

Three Cases of Morbidly Adherent Placenta - A Catastrophe after Delivery

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ABSTRACT

Three cases of morbidly adherent placenta have been described. All the three patients presented in different clinical scenarios. First patient presented with dehiscence of the previous scar and torrential bleeding from the placental bed after the delivery of the baby at L.S.C.S. The patient was managed with suturing of placental bed with figure of eight sutures, blood replacement and uterotonics. The patient made an uneventful recovery after surgery. The second patient presented with retained placenta after normal delivery of a female baby. Placenta was removed piecemeal under GA due to prolonged third stage. It came out piecemeal and few parts were not removable. Luckily vaginal bleeding was moderate. The patient was shifted to higher center where she remained under observation and made an uneventful recovery. The third patient presented with complete inversion of uterus after the delivery of baby during L.S.C.S this particular patient also had adherent placenta that was removed manually and bleeding controlled with uterotonics and suturing of placental bed.

Keywords: Previous casarean section, morbidly adherent placenta, post partum hemorrhage, normal delivery, retained placenta, inversion of uterus. Conservative management.

INTRODUCTION

The incidence of abnormally adherent placenta is increasing due to higher rate of operative deliveries. It manifests itself in third stage of labor as failure of placenta to deliver spontaneously. It affects approximately 1 in 2500 deliveries. First manifestation is failure of placenta to deliver, after the delivery of the fetus.

In patients with previous history of uterine surgery, it is an important cause of post-partum hemorrhage. During normal placentation, a fibrinous layer called the NITABUCH layer separates the deciduous layer of the uterus from the placental villi, as a result, placenta is easily separated from the uterine decidua and delivered, spontaneously. It also prevents the deep penetration of placenta into the myometrium.

This important layer is partially or completely absent in cases of morbid adhesion of placenta. As, it happened in the 1st case, patient was not diagnosed in ANC visits due to limitations of the facilities in our hospital. Although there was high index of suspicion and the managing team was ready to cope with the serious circumstances. Patient presented with history of intermittent brownish vaginal discharge and abdominal pain, till she reached 37 weeks of pregnancy. At this time she was operated due to moderate bleeding, when we encountered the catastrophe and were able to manage it uneventfully.

The second patient was a grand multiparous lady who came in labor at 39 weeks of gestation. She gave birth to a female baby with normal vaginal delivery but placenta failed to deliver spontaneously. The placenta was removed piecemeal under GA with few pieces of placenta which were deeply penetrating in the uterus. Patient was managed conservatively and referred to the higher Centre.

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The follow up remained uneventful till the uterus involuted completely.

The third patient was a G3P0A2, with history of two consecutive abortions who presented with complete inversion of the uterus after the delivery of a term fetus at cesarean section. In this case, placenta was removed manually after correcting the inversion of the uterus with difficulty and the bleeding was controlled with suturing of placental bed.

CASE 1

An Indian patient 30 years old G4p1A2 attended our OPD for ANC booking when she was 19 weeks pregnant she presented with vague complaint of lower abdominal dull ache not accompanied by gynecological, urological or systemic symptoms. Her past obstetric history was as follows.

Her first conception ended in spontaneous abortion at 10 week of gestation. Her 2nd pregnancy was ended by dilatation and curettage for missed abortion at 9 weeks of gestation, 4 months after the first abortion. Six months later she conceived again. Her pregnancy remained uneventful and she gave birth to female baby by L.S.C.S. She conceived again when the last born was 10 month of age. Her pregnancy remained uneventful till she reached 33 weeks of pregnancy when she started complaining of brownish vaginal discharge with dull lower abdominal ache. Her vital signs were as follows BP was 133/80, pulse was 122bpm good volume, temperature was 36.6 C. Abdominal examination revealed fundal height of about 34 weeks of gestation with longitudinal lie and cephalic presentation. There was no local tenderness and no palpable or recordable contraction. FHS were 140 and regular. USS was done revealing a fetus of about 34 weeks with longitudinal lie and cephalic presentation. Placenta was on the anterior wall of uterus coming over the scar but away

from the internal os .There was no other cause of vaginal bleeding on vaginal examination, tracing of CTG revealed that base line heart rate was 160 BPM and it was reactive with maternal tachycardia that persisted for about half an hour and then settled. Referral was sent to the higher Centre keeping in mind the possibility of placenta increta but not accepted in higher Centre. The second episode of bleeding started about 10 days after this episode, but also settled. Meanwhile we were able to arrange three donors in case emergency need arises. At about 37 weeks of gestation, the catastrophe started. She started complaining of vaginal bleeding, moderate in amount, fresh and accompanied by abdominal pain localized on the lower abdomen, pricking in nature and continuous in duration. Her BP was 120/80 pulse 88/minutes. Abdominal examination revealed a fundal height of 36 weeks of gestation longitudinal lie cephalic presentation ,mild tenderness on the lower abdomen and suprapubic area. The patient was shifted to the theatre immediately, keeping in mind the possibility of scar dehiscence . Meanwhile, two donors for blood transfusion were arranged. Her blood group was AB positive, HB was 13.6%, platelet count 292000/microliter, BT was 3 minutes and CT was 6 minute. CTG showing normal reactive trace with 10% uterine activity irregularly. The patient abdomen was opened through the previous scar about 45 minute after the reporting time. A lot of adhesions were present between the parietal peritoneum and the omentum. After dissecting the adhesions, lower uterine segment was exposed. It was congested and about 6cm rent was present in the previous scar. It was a partial rupture as the peritoneum over the scar was intact. .The head of baby was visible through the rent and after extending the same rent, a male baby of 3.2 kg with 8 Apgar score was delivered as cephalic, placenta failed to deliver spontaneously and was removed piecemeal. The placenta was deeply adherent to the previous scar and the left lateral uterine walls, and It was delivered in pieces .There was torrential bleeding from the placental bed .The uterus was pouring blood like a fountain from the placental site. A second IV line secured with 18 gauge cannula and fluid replacement started. Uterine compression was started manually 5 units of oxytocin was given as IV push and 20 units of syntocinone were diluted in normal saline and started IV. Injection ergometrine 0.25 mg iv was given. Local injection of ergometrine was given but the bleeding was not controlled .During this volume replacement was continued with crystalloids and two pints of fresh blood were also transfused. Now figure of 8 sutures were applied to stop bleeding from the sinuses. Meanwhile arrangements were made for hysterectomy but This was helpful in stopping the bleeding from the site. Then uterus was stitched in two layers and peritonised . Her BP was maintained with continuous fluid replacement although it fell down to 70/50 during the surgery. Her urinary output at the end of surgery was 200cc and the surgery last for about for monitoring. Intravenous third generation antibiotics were started with fluid replacement and intake output monitored. Her HB dropped to 8.5 after operation . RFTS and LFTS were normal after delivery. One pint of blood was transfused on 1st post-operative day.2nd day she was shifted to oral fluid and gradually she 4 hours. The patient was shifted to the ICU after operation

recovered and the post-operative period was uneventful. 8th post-operative day she was discharged home.

CASE 2

A 48 years old Saudi lady G11P7A3 attended the Gynae department at 39 weeks of gestation .She was examined and no abnormality was found in the general physical and systemic examination. Abdominal examination revealed a fundal height of 36 weeks of gestation with longitudinal lie and cephalic presentation FHS 146 per minutes, head was 2/5 palpable. Pelvic examination revealed that cervix was 5cm dilated 80%effaced, membranes intact and presenting part at -1 station, pelvis was adequate. After about three hours she delivered a female baby with Apgar score of 8/10. Placenta failed to deliver spontaneously. Placental delivery was tried with controlled cord traction but not successful. Intravenous syntocinone was given but was in vain. Almost 30 minutes passed but placenta was not delivered. Patient was shifted to the theatre and delivery of placenta was tried under GA after arranging three pints of blood. After GA patients bladder was evacuated with Foleys Catheter and 200cc of clear urine was drained .On examination under GA, it was found out that the os was open and the placenta was still attached with the uterus. There was mild vaginal bleeding coming out from the os. The right hand was introduced in the os to find the lower edge of placenta and the left hand was used to stabilize the fundus of the uterus. The finger of the right hand was introduced between the uterine wall and the placenta to find out the cleavage plane and gently placenta was separated from the uterine wall. The placenta was easily removable at some places but few loci were badly adherent and demarcation of the cleavage plane was not possible. At some areas placenta came out piecemeal. It was not possible to take out whole placenta intact. Meanwhile oxytocin was given IV to tone up the uterus that was successful.At about 10cm area of the fundus of uterus there was a piece of placenta that did not come out and was morbidly adherent and was left intact. As there was no active bleeding from the uterus that piece was left as such, patient was shifted to the female ward. After giving 50 microgram of methergine 20 units of syntocinone in the drip. The patient was shifted to the higher center after confirming that the fundus had an adherent piece. She made uneventful recovery there. She remained there for one week and discharged back home in a stable condition.

CASE 3

A 23 years old G3P0A2 was having a routine ANC in our OPD. All her ANC clinics were going normally in routine. All her parameters were within normal limits. She reached 40 weeks of gestation uneventfully. She came to ER in labor, where she was monitored for progress of labor. After about 2 hours, the CTG started type two dips, after amniotomy thick meconium stained liquor was drained. As the cervix was only 3cm dilated, she was shifted to the operation theatre after arranging two pints of blood. The abdomen was opened through the pfannensteil incision. After dissecting all the layers uterus was opened through the lower segment. A female fetus of A/S of 6 was delivered as cephalic. Baby was handed over to the pediatrician and the

uterus was found to be totally inverted. Through the uterine scar, placenta was attached to the fundus of the uterus and was not separable. Inversion of uterus was corrected and syntocinone 5 units were given to the patient to tone up the uterus. Manual separation of placenta was done very carefully. Placenta came out but a few places it was deeply invading the uterine wall and removed in bits. Uterine bleeding was controlled with intravenous methergine and 30 units were started in 500cc of normal saline. Uterus was stitched in two layers and manual massage was done to keep the uterus in tone till the methergine took over its effect. Abdomen was closed in layers and patient made an uneventful recovery after surgery. She was discharged back home after 4 days.

DISCUSSION

The overall incidence of placenta accreta is 3 per 1000 deliveries, and the incidence is rising with time. The main reason of increase in the incidence is the rise in the cesarean section rate.¹

The incidence of abnormally adherent placenta is increasing with time due to higher trend of operative deliveries. Its first manifestation may be failure of placenta to separate from the uterine wall and deliver spontaneously²

The patient with previous section and placenta Previa is the worst scenario. This combination shoots up the incidence too high. For incidence in a patient with 3 previous section and placenta Previa there is 40% risk of accreta, and the risk drops to only 1% if there is no placenta Previa. So it is essential to localize the placental site in patient with previous surgery and exclude placenta Previa³.

The pathogenesis of placenta accreta is not clear; however there has been several theories proposed. Abnormal vascularization resulting from the scarring process after surgery and secondary localized hypoxia leading both defective decidualization and excessive trophoblastic invasion appears to be the most prominent or the most supported theory that may explain the pathogenesis of placenta accreta⁴. In the mentioned cases there is history of previous uterine curettage and L.S.C.S puts the patients at risk of placenta accreta, the other risk factors for this advancing maternal age, multiparity, prior uterine surgery, uterine irradiation, endometrial ablation, Asher man syndrome, uterine leiomyoma's, Uterine anomalies, hypertensive disorders in pregnancy and smoking¹. If we analyse the three cases, there is the abnormality of placenta in the first case, there is history of previous surgery in the third case and the second one has history of placental retention after the last delivery. In these cases placenta accreta Vera: a variety that has 80% incidence and restricts itself to the inner myometrial layer, may be the cause.

Placenta accreta is a variant of abnormal placentation where placenta is deeply adherent to the uterine wall. The abnormal placentation has different grades that range from extension into the muscles to the extension up to the serosa and even to the abdominal organs. Normal placenta has a layer of decidua which separate the placental villi from the underlying myometrium at the site of placental

implantation. A placenta that directly adhere to the myometrium without intervening decidual layer is called the placenta increta. This abnormality can be partial, focal or complete. Placenta accreta is a general term when part of the placenta, or the entire placenta, invades and is inseparable from the uterine wall¹

When the chorionic villi only invade the myometrium, the term placenta increta is appropriate; where placenta percreta describes invasion through the myometrium and serosa, and occasionally into the adjacent organs, such as bladder. Clinically placenta becomes problematic during delivery when the placenta does not completely separate from the from the uterus and is followed by excessive bleeding leading to disseminated intravascular coagulopathy, the need for hysterectomy, surgical injury to the ureters, bladder, bowel, or vascular structure; adult respiratory distress syndrome, acute transfusion reaction, electrolyte imbalance and renal failure².

The incidence ranges from 1:2000 to 1:7000 in different studies. Among these, mild variety called placenta accreta Vera that restricts itself to the inner myometrium layer makes up to 80 % of cases. Placenta increta that is deeper type has an incidence of about 15% in the total cases. And about 5 % is percreta, the more severe form. The incidence of placenta accreta has increased and seems to parallel the increasing cesarean delivery rate. Researchers have reported the incidence of placenta accreta as 1 in 533 pregnancies for the period of 1982–2002³. This contrasts sharply with previous reports, which ranged from 1 in 4,027 pregnancies in the 1970s, increasing to 1 in 2,510 pregnancies in the 1980s^{6,7} This variation in the incidence is mostly result of the surgical intervention for the deliveries that is increasing day by day.

There is need for good transfusion service for the management of these cases, but in our cases we had to take blood from the donors available on the spot to save the life of our first patient. So the short coming in our management were lack of good support from the blood bank and refusal of higher center to accept the case. The best management is to electively deliver these patients before term in a tertiary care Centre. There should be availability of expert surgical team including urologist and oncologist surgeon for deep dissection of pelvis and it is better to leave the placenta in situ to avoid the excessive blood loss and go for total or subtotal hysterectomy.

It is wise to diagnose the abnormal placentation before any intervention, it helps to select the mode of delivery and the type of surgical intervention one wants to do, it also helps to organize a surgical team the arrangement of blood transfusion services and all other emergency plans. Ultrasonography is main diagnostic modality. Trans abdominal and Transvaginal scans both are complimentary to each other. The vaginal scan is safe in patient with placenta Previa and enables one to visualize the lower segment properly. In normal placentation there is hypochoic area between the placenta and the uterine wall that demarcates the line of cleavage, this is absent in accreta. Then there is abnormal lacunae present in the case of accreta, this gives appearance of moth eaten or Swiss cheese appearance to the placenta, thinning of the myometrium overlying the placenta, protrusion into the bladder mucosa, increased vascularity of uterine serosa

bladder interface, and turbulent flow in the placental lacunae within the placenta are also signs of abnormal placentation. The presence of increasing no. of lacunae have been shown to be the most productive ultrasonography sign and has a 79% specificity and positive predictive value of 92%. Gray scale USS has sensitivity of 77-87% and specificity of 98%. Doppler USS did not add much to the diagnosis.⁶

After diagnosis it is better to refer the patient to a center where a multidisciplinary team is available to manage the case. The surgical team should consist of anesthesiologist, obstetrician, and pelvic surgeon such as gynecological oncologist. Intensive maternal fetal medicine specialist, neonatologist, radiologist, intervention radiologist to optimize the care of the patient. The preferred method is cesarean hysterectomy after 34 weeks of gestation but the management may be individualized.

There is no well proven role of folate antagonist methotrexate as most of the patients need curettage after the therapy for postpartum hemorrhage⁷. Current evidence is insufficient to make a recommendation on use of balloon catheter occlusion or embolization to reduce the blood loss and improve the surgical outcome although there are reports of reduced blood loss but there have been reports of no benefits and even of significant complications⁸.

For the diagnosis, grey scale USS is the modality of choice, abdominal and Trans abdominal USS are complimentary to each other in making the diagnosis of accreta. Grey scale USS has a sensitivity 92% and positive predictive value of 79% and vaginal USS is a safe and reliable tool to localize the lower segment and the lower edge of placenta. MRI is reserved for the cases where placenta is located posteriorly and one feels difficulty to reach at the diagnosis. There are few diagnostic points that should be kept in mind in suspicious cases,

- 1 There is Hypoechoic area between the uterus and the placenta that demarcate the line of cleavage and it is present in normal placenta but its absence favors the diagnosis.
- 2 There may be extreme thinning of the myometrium over the placenta.
- 3 The irregularity of the boundary between the bladder and the placenta.

- 4 The increase in the number of lacunae in the placenta, giving it the Swiss cheese appearance or the moth eaten appearance.
- 5 There is increased vascularity between the bladder the lower segment on Doppler USS.
- 6 There is turbulence of flow in the placental. All these signs along with the risk factor raises the index of suspicion for the diagnosis.

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