peritoneum. A classical CS was performed to avoid opening the plexus of vessels in the lower segment. A healthy male baby weighing 2.3 kg was delivered by breech extraction with good Apgar score. It was decided to leave the placenta in situ in view of the complete placental adherence and risk of torrential haemorrhage if proceed with hysterectomy. The umbilical cord was cut and ligated near the placenta. Uterus was closed in three layers followed by abdominal closure. Estimated blood loss was approximately 400 ml.

Post-operatively patient was taken over by interventional cardiology unit to perform bilateral embolization of uterine arteries within two hours postsurgery under anaesthetist's supervision. Completion angiogram confirmed marked reduction in the internal placental vascularity. Her post-operative period was uneventful except for episodes of high grade fever (102–104°F) for which investigations were performed. All investigations were within normal limits but endocervical swab showed *Escherichia coli* which was sensitive to Meropenem. Injection Meropenem was given as per prescribed dosage and fever was controlled. Patient was discharged in good condition.

Follow up of the patient was done by serial USG monitoring for the size of the uterus and placenta in situ and weekly Beta HCG levels. During this period Serum Beta HCG levels were found to be persistently high, more than 200 mIU/ml. The patient was readmitted and Inj methotrexate 50 mg IM was given weekly for three weeks as every week Beta HCG levels were >200 mIU/ml. After 5 months her Beta HCG levels dropped to less than 5 mIU/ml, uterus regressed to normal size and placenta shrunk into few echogenic foci in the anterior myometrium (Fig. 3). Patient remained well during this period with resumption of regular menstrual cycle after seven months.

3. Discussion

There has been an increase in incidence of placenta accreta in the past few years due to increasing rates of caesarean section which is one of the risk factors of placenta accreta given its association with previous myometrial damage. The condition is dreaded