

Placenta Accreta: A Mini Review

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Introduction

Placenta accreta is a potentially life threatening condition where chorionic villi invade into the myometrium. Based on the degree of invasion, it has been graded into three categories; accrete when chorionic villi attach to myometrium rather than being restricted to deciduas basal is, increta when they invade into the myometrium and percreta when they invade through the myometrium. Among the patients with abnormal placental attachment, placenta accrete comprise of 81.6%, increta of 11.8% and percreta of 6.6% [1].

Incidence

This is a rare complication which occurs in about 3 per 1000 deliveries (1 in 3000-5000 deliveries) however incidence is rising with increasing number of caesarean deliveries [2]. The Risk Factors for this condition are prior uterine incision, prior uterine curettage, multiparity, advanced maternal age, Asherman syndrome, hypertensive disorders of pregnancy, uterine leiomyoma, uterine anomaly, smoking etc.

Complications

Placenta accrete may have many dreaded complications like heavy bleeding during attempted placental separation, risk of massive blood transfusion and associated morbidity, risk of hysterectomy and bladder and bowel injury. Maternal mortality rate among these patients may be as high as 6-7% [4].

Diagnosis

Clinical anticipation based on presence of risk factors eg. previous caesarean section/ myomectomy. Among the patients with risk factors especially previous uterine scar, one should have high index of suspicion for placenta accreta. It is usually detected by grey scale ultrasonography with a sensitivity of 77-87%, specificity of 96-98%, a positive predictive value of 65-93% and negative predictive value of 98%. Color Doppler may also aid to the diagnosis too much. Sonographic features suggestive of placenta accreta are loss of normal retro placental hypoechoic zone, presence of lacunae (irregular vascular spaces) within placenta giving swiss cheese appearance, blood vessels and placental tissue crossing uterine-placental interface, loss of myometrial- bladder interface, retro placental myometrial thickness <1mm, numerous vessels seen in 3-D Doppler in basal view [5,6].

Magnetic resonance imaging is helpful when ultrasonography is inconclusive or when there is doubt of placenta invading parametrium. Although no laboratory markers has been prospectively studied, maternal alpha fetoprotein- ≥ 2.5 MOM (OR, 8.3; 95% CI, 1.8-39.3), maternal beta human chorionic gonadotropins- >2.5 MOM (OR, 3.9; 95%CI, 1.9-9.9) and elevated maternal creatine kinase is seen to be associated with placenta accrete [7].

Management

Management of placenta accreta needs multidisciplinary team approach. Delivery should be planned in a tertiary care centre with well-equipped blood bank facility and intensive care unit. Patient should be counselled well regarding seriousness of the condition and risk of caesarean hysterectomy. Buildup of haemoglobin and iron stores in antenatal period is very crucial.

Late preterm delivery at 36 weeks should be planned electively. Written and informed consent for caesarean hysterectomy and risk of need of massive blood transfusion should be taken. Caesarean section should be done in presence of senior anaesthetist and experienced Obstetrician. Anaesthetist and blood bank should be notified before scheduled delivery. The average duration of surgery for placenta accretes is 2-3 hours with an average blood loss of 2000-5000ml if patient needs caesarean hysterectomy (Table 1) [8].

Conservative management

Patients who want to conserve the fertility, placenta should be left *in situ*. Postoperative methotrexate therapy should be considered for these patients. Need for delayed hysterectomy should be explained to the patient beforehand.

Preoperative consideration

Pelvic artery occlusion can be considered to decrease intraoperative blood loss. Catheter in uterine artery can be placed beforehand but occlusion is done immediately after delivery of baby. Ureteric stent placement to decrease the risk of urinary tract injury is a good option for patients with placenta percreta.

Intraoperatively management

Compression stockings should be used to decrease the risk of thromboembolic complications. If index of suspicion of placenta accreta is low, initial attempt for removal of placenta is acceptable. If caesarean hysterectomy is planned beforehand, uterine incision should be closed leaving the placenta *in situ* and then surgeon should proceed to hysterectomy. Intraoperatively, prophylactic antibiotics should be repeated if duration of surgery is more than 3 hours or heavy bleeding is there (>1500 ml).

Number of caesarean deliveries	No placenta previa	Placenta previa
First	0.03%	0.30%
Second	0.20%	11%
Third	0.10%	40%
Fourth	0.80%	61%
Fifth	0.80%	67%
\geq Sixth	4.70%	67%

Table 1: Frequency of placenta according to number of caesarean deliveries and presence or absence of placenta previa [3].

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Patient should be assessed frequently for volume status (blood loss, maternal vital signs, urine output) and laboratory parameters (haemoglobin/hematocrit, coagulation screen) so as to initiate fluid resuscitation and blood transfusion in timely manner. Additional interventions like serum electrolytes and arterial blood gases can help in evaluating optimisation of resuscitative measures.

Ligation of anterior division of internal iliac artery can be considered for persistent hemorrhage intraoperatively. For diffuse non-arterial bleeding not amenable for surgical control, pelvic pressure packing can be considered as a temporary measure. Aortic compression and clamping-compression of infrarenal abdominal aorta /balloon occlusion of aorta and counterpulsation can help in patients with uncontrolled bleeding intraoperatively.

Postoperative Care

Risk of persistent hypotension, multiorgan dysfunction, and Sheehan syndrome, TRALI / ARDS should be kept in mind. Patient should be frequently evaluated for pulse rate, blood pressure, respiratory rate, incision site/ vaginal bleeding, urine output. Coagulopathy, anaemia and electrolyte abnormality if any should be corrected promptly. Intermittent compression stockings in immediate postoperative period and early ambulation should be considered.

Placenta accreta is a potentially life threatening condition. Prompt diagnosis and timely management may be life saving. High risk women should be screened with ultrasonography from a trained radiologist. Timely referral to a well-equipped centre may prevent serious complications. A multi-disciplinary approach is mandatory.

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