

# Placenta percreta in pregnant woman with massive hematuria: a case report

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## Abstract

**Objective:** We aimed to present placenta percreta case according to the literature in a pregnant woman with massive hematuria who admitted at 21 weeks of gestation.

**Case:** Thirty-two-year-old patient who was pregnant for the fifth time referred to our clinic. There was no significant condition on her medical history except cesarean section for 4 times. In the ultrasonographic examination, the pregnancy consistent with 21 weeks where live placenta located on lower segment was identified. We planned magnetic resonance imaging and cystoscopy, but carried out emergency operation due to the worsening in the general condition of the patient. During the operation, we observed that bladder was attached to uterus. A living female baby was delivered through a vertical incision from fundus of uterus. We performed partial cystectomy due to the hemorrhage of invasive vessels. We also applied partial resection on the lower segment of uterus. On postoperative 4th day, we attached a bigger catheter for urinal drainage since the patient had bladder glob and urine leakage into abdomen. The patient was discharged on postoperative 15th day.

**Conclusion:** Preoperative diagnosis of placenta percreta and multidisciplinary approach are significant in terms of the successful management of complications.

**Keywords:** Hematuria, placenta percreta, pregnant woman.

## Özet: Masif hematürlü gebede plasenta perkreta: Olgu sunumu

**Amaç:** Masif hematüri ile gelen 21 haftalık gebede plasenta perkreta olgusunu literatür eşliğinde paylaşmak.

**Olgu:** Otuz iki yaşında, 5. gebeliği olan hasta hematüri şikayeti ile kliniğimize yönlendirildi. Özgeçmişinde 4 tane sezaryen ile doğum dışında bir özellik yoktu. Ultrasonografisinde plasenta alt segmente yerleşik ve 21 hafta ile uyumlu canlı bir gebelik saptandı. Manyetik rezonans görüntüleme ve sistoskopi planlandı fakat hastanın genel durumunda kötüleşme olması nedeniyle acil operasyona geçildi. Operasyonda mesane uterusu yapışık izlendi. Uterus fundustan vertikal kesi ile canlı bir kız bebek doğurtuldu. Mesaneye invaziv damarların kanaması nedeniyle parsiyel sistektomi yapıldı. Uterus alt segmente parsiyel rezeksiyon uygulandı. Postoperatif 4. günde hastada mesane globu ve batına idrar kaçağı olması nedeniyle daha büyük numaralı sonda takılarak idrar drenajı sağlandı. Postoperatif 15. günde hasta taburcu edildi.

**Sonuç:** Plasenta perkretanın preoperatif tanısı ve multidisipliner yaklaşım, komplikasyonların başarılı bir şekilde yönetilmesi açısından önemlidir.

**Anahtar sözcükler:** Hematüri, plasenta perkreta, gebe.

## Introduction

Placenta percreta (PP) is a complication of placenta previa and it is an advanced form of invasion anomalies.<sup>[1]</sup> Its most significant complication is the severe vaginal bleedings that may develop before and after the

pregnancy. Complications that may develop as a result are disseminated intravascular coagulation, adult respiratory distress syndrome, renal insufficiency, emergency surgical procedures and death.<sup>[2]</sup> While massive hematuria which will cause deep anemia is rare during pregnancy, it is potentially a life-threatening condition

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with its rates of maternal morbidity (9.5%) and perinatal mortality (24%).<sup>[3,4]</sup>

In this paper, we present a PP case with massive hematuria due to advanced bladder invasion without vaginal hemorrhage during early weeks of pregnancy.

## Case Report

Thirty-two-year-old patient who had the history of 4 cesarean sections referred to our clinic from emergency service due to hematuria during her fifth pregnancy. She had no condition in her medical history except 4 cesarean sections, and she was at 21 weeks of gestation according to her last menstrual period. In her ultrasonography (USG) examination, live pregnancy consistent with 21 weeks was identified. No anomaly was found in fetus. Placenta located on lower segment and vascularization increase through Doppler and bladder lines were observed in USG (Fig. 1). USG examination showed a view on bladder base consistent with hematoma. The values of patient when admitted were 7.6 g/dL for hemoglobin (Hgb), 22.5% for hematocrit (Hct), 118,000/mcL for thrombocyte (Plt), and 11,000/mcL for leukocyte. The patient was treated for urinary tract infection in the urology clinics of various hospitals for a week before admitting to our hospital, and she was referred to our clinic upon the severe bleeding in urinary tract for the last 2 days. The patient did not have any vaginal bleeding except urinary tract. The cervical length was measured as 39 mm by USG. The patient was placed bladder catheter and 1300 cc hematuric urine was discharged at a time. Perioperative urology consultation was requested. Magnetic resonance imaging (MRI) and

cystoscopy by urology were planned for the patient. However, emergency operation indication was determined due to worsening in her general condition (pulse: 125/min, blood pressure: 90/50 mmHg, Hgb: 5.6 g/dL, Hct: 19%, Plt: 84,000/mcL). The patient and her relatives were informed in detail and their written consents were obtained. The patient was taken to blood transfusion guided operation. Under general anesthesia, we entered into the abdomen with Pfannenstiel incision. The bladder was observed as fixed to the anterior wall of uterus (Fig. 2). We delivered a 400 g living female baby which had an APGAR score of 0–2 through vertical incision from fundus of uterus. Before removing placenta, we tried to dissect the bladder. We clapsed and attached the vessels which were invasive and bleeding from uterus to bladder. Placenta started to bleed actively from anterior wall of uterus. Intraoperative urology consultation was requested. We removed the placenta and with the help of urologist, we dissected the posterior wall of bladder from uterus up to vagina. We incised the bladder to the posterior surface, discharged hematoma in bladder lumen, and found urethral orifices. We performed partial cystectomy due to active bleeding of great invasive vessels on posterior surface of bladder (Fig. 3). We did square sutures by performing partial resection on lower segment of uterus. We closed the fundus of uterus with z-shaped sutures. We completed the operation by placing drain into Douglas pouch.

During perioperative period, we administered 12 U erythrocyte suspension and 4 units of frozen plasma to the patient. We took the patient to the clinic from intense care unit on postoperative 3rd day. On the fourth day, we found that the patient had bladder glob and urine leakage into abdomen as well as elevated CRP (the sample taken from drain showed that urea was 268 mg/dL and creatinine was 18.3 mg/dL). The catheter of the patient was replaced with foley catheter (20 Fr), which was greater in size, and urine drainage was re-established by bladder irrigation. Broad spectrum antibiotic was initiated for the patient. Urea and creatinine levels were normal in the serous fluid coming from the drain on postoperative 7th day. As bladder contours were regular and there was no extravasation from bladder in the cystogram performed on postoperative 15th day, the catheter of patient was removed and she was discharged from the hospital.



Fig. 1. Observing invasion region in Doppler USG.

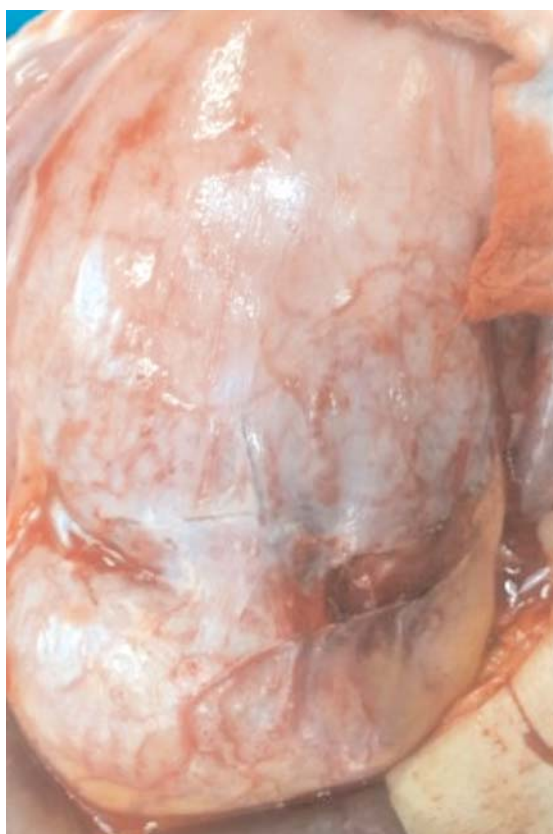
## Discussion

Placental adhesion anomalies are classified according to the depth of myometrial invasion. While the villi are partially invasive into myometrium in placenta accrete and increta, they penetrate up to uterine serosa in percreta.<sup>[5]</sup> Although general incidence of PP is quite low, it is estimated to increase in the coming years in parallel to the increase of deliveries by cesarean section.<sup>[6]</sup>

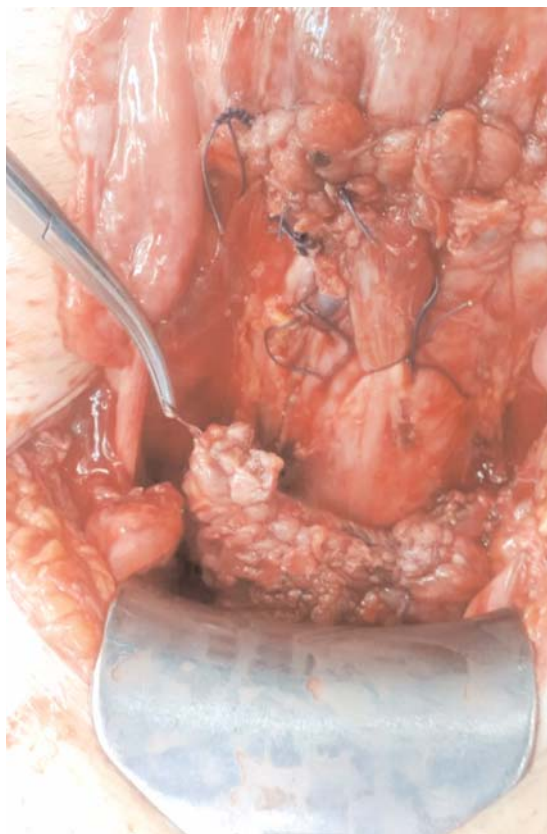
Ultrasonography, MRI and cystoscopy are significant procedures for the diagnosis of placenta percreta.<sup>[7]</sup> The prenatal diagnosis of placental adhesion anomalies is established by the presence of characteristic findings in USG examination, placental lacunar pouches, irregularity in the border between bladder and myometrium and the loss of deciduas layer. In Doppler USG, turbulent blood flows from placenta up to peripheral tissues may be observed. The sensitivity and specificity of USG in diagnosis are 80% and 95%, respectively.<sup>[7,8]</sup> MRI can

be beneficial when ultrasound findings are unclear. In MRI, the loss of decidua layer between placenta and myometrium can be detected.<sup>[7]</sup> In our case, we planned MRI to evaluate bladder invasion better, but could not carry out due to the worsening in the general condition of the patient.

Placenta percreta seen together with bladder invasion can be noticed mostly during delivery. Macroscopic hematuria is a finding seen only in 25% of cases detected to have bladder invasion.<sup>[3]</sup> The lesion reaching from the posterior wall of bladder to lumen can be usually seen in cystoscopic examination. While cystoscopy is recommended in the presence of hematuria, a literature review study reported that diagnosis could not be established in 12 of 54 PP cases with bladder invasion who underwent cystoscopy. In addition, they reported that performing cystoscopy during surgery may help to determine the severity of bladder or urethral involvement.<sup>[9]</sup> After obstetric USG examination, we considered that the



**Fig. 2.** Bladder fixed to the anterior wall of uterus.



**Fig. 3.** Region performed partial cystectomy on posterior surface of bladder.

hematuria was associated with PP and we planned cystoscopy to be done by urology clinic to evaluate bladder invasion; however, we could not perform due to the worsening in the general condition of the patient. On the other hand, we found no urethral involvement by performing cystotomy during surgery. We carried out cystectomy by identifying deep invasion areas on the dome of bladder and posterior surface. We considered that the presence of urine leakage into abdomen on postoperative 4th day was associated with the bladder glob caused by the blockage of catheter with small size. We re-established urine drainage by placing Foley catheter with greater size (20 Fr) and irrigating the bladder.

As the placental adhesion anomalies are the common reasons for peripartum hysterectomies, establishing the diagnosis during preoperative period is significant in terms of informing patient in detail and taking precautions required to decrease massive bleeding, morbidity and mortality which may be associated with clinical condition.<sup>[2]</sup> The literature reports a PP case which referred with massive hematuria but the diagnosis was overlooked. Hysterectomy and partial cystectomy were performed to the patient due to PP with missed diagnosis, and hypovolemic shock (and massive blood transfusion need accordingly) and convulsion attacks were observed in the patient during postoperative period.<sup>[10]</sup>

The possibility of complications such as massive blood transfusion, infection, perinatal death, maternal death, urethral ligation or fistula formation and spontaneous uterine rupture is quite high in placenta percreta cases.<sup>[10,11]</sup> Therefore, PP monitoring should be carried out with a multidisciplinary approach by a team consisting of experts from obstetrics, anesthesiology and intense care, radiology, urology and hematology clinics.<sup>[4,12]</sup>

In our case, establishing PP diagnosis before operation and acting together with the clinics of obstetrics, urology, anesthesia-intense care and hematology were effective to prevent hysterectomy and other major complications.

## Conclusion

Preoperative diagnosis of placenta percreta and multidisciplinary approach are very important for successful

management of complications associated with percreta before, during and after the operation.

**Conflicts of Interest:** No conflicts declared.

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