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Placenta accreta ended in Emergency peripartum hysterectomy with subarachnoid haemorrhage – A turmoil to both physician and patient: Case report.

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ABSTRACT

Placenta accreta is becoming increasingly common, Placenta accreta is a potentially life-threatening obstetric condition which requires a multidisciplinary approach to management. Peripartum hysterectomy is a major operation and is invariably performed due to severe hemorrhage during or immediately after abdominal or vaginal deliveries. However, surgical management of placenta accreta may be individualized. Although a planned delivery is our goal, a individualized plan for an emergency delivery should be developed for each an every patient, like following an institutional protocol for maternal hemorrhage management. When such emergency and morbidity occurs, like in our patient where manual removal of placenta in an accrete patient ended in emergency peripartum hysterectomy with subarachnoid haemorrhage due to DIC, which is a total nightmare for the physician and the patient ,was managed in a multidisciplinary approach.

Keywords: Placenta accrete, Peripartum hysterectomy, subarachnoid haemorrhage, multidisciplinary approach

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INTRODUCTION

Placenta accreta is described, when part of the placenta, or the entire placenta, invades and is inseparable from the uterine wall (1). Clinically, placenta accreta becomes endangering during delivery when the placenta does not completely separate from the uterus which is also followed by massive obstetric hemorrhage, leading to turmoil disseminated intravascular coagulopathy; hysterectomy; iatrogenic injury to the ureters, bladder, bowel, or neurovascular structures;ARDS; acute transfusion reactions; electrolytic imbalance & renal failure . The average blood loss at delivery in women with placenta accreta is estimated as 3,000–5,000 mL (2). Maternal mortality with placenta accreta has been reported to be as high as 7 percentage (3). Maternal mortality may occur in few cases despite optimal planning management, and surgical care. From a cohort study of 39,244 women who underwent cesarean delivery, almost around in 186 patients cesarean hysterectomy has been performed (4). The most common indication of cesarean hysterectomy was placenta accreta (38%). The incidence of placenta accreta has increased in few years and seems to parallel the simultaneous to the increasing cesarean delivery rate. Reports shows that the incidence of placenta accreta is around 1 in 533 pregnancies for the period of 1982–2002 (5). This contrasts 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). Women at greatest risk of placenta accreta are those who have myometrial damage, which is caused by a previous cesarean delivery with either anterior or posterior placenta previa over the uterine scar. A study found that in the presence of a placenta previa, the risk of placenta accreta is 3%, 11%, 40%, 61%, and 67% for the first, second, third, fourth, and fifth or greater repeat cesarean deliveries, respectively (8). Placenta previa without a previous uterine scar is associated with a 1–5% risk of placenta accrete in most of patient. Besides advanced maternal age and multiparity, other risk factors include any condition leading to myometrial damage followed by a secondary collagen repair, such as previous myomectomy, endometrial defects due to vigorous curettage leading to Asherman syndrome (9), submucous leiomyomas, thermal ablation (10), and uterine artery embolization (11).

CASE REPORT

A 28 year ,G2P1L1,previous lscs at 38 weeks GA came with C/O spotting per vaginum and her third trimester scan showed placenta accrete at the previous C – scar. L/E – NAD, P/S – OS Closed, no evidence of trauma.FHS was good ,so patient was kept under observation for 2 days and taken for Emergency LSCS with Non reassuring NST as indication. LSCS done in usual way and delivered an alive ,term male baby with Apgar 8/10,9/10.Placenta found to be adherent and separated manually, there was an excessive bleeding inspite of medical therapy .B/L Uterine artery ligated , still bleeding continued and was decided for sub total hysterectomy .After SBH, still continuous bleeding from the stump sites. Vascular surgeon was called, B/L Internal iliac artery was traced and ligated ,still bleeding continues , it was suspected to be because of disseminated intravascular coagulation, estimated blood loss is 2 litres ,patient was transfused 4 litres of colloids,2 whole blood, 4 Fresh frozen plasma ,4 Platelets intraoperatively. Abdomen was tightly packed with pelvic umbrella pack and closed. Patient shifted to ICU and kept on support and transfused 2 packed cell,4 FFP and 4 Platelets. After 2 days ,abdomen reopened and pack removed, haemostasis ensured. At post operative day 3 patient C/O inability to move right upper and lower limb, immediate CT scan taken and found to have Subarachnoid haemorrahage with cerebral odema. Neurophysician opinion obtained, the cause was assumed to be DIC and patient kept under strict observation for further bleeding and its complications and managed conservatively. Bleeding resolved and there was no further bleeding. Patient discharged at POD 20 with muscle power grade 4 with physiotherapy as adviced. Patient was reviewed and followed up , other than mild weakness in the lower limbs, she is having her routine lifestyle.

DISCUSSION

Accrete syndromes thus include any placental implantation with abnormally firm adherence to myometrium because of partial or total absence of the deciduas basalis and imperfect development of the fibrinoid or Nitabuch layer. The surface area of the implantation site involved and the depth of trophoblastic tissue in growth are variable between women, but all affected placentas can potentially cause significant haemorrhage.

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Etiopathogenesis

Microscopically, placental villi are anchored to muscle fibers rather than to decidual cells. Decidual deficiency then prevents normal placental separation after delivery. Evidence indicates that the cytotrophoblasts may control decidual invasion through factors such as angiogenesis and growth expression. Indeed, accrete syndrome tissue specimens have shown evidence for "hyperinvasiveness" compared with otherwise uncomplicated previa specimens. The distribution of large vessels is different than that seen with non accrete placentas

Classification

Variants of placenta accrete syndrome are classified by the depth of trophoblastic growth .Placenta accreta indicates that villi are attached to the myometrium. With placenta increta, villi actually invade the myometrium, and placenta percreta defines villi that penetrate through the myometrium and to or through the serosa. Abnormal adherence may involve all lobules—total placenta accreta . If all or part of a single lobule is abnormally attached, it is described as a focal placenta accreta

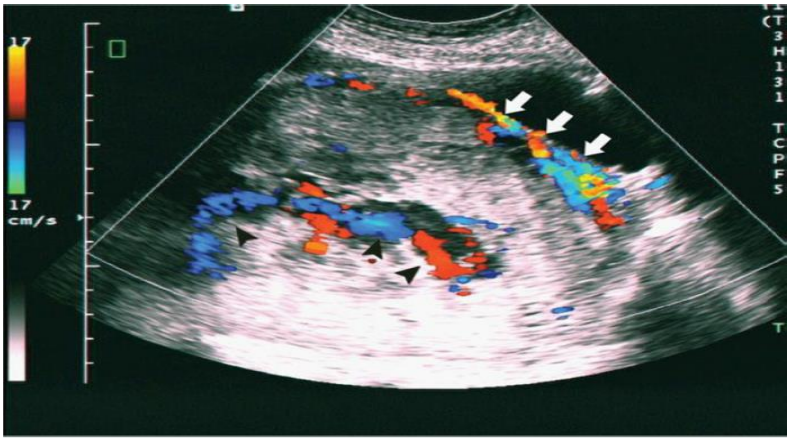
Risk factor

- Placenta previ
- Previous caesearian delivery
- Endometrial curretage
- Hysterotomy scar
- Myomectomy confers low risk
- Widespread use of MSAFP and HCG for neural tube defects and aneuploidy screening has eight fold risks with the level of more than 2.5 mom .

CLINICAL PRESENTATIONS AND DIAGNOSIS

In 1st and 2nd trimester -haemorrhage occurs when associated with placenta previa,In some women who do not have an associated previa, accreta may not be identified until third-stage labor when an adhered placenta is encountered.

Gray-scale transvaginalsonography is usefull,we have also found that the addition of **Doppler color flow mapping** is highly predictive of myometrial invasion .This is suspected if the distance between the uterine serosa-bladder wall interface and the retroplacental vessels is < 1 mm and if there are large intraplacental lacunae.



Transvaginal sonogram of placental invasion with accrete syndrome. Retroplacental vessels (white arrows) invade the myometrium and obscure the bladder-serosal interface. Abnormal intraplacental venous lakes (black arrowheads) are commonly seen in this setting.

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MR imaging shows uterine bulging, heterogeneous signal intensity within the placenta, and dark intraplacental bands on T2-weighted imaging

MANAGEMENT

Preoperative assessment should begin at the time of recognition during prenatal care. A major decision concerns the ideal institution for delivery. Exigencies to be considered are appropriate surgical, anesthesia, and blood banking capability.

Timing of delivery- To accomplish surgical interventions preterm delivery is necessary but these patients are delivered after 36 completed weeks .

Preoperative Arterial Catheterization. Balloon-tipped catheters advanced into the internal iliac arteries are inflated after delivery to occlude pelvic blood flow to aid placental removal and Hysterectomy. Complications have included thromboses of the common and left iliac arteries.

Cesarean Delivery and Hysterectomy. Before commencing with delivery, the risk of hysterectomy to prevent exsanguination should be estimate. After fetal delivery, the extent of placental invasion is assessed without attempts at manual placental removal, attempts for partial or total placental removal prior to hysterectomy were associated with twice as much blood loss. Generally speaking, with obvious percreta or increta, hysterectomy is usually the best course, and the placenta is left in situ, a focal partial accreta may avulse easily and later emerge as a placental polyp. With more extensive placental in growth—even with total accreta—there may be little or no bleeding until manual placental removal is attempted. Unless there is spontaneous separation with bleeding that mandates emergency hysterectomy, the operation begins after full assessment is made. With bleeding, successful treatment depends on immediate blood replacement therapy and other measures that include uterine or internal iliac artery ligation, balloon occlusion, or embolization.

Leaving the Placenta in Situ. In a few cases, after the fetus has been delivered, it may be possible to trim the umbilical cord and repair the hysterotomy incision but leave the placenta in situ. In some cases, the placenta spontaneously resorbs. In others, a subsequent hysterectomy—either planned or prompted by bleeding or infection—is performed weeks postpartum when blood loss might be lessened. Evidence that treatment with methotrexate aids resorption is lacking. For women in whom the placenta is left in situ, serial serum β-hCG measurements are not informative, and serial sonographic or MR imaging is recommended

Disseminated Intravascular Coagulation in Pregnancy

Some degree of significant coagulopathy is found with most cases of placental abruption and amnionic-fluid embolism. Other instances in which frequently occurring but insignificant degrees of coagulation activation can be found include sepsis, thrombotic microangiopathies, acute kidney injury, and preeclampsia and .Although profound consumptive coagulopathy can be associated with fatty liver disease of pregnancy, diminished hepatic synthesis of procoagulators.

Diagnosis of DIC: Diagnosis of DIC is through given underlying disorder below.

Factor	Score
Presence of known underlying disorder associated with DIC: no = 0; yes = 2	____
Coagulation tests:	
Platelets: > 100K = 0; < 100K = 1; < 50K = 2	____
D-dimer levels increased: no = 0; moderate = 2; strong = 3	____
PT prolongation (sec): < 3 = 0; > 3 but < 6 = 1; > 6 = 2	____
Fibrinogen (mg/dL): > 100 mg/dL = 0; < 100 mg/dL = 1	____
Total score:	
≥ 5: compatible with overt DIC	
< 5: suggestive of nonovert DIC	____

[a]From the International Society on Thrombosis and Haemostasis.
PT = prothrombin time.
Adapted from Taylor, 2001.

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MANAGEMENT OF HEMORRHAGE

Estimation of blood loss is very important

Hypovolemic shock: Survival is enhanced in acute hemorrhagic shock if blood plus crystalloid solution is given compared with blood transfusions alone.

Blood Replacement: The number of units transfused in a given woman to reach a target hematocrit depends on her body mass and on expectations of additional blood loss. Compatible whole blood is ideal for treatment of hypovolemia from catastrophic hemorrhage. platelet transfusions are considered with ongoing obstetrical hemorrhage when the platelet count falls below 50,000/µL.Plasma is not appropriate for use as a volume expander in the absence of specific clotting factor deficiencies. All the complications of blood transfusions must be kept in mind.

Adjunctive Surgical Procedures to Treat Hemorrhage:

Uterine Artery Ligation:

The technique for unilateral or bilateral uterine artery ligation is used primarily for lacerations at the lateral part of a hysterotomy incision . In our experiences, this procedure is less helpful for hemorrhage from uterine atony.

Uterine Compression Sutures:

B-Lynch suture- The procedure involves placement of a No. 2-chromic suture to compress the anterior and posterior uterine walls together. Because they give the appearance of suspenders, they are also called braces.

Internal Iliac Artery Ligation:

Ligation of one or both internal iliac arteries has been used for many years to reduce hemorrhage from pelvic vessels .Drawbacks are that the procedure may be technically difficult and is only successful half of the time.

Angiographic Embolization:

This tool is now used for many causes of intractable hemorrhage when surgical access is difficult. In more than 500 women reported, embolization was 90-percent effective. Fertility is not impaired, and many subsequent successful pregnancies have been reported. Complications of embolization are relatively uncommon, but they can be severe. Uterine infection has been reported. a woman with massive buttock necrosis and paraplegia following bilateral internal iliac artery embolization.

Pelvic Umbrella pack:

The umbrella or parachute pack was described by Logothetopulos (1926) to arrest intractable pelvic hemorrhage following hysterectomy. Although seldom used today, it can be lifesaving if all other measures have failed. The pack is constructed of a sterile x-ray cassette bag that is filled with gauze rolls knotted together to provide enough volume to fill the pelvis . The pack is introduced transabdominally with the stalk exiting the vagina. Mild traction is applied by tying the stalk to a 1- liter fluid bag, which is hung over the foot of the bed. An indwelling urinary catheter is placed to prevent urinary obstruction and to monitor urinary output. Percutaneous pelvic drains can be placed to monitor ongoing bleeding within the peritoneal cavity. Broad-spectrum antimicrobials are given, and the umbrella pack is removed vaginally after 24 hours. Over the years, we have had mixed results with this technique, but we can recommend it as a “last-ditch” attempt when exsanguination is inevitable.

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CONCLUSION

Though placenta accreta is rarely common, with the multidisciplinary approach, the morbidity for the mother and fetus can be prevented when planned approach is adapted. Preoperative patient counseling should include discussion of the potential need for hysterectomy, the risks of profuse hemorrhage, and possible maternal death. Although a planned delivery is the goal, a contingency plan for emergency delivery should be developed for each patient taken like in our patient, which may include following an institutional protocol for maternal hemorrhage management.

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