

## Placenta previa percreta

### Plasenta previa perkreat

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### Summary

The incidence of abnormal placentation; including placenta accreta, increta and percreta, is 1 in 7000 deliveries. Placenta percreta is the most serious placental implantation anomaly, and causes high maternal morbidity and mortality rates. Seventy-five percent of placenta percreta cases are associated with placenta previa. Antenatal diagnosis is very important so that the time of delivery and the surgical approach can be planned ahead.

**Key words:** placenta previa percreta, postpartum hysterectomy, bladder injury.

### Özet

*Plasenta akreta, inkreta ve perkreatayı içeren anormal plasentasyon insidansı 7000 doğumda 1' dir. Plasenta perkreat implantasyon anomalileri içerisinde en ciddi olanıdır ve maternal morbidite ve mortaliteyi ciddi biçimde artırmaktadır. Plasenta perkreat olgularının %75 i plasenta previa ile birlikte dir. Erken tanı doğumun zamanlaması ve cerrahi yaklaşımın planlanması açısından oldukça önemlidir.*

**Anahtar kelimeler:** plasenta previa perkreat, postpartum histerektomi, mesane yaralanması.

### Introduction

Placenta percreta is a rare but challenging obstetric condition defined as a placenta that is abnormally adherent to the uterus (1). Most cases of placenta percreta are associated with placenta previa, which is an obstetric complication that the placenta partially or completely lies over the internal cervical os.

Placenta previa presents with painless vaginal bleeding during the third trimester. The incidence is 3-5 per 1000 pregnancies world wide and is still rising because of increasing cesarean section rates (2).

Management considerations include the risk of massive haemorrhage, bladder damage and the development of disseminated intravascular coagulation. We describe a case of placenta previa percreta that was diagnosed antenatally by abdominal ultrasound and magnetic resonance imaging (MRI) and was managed with postpartum hysterectomy.

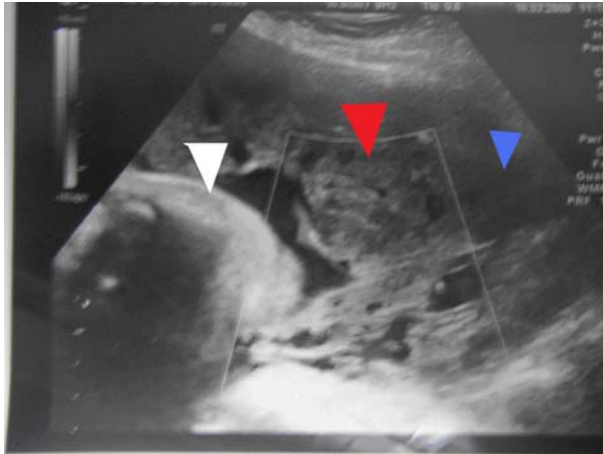
### Case Report

A 35- year- old gravida 3, para 1, 26- week- pregnant- woman who had an obstetrical history of one previous cesarean section and one spontaneous abortion, was admitted to our department with painless vaginal bleeding. Her blood pressure was 110/80 mm Hg, and speculum examination revealed moderate vaginal bleeding. An abdominal ultrasound marked a 26- week-

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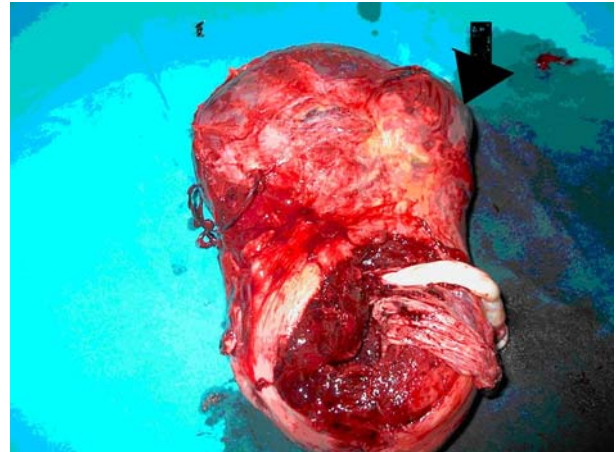
fetus with positive fetal cardiac activity and normal amniotic fluid volume. The placenta was lying through anterior wall to the posterior wall of the uterus with total closure of internal cervical os (Fig. 1).



**Fig 1** White arrow : Fetal head, Red arrow : Placenta, Blue Arrow : Cervix.

The retroplacental myometrial zone was irregular which was thought to be placenta percreta. Uterine contractions were present with 5 minutes intervals and tocolytic therapy with magnesium sulfate infusion was given immediately. Laboratory findings were: Hct: 36%, Hb: 11.8 g/dl, Platelet: 358.000/ mm<sup>3</sup>. All biochemical and coagulation tests were normal. After relaxation of the uterus with magnesium sulfate therapy, an MRI was performed and evaluated an uterine serosal invasion with suspicion of bladder involvement.

The patient had minimal vaginal bleeding intermittantly up to 35 weeks. At the end of the 35th week she underwent an elective cesarean section. Since the possibility of placenta percreta and postpartum hysterectomy was observed, a lower abdominal midline incision was performed. Intraoperative observation of the uterus revealed placenta percreta but there was no bladder involvement (Fig. 2). Also the bladder was displaced from its origin to a superior segment of the corpus uteri, probably due to the previous cesarean section. A longitudinal fundal incision was made to avoid the placenta, and a 2200 gr female healthy baby was delivered. After delivery due to massive hemorrhage, a peripartum hysterectomy was performed as the patient did not want any future pregnancy. During the hysterectomy while dissecting the bladder away from the uterus, an 8 cm transverse injury at the superior segment of the bladder had occurred. The urology consultant sutured the bladder. Five units of packed red blood cells and 4 units of fresh frozen plasma were given intraoperatively. After 8 days, the foley catheter was removed and the patient was discharged on the 10th day postpartum. The histology revealed placenta percreta.



**Fig 2.** Black Arrow: Anterior placenta percreta.

Unfortunately after 2 weeks she was admitted with a vesico- vaginal fistule. Urology consultants offered to put in a foley catheter for 6 weeks. After 6 weeks the fistula closed spontaneously and she did not need to undergo a fistula operation.

## Discussion

The term placenta percreta is the abnormality of placental implantation with strong adherence to the uterine wall. The pathologic hallmark is the absence of decidua basalis with an imperfect development of the Nitabuch's layer.

Risk factors for placenta percreta include; placenta previa, a previous scar in the uterus, multiparity, advanced maternal age, smoking, alcohol and drug use (3). In our case, placenta previa and a previous cesarean section were present as risk factors.

Placenta previa is an obstetric condition that leads to serious maternal and fetal complications. This condition occurs 5 per 1000 pregnancies, and the maternal mortality rate vary from 2 to 7% (4). There are a number of risk factors related to placenta previa such as advanced maternal age, multiparity, smoking during pregnancy, alcohol and drug use during pregnancy, prior cesarean delivery, abortion, multiple pregnancy, prior placenta previa, maternal anemia and diabetes, hydramnios and chronic hypertension .

Studies indicate that, smoking has the greatest effect (26%), developing placenta previa followed by previous abortion (16%), and cesarean delivery (10%). This implies that, if all women were to quit smoking during

pregnancy, 26% of placenta previa cases would potentially be preventable (5).

Decreased uteroplacental oxygenation seems to be the main cause in the etiology. To maintain optimal blood flow, an increased surface area may be required for placental attachment and this will result in placental encroachment on the lower uterine segment (6). In our case there was no finding related to compromised uteroplacental circulation.

Placenta previa has a protective effect on the risk of pregnancy induced hypertension and preeclampsia. It has been suggested that owing to the wider diameter and less restricted course of blood vessels, there is better oxygenation of the placenta implanted in the lower uterine segment. With higher implantation of the placenta in the uterine cavity there may be restricted blood flow, causing hypoxia and release of vasoactive substances into blood, resulting in a greater risk of pregnancy induced hypertension and preeclampsia (7).

The most common clinical presentation of placenta percreta is postpartum haemorrhage associated with a retained placenta. Also there are several reports of placenta percreta presenting as an acute abdomen in second trimester (8). Painless haematuria may be the first clinical sign, as a result of placenta penetrating to the urinary bladder.

The early diagnosis of placenta previa percreta is important for appropriate counseling and surgical planning. Several diagnostic modalities have been introduced over the last years. These include transvaginal and transabdominal ultrasonography with colour Doppler imaging and MRI. The diagnosis can be assessed in 90% of cases by using transabdominal sonography (9). In suboptimal examination conditions such as posterior wall placenta, transvaginal sonography should be used. MRI appears to provide a more accurate diagnosis as it has the advantages of superior image resolution, and precise determination of placental invasion into the myometrium and surrounding organs such as the bladder (10).

Finberg and Williams (11) evaluated patients with placenta previa and a history of one or more cesarean sections. By using criteria of loss of the normal hypoechoic retroplacental myometrial zone, thinning or disruption of the hyperechoic uterine serosa bladder interface, and the presence of focal exophytic masses, they found that ultrasound has a sensitivity of 93% and a

specificity of 79% in the diagnosis of placenta insertion abnormalities (acreta, increta, percreta).

Levin et al. (12), found that grayscale ultrasound was adequate for the evaluation of most placentas. They suggested that if the retroplacental clear space were normal ( $> 2$  mm), Doppler evaluation and MRI would not add additional information. When the retroplacental clear space was 2 mm or less, the location of the placenta was important for the choice of best diagnostic modality. For patients with an anterior placenta percreta transabdominal ultrasound was best because of the suspicious area outside the range of the transvaginal probe. Transvaginal ultrasound with power Doppler gave the most information in patients with an anterior placenta previa; however, MRI was best in the posterior wall of the uterus, as the posterior myometrium was difficult to evaluate with ultrasound.

Hysterectomy and conservative therapy are two main options for the management of placenta percreta. Conservative therapy includes; leaving the placenta in situ, uterine curettage, closing of the uterine defect, B Lynch suture, localised excision and uterine repair, uterine packing with uterine and hypogastric artery ligation, and leaving the placenta in situ with adjuvant methotrexate therapy (13,14). Legro (15) and co-workers used methotrexate in a patient with a fundal percreta with a subsequent successful pregnancy and Bakri Younes and colleagues (16) used it after supracervical hysterectomy with the portion of placenta invading the bladder left in situ. Somunkiran et al. (17) reported that the B Lynch suture technique is an effective method of conservative surgical management for placenta accreta.

Hysterectomy has been the traditional treatment for placenta previa percreta. This is related to the belief that conservative treatment gives a much higher maternal mortality rate. As the risk of increased peripartum vascularity and the risk of massive hemorrhage, some peripartum and postpartum complications such as bladder injury, bowel injury, disseminate intravascular coagulation, wound infection, fistula formation may occur. Maral et al. (18) analysed 64 peripartum hysterectomy cases; 7 (10.9%) of which had wound infections, 26 (40.6%) had variable degrees of coagulopathy and 2 (3.1%) had bladder injury. In the present case, bladder injury had occurred because of the displacement of the bladder probably due to the previous cesarean section. Also massive hemorrhage made the dissection very difficult. To minimize the risk of

injury, the dissection should be made very close to the uterus.

The large majority of urogenital fistulas in developed countries is a result of complications of gynecologic surgeries whereas, in developing countries, almost all fistulas result from obstetric conditions. Vesicovaginal fistula is the most common type of urogenital fistula and a number of factors contribute to the development. Firstly, unrecognized or inadequately repaired injuries of the bladder, secondly, tissue necrosis due to hematomas, sutures and crushing by clamps, and thirdly, incomplete separation of the bladder from cesarean section scars. Timing of fistula repair is very important as successful fistula closure requires that the surrounding tissue is free of inflammation and demarcation of necrotic tissue and scarring should be completed or have not yet begun. Thus, surgical or obstetric injuries can be repaired immediately if detected in 48 to 72 hours. Otherwise an interval of 3-4 months is required. Although a number of methods to repair vesicovaginal fistulas have been described, three approaches have gained wide acceptance: 1. The Füt-

Mayo Technique is used for small to moderately large fistulas and this procedure consists of circumcision of the fistula, mobilization of the tissue around the fistula and putting transverse sutures in the bladder wall to invert the fistula. 2. Excision of the fistula tract with all scar tissue according to the Sims and Simon technique consists of mobilization of the vaginal wall around the fistula, excision of the edges of the fistula and closure in layers. 3. High partial colpocleisis, The Latzko Operation is based on removing the mucosa around the fistula and approximating the anterior and posterior vaginal walls covers the defect in the bladder with the posterior vaginal wall. The fistula itself is not sutured (19). Bulbocavernosus fat pad graft or a gracilis muscle graft is also used for large or recurrent vesicovaginal fistulas. The grafts supports and fill dead spaces and introduces well vascularized tissue with its own blood supply.

In conclusion early diagnosis and prompt intervention decreases the rate of maternal morbidity and mortality rates in placenta previa percreta cases.

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