

## Cervical Ectopic Pregnancy with Placenta Percreta and Gross Hematuria: A Case Report

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### ABSTRACT

**Background & aim:** Cervical ectopic pregnancy is a rare variant of ectopic pregnancy, and placenta percreta is a complex and dangerous condition; patients with these conditions are difficult to manage. In this study, we present a rare case of placenta percreta in cervical pregnancy.

**Case report:** A 32 -year-old woman with 19 weeks of gestation and gross hematuria was admitted to Qaem Hospital in February 2014. Abdominal sonography and magnetic resonance findings indicated percreta. Cystoscopy was performed, which demonstrated invasion of placenta into bladder mucosa. Surgery was planned due to severe hematuria, where cervical ectopic pregnancy with placenta percreta was found. Hysterectomy and partial cystectomy were performed, and to date, the patient is alive and healthy.

**Conclusion:** Placenta percreta with bladder invasion can cause hematuria during pregnancy and early diagnosis can help with successful treatment and management of bleeding.

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## Introduction

Cervical pregnancy is one of the rarest forms of ectopic gestation, which should be considered in differential diagnosis of abnormally low gestational sacs in Transvaginal ultrasound (1). Placenta percreta, with incidence rate of 1 in 9000 deliveries, is a complication of pregnancy that can be life threatening for both mother and fetus (2).

The incidence of placenta accreta in cervical pregnancy is rare (1 in 93,000 pregnancies) (3). The etiology of cervical ectopic pregnancy is uncertain; however, the contributing factors could be curettage, history of cesarean delivery, Asherman's syndrome, *in-vitro* fertilization, and history of cervical or uterine surgery (4).

Delayed diagnosis and progression of

cervical ectopic pregnancy are associated with life-threatening hemorrhage (5, 6). Considering the features of cervical tissue, placenta may invade through the full thickness of the cervix. The incidence rate of placenta percreta is on a growing trend. Cesarean section is a risk factor for hematuria, which is a sign of abnormal placental adhesion (7).

Patients with advanced ectopic pregnancy and placenta percreta are difficult to manage, and surgical intervention is associated with high rates of morbidity and mortality (8). Cervical pregnancy is rarely diagnosed before 20 weeks gestation. Accurate early diagnosis and critical decision-making are of great importance in management of this condition, since they allow

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treatment with minimal intervention and attenuate the overall rates of morbidity and mortality. Bladder involvement of percreta is an uncommon complication (6, 9), and it is mostly diagnosed after hysterectomy and massive hemorrhage.

Conservative management of cervical ectopic pregnancy aims at fertility preservation, which includes systemic or local ultrasound guided intraamniotic methotrexate injection, local potassium chloride injection, dilatation and curettage, and amputation of the cervix or partial trachelectomy (8).

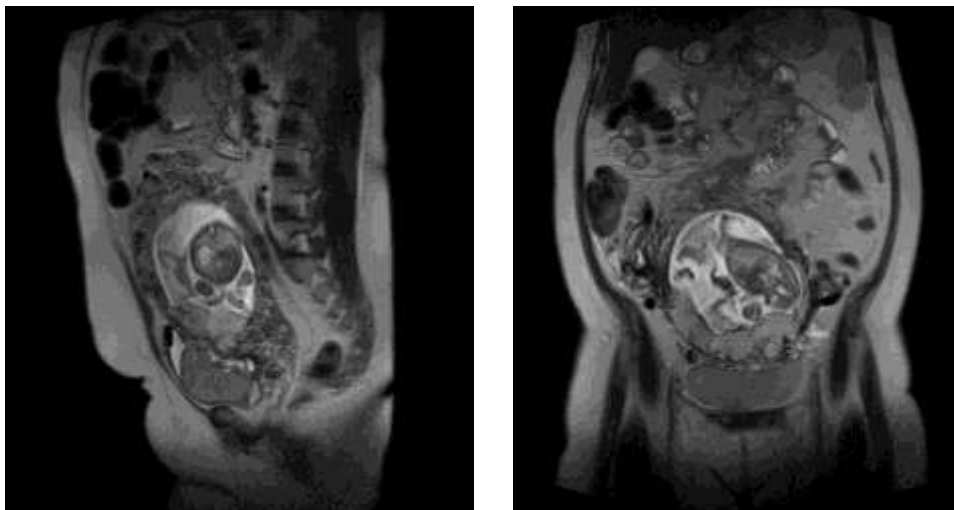
Very few cases of this condition were reported in the literature worldwide (5-8), for instance, in a study by Jaswal (6) a case of ectopic pregnancy with hematuria and vaginal bleeding was reported. The patient died two hours following the surgery. The current study describes a rare case of placenta percreta with gross hematuria in cervical ectopic pregnancy.

### Case Presentation

In this study, we present the case of a 32 - year-old (gravid: 4, parity: 3, death: 1) woman with spontaneous conception and history of two previous cesarean sections admitted to Qaem

Hospital, affiliated to Mashhad University of Medical Sciences, in 10 February 2014. The patient was at 19 weeks of gestation and presented to the hospital with gross hematuria and stable vital signs. Abdominal ultrasonography revealed an intrauterine, 19-week, viable fetus and placenta percreta. After two days (12 February), color Doppler ultrasonography demonstrated blood flow in the placenta extending to the bladder dome. Magnetic resonance imaging (MRI) revealed reduced thickness of the myometrium in the lower part of the placenta and penetration of the vessels into the wall of the bladder dome, which indicate percreta (Figure 1).

Evidence of intravesical hematoma was observed in the bladder due to hematuria secondary to bladder invasion. After four days of admission, due to aggravation of hematuria, cystoscopy was performed, and areas with active bleeding were detected. Hemoglobin and hematocrit levels fell. On this day (14 February), a multi-disciplinary meeting was held in the presence of an anesthesiologist, gynecologic oncologist, vascular surgeon, and urologist for planning management of the patient. Finally, surgery was planned due to severe hematuria.



**Figure 1.** Sagittal and coronal T2 HASTE and T2 trufi magnetic resonance images showing marginal placenta previa with a heterogeneous placenta due to dark intraplacental bands and heterogeneous abnormal vascularity invading into the dome and posterior wall of the bladder

On 14 February, during the operation, there was an empty large uterus and fetus and placenta had engaged the entire length of the

cervix (Figure 2). After ligation of the internal iliac artery on both sides, hysterectomy and partial cystectomy were carried out and 3-way

Foley catheter was placed. Due to oozing from the pelvic floor, pelvic packing was performed

with six surgical long gazes, and then the patient was transferred to intensive care unit.



**Figure 2.** Large uterus was empty and fetus and placenta had engaged the length of the cervix

During the operation, the patient received 17 units of packed cell, 8 units of fresh frozen plasma, and 7 units of platelet. After 48 hours, the second laparotomy was performed, which did not demonstrate any active bleeding, and the gazes were removed. The patient was transferred to the Gynecology ward and seven days later was discharged.

The pathology report of abdominal hysterectomy was necrosis and cervical pregnancy with placenta percreta and invasion of placenta to bladder mucosa. Informed consent was obtained from the patient to publish the case. To date, the patient is alive and healthy, and B-HCG titer is normal.

## Discussion

Cervical pregnancy is a rare type of ectopic pregnancy, which results from implantation of the gestational sac within the cervical canal (6). This condition is even rarer with concomitant placenta percreta and involvement of the bladder. Transvaginal ultrasound or MRI is used for early diagnosis of cervical pregnancy (10).

Invasive placenta is a condition in which the placenta attaches or invades into the wall of the uterus. In case of damaged or abnormal decidua, an invasive placenta may develop. This condition is most commonly reported in the area of a scar on the uterine wall from a

previous caesarean section or other uterine surgeries. MRI scan is the best modality to confirm the ultrasound findings in patients with an abnormal placental appearance suggesting an invasive placenta (11). In the present case, the potential risk factor was two previous cesarean sections.

In management of an invasive placenta, cesarean delivery should be planned in a specialized unit, and in severe cases, hysterectomy should be scheduled. A key component of care in cases of suspected invasive placenta is access to vascular and interventional radiology (12, 13). Placenta percreta in early pregnancy is a very rare and life-threatening complication, the prevalence of which has increased due to higher frequency of cesarean delivery and curettage (9).

Weichert presented expectant management in a case of cervical pregnancy with placenta accrete (14). That case was different from ours with respect to invasion into myometrium, no uterine serosa, and mucosal bladder invasion. However, our case was symptomatic with gross and massive hematuria and had invasion of placenta into the bladder.

Cervical pregnancy usually presents with painless bleeding. Termination of pregnancy due to absence of myometrial tissue in the cervix can result in massive bleeding and high

rates of maternal mortality. Cervical pregnancy can be diagnosed after pregnancy termination, as was observed by Grigoras and Kang (3, 15). Their patient was candidate for emergency surgical operation due to severe hematuria. Surgery was performed by an experienced team and the patient survived despite critical and life-threatening condition, but in a similar case in the study by Jaswal, in spite all the efforts, the patient died.

In the present case, a multi-disciplinary meeting was held with the presence of an anesthesiologist, a gynecologic oncologist, a vascular surgeon, and a urologist. The surgery was planned. Sufficient blood products were available, and we were able to rescue the patient. With stable vital signs, other techniques such as uterine fibroid embolization are preferred.

In spite of internal iliac ligation, hemorrhage did not diminish and during the operation, she received 17 units of packed cell. Despite the availability of emergency embolization, it was better if it was done before the surgery. In such cases, the physician must provide the necessary conditions and equipment before surgery. Unplanned and emergency surgery can be very dangerous and might increase the rates of mortality and morbidity.

## Conclusion

In all pregnant patients with hematuria, adherent placenta should be considered and cystoscopy is suggested to rule out placenta percreta. Early diagnosis helps with successful treatment and prevention of uncontrolled bleeding.

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## Conflicts of Interest

The authors declare no conflicts of interest.

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