

# Successful Surgical Management of a Case of Placenta Percreta

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## ABSTRACT

Placenta accreta/percreta is a potentially life-threatening obstetric condition that requires a multidisciplinary approach to management. As the incidence of cesarean has increased, placenta accreta/percreta has also increased and is considered as an important cause of maternal and fetal/neonatal morbidity and mortality. Although multiple cesarean deliveries is the largest risk factor for placenta accreta/percreta, increasing maternal age, parity, uterine instrumentation and uterine surgeries are also important. In cases at risk for placenta accreta, an obstetrical color Doppler ultrasonography performed by an expert should be obtained. A multidisciplinary team with expertise in managing placenta accreta/percreta should take care of cases of suspected placenta accreta/percreta. We report the case of a young, 24-year-old woman, G<sub>5</sub>P<sub>4</sub>L<sub>3</sub>A<sub>0</sub>, who was admitted to the Emergency Department of Obstetrics and Gynecology, SN Medical College, Agra, with active vaginal bleeding, and after ultrasonographic evaluation central placenta previa was detected and invasion anomaly was suspected to accompany it. Color Doppler ultrasonography was performed by experts, and placenta percreta was diagnosed and an elective cesarean hysterectomy was planned after obtaining informed and written consent.

**Keywords:** Cesarean hysterectomy, color Doppler, placenta accreta, placenta percreta

Placenta invasion anomalies constitute the most common indication of postpartum hysterectomy that may result in postpartum hemorrhage, with severe morbidity and mortality. In recent years, it has been reported that placenta invasion anomalies have increased 10-fold. The frequency of placenta accreta has been reported to be 84%, placenta increta 13% and placenta percreta 3%. Placenta accreta refers to placenta that abnormally attaches directly onto or into the myometrium. Two to 5% cases of placenta previa are associated with placenta accreta. Clinically placenta accreta becomes culprit during delivery when the placenta does not detach entirely from the uterus and causes massive obstetric hemorrhage, leading to disseminated intravascular coagulopathy; need of hysterectomy; surgical injury to the ureters, bladder,

bowel or neuromuscular structures; acute respiratory distress syndrome; acute transfusion reaction; electrolyte imbalance and renal failure. The average blood loss at delivery in women with placenta accreta is 3000-5000 mL. There is an increase in the frequency of occurrence of placenta accreta as the number of cesarean delivery increases i.e., by 3%, 11%, 40%, 61% and 67% in first, second, third, fourth and fifth cesarean, respectively. The color Doppler ultrasound and magnetic resonance image (MRI) may or may not indicate clearly an invasive placenta; however, final diagnosis is made intraoperatively and supported by histopathological examination.

## CASE REPORT

A 24-year-old G<sub>5</sub>P<sub>4</sub>L<sub>3</sub>A<sub>0</sub> with 34 weeks gestational age with single live intrauterine fetus came to us. She had 3 vaginal deliveries and one cesarean section, at 38 weeks gestational age, due to nonprogress of labor with prelabor prolonged rupture of membrane. She was admitted to the emergency with active painless vaginal bleeding. On admission, she was hemodynamically stable. On abdominal examination, uterine contour was intact, relaxed, with 30 weeks fundal height, with transverse lie; fetal heart rate was 154 bpm, regular. Ultrasonographic examination showed a viable fetus

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of about 33 weeks 3 days with appropriate biometrical parameters; amniotic fluid was adequate, effective fetal birth weight was  $2006 \pm 302$  g and placenta was anterior Grade II maturity with central placenta previa with prominent venous lakes within the placenta and indistinct placental-myometrium junction was detected. It raised the suspicion about possible comorbidity of invasion abnormalities and ultrasound color Doppler showed bladder involvement but cystoscopy was normal. Color Doppler ultrasonography was performed by experts, and placenta percreta was diagnosed and an elective cesarean hysterectomy was planned after obtaining informed and written consent. Uterus showed hypervascularization extending up to bladder (Fig. 1). Uterus was stitched with placenta *in situ* (Fig. 2).



**Figure 1.** Uterus showing hypervascularization extending up to bladder. Lost uterus and bladder junction.



**Figure 2.** Uterus stitched with placenta *in situ*.

## DISCUSSION

Age over 35 years, multiparity, placenta previa, previous cesarean section, previous hysterotomy, instrumentation of the endometrium, septic endometritis and uterine malformation, are the risk factors for abnormal placental invasion. In our case, multiparity and previous cesarean delivery are the major risk factors. The risk ratio for those who had one or two cesarean sections is respectively 24% and 50% and even 67% for those who had four or more operations.

The prediction of abnormal placental invasion during the antepartum period is the most important factor that affects prognosis. Knowing the diagnosis beforehand reduces mortality and morbidity by planning elective conditions and experienced surgical and anesthesia team before delivery. Volume of blood loss and transfusion rates are significantly lower in planned cesarean hysterectomy than in emergency operations. It is also important to determine extent of bladder invasion, via cystoscopy and hence prophylactic double-J (DJ) stenting would be beneficial to avoid ureteric injury during hysterectomy and DJ stent should be removed after 14th day postoperatively.

MRI is another method that can be used in addition to ultrasound in the cases of obese patients and fundal or posterior placenta. MRI gives information about where placenta is located and the depth of invasion in adjacent organs.

Ultrasonographic examination showing placental lacunae, hypoechoic areas, loss in the retroplacental area, irregularities in bladder-uterine serosa complex, myometrial thickness being  $<1$  cm and protrusion of the placenta into bladder, suggests abnormalities of placental invasion.

Color Doppler ultrasound showing high-speed turbulent flow in the lacunae, hypervascularization in the bladder-uterine serosa complex and interruption in retroplacental blood flow suggests placenta accreta.

Conservative method and/or surgeries are two mainstays for the treatment, but classic and definite treatment of placental invasion is peripartum hysterectomy. Supracervical hysterectomy has some advantage of lesser blood loss, fewer visceral organ injuries with shorter operation and hospital stay. However, total hysterectomy is preferred in cases with accompanying central placenta previa involving cervix and lower uterine segment, but the risk of ureteric injury is high so, prior DJ stenting helpful in reducing the risk.

In surgical approach, the abdomen entered via infraumbilical paramedian previous incision and uterus opened via classical median incision, at least 2 cm superior to placental location, should be preferred. In cases with increased vascularization that suggest deep placental invasion, hysterectomy should take place after the delivery and drain should be routinely placed before abdomen closure. When bladder is densely adherent and cannot be separated and placenta is found to be invading the bladder, partial cystectomy by resecting posterior bladder wall may be necessary in cases of placenta percreta and Foley's catheter to be kept for 14 days or longer.

Hemodynamically unstable patients should be monitored in the intensive care unit (ICU). In the postoperative period, patient's vital signs, hemorrhage and diuresis should be monitored and complete blood count, liver and kidney function tests, serum electrolytes, coagulation parameters and urine routine and microscopy should be done.

Alternatively, during preoperative period, prophylactically intravascular balloon occlusion or uterine artery embolization might be applied in order to prevent intraoperative bleeding.

In a case report, Canonico et al (2013) suggested a conservative approach by preoperative, prophylactic catheterization of descending aorta by translumbar access.

For the first time, Arulkumaran et al (1986) suggested a conservative approach wherein by using intravenous methotrexate alternate day with a total dose of 250 mg, placental disposal took place on the 11th postpartum day.

Yee et al (2008) also suggested a conservative approach. They left placenta *in situ* in the cases when there was no bleeding, after clamping the umbilical cord and reported that placental involution occurred between 6 weeks to 8 months, but complications such as vaginal bleeding, infection and disseminated intravascular coagulation can be detected and patients may need to be hysterectomized. Therefore, more randomized controlled studies about conservative approach must be carried.

In a case report, Sharma et al (2017) suggested that cesarean hysterectomy remains the mainstay in the management of cases of placenta accreta/percreta, as

there is low risk of postpartum hemorrhage, infection and disseminated intravascular coagulation but major drawback is high morbidity, infertility and early onset of menopausal symptoms.

## CONCLUSION

Cesarean hysterectomy, which is the classical treatment of the invasion abnormalities, is an operation of high morbidity. Therefore, cases suspected of abnormal placental invasion in clinical and ultrasonographic terms should be referred to comprehensive tertiary centers with necessary equipment. Operation should be carried out in a planned way by an experienced team. This is highly important as it saves lives.

## SUGGESTED READING

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