Haematuria from early pregnancy in a morbidly adherent placenta: Case report and a short review

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Abstract
The morbidly adherent placenta has evolved into one of the potentially life-threatening conditions in obstetrics. Vaginal bleeding is the most common presentation of placenta percreta. Other symptoms include unusual dull, prolonged lower abdominal pain. Although haematuria is rare, it may be a presentation of the morbidly adherent placenta in early pregnancy. We report a case of placenta percreta with a very uncommon presentation of gross haematuria early in pregnancy. We emphasize that a high index of suspicion, ultrasound, and/or MRI can establish a preoperative diagnosis of the invasive placenta earlier. With timely diagnosis, preparedness, and multidisciplinary care, it is possible to minimize catastrophic complications.

Keywords: Cystoscopy, haematuria, morbidly adherent placenta, placenta previa

Introduction
A morbidly adherent placenta is a rare obstetric complication wherein the placenta invades the uterine myometrium and may involve nearby organs, such as the bladder. Over the last 20 years, prevalence of all types of abnormally invasive placenta (accreta, increta, and percreta) has increased substantially, especially due to the rise in the caesarean section rate. Approximately 1/500–1/2500 pregnancies are associated with the invasive placenta and its complications, which carry a significant obstetric challenge and are a leading cause of obstetric hysterectomy. Mortality rates in these cases may be up to 9.5% and 24% for mother and baby, respectively. Despite the fact that blood in the urine is normally an indication of urological sickness, it tends to be a significant admonition sign to a potential medical issue in pregnancy because of placenta percreta. In low- and middle-income countries, the vast majority of pregnancies are attended by essential primary healthcare providers. We are revealing this case as an uncommon presentation of placenta percreta as haematuria from early pregnancy. Ideal reference of these cases from their first contact to tertiary medical care centre can forestall major catastrophe.

Case Report
A 31-year-old, Gravida 2 Abortion 1 (spontaneous abortion) referred to us at 16 weeks of gestation because of vaginal spotting with intermittent gross haematuria for 1 month. Her early pregnancy scans revealed low implantation of a gestational sac in the endocervical region and the patient was put on progesterone support because of threatened abortion. She had undergone cystoscopy for gross haematuria with inconclusive findings and advised intermittent catheterization for urinary retention. Her ultrasound showed a lower edge of the placenta covering the cervical canal with loss of retroplacental hypoechoic zone and prominent lakes within the placenta suggestive of the possible invasion of anterior cervical stroma and focal bladder wall thinning. On admission,
the patient was evaluated; MRI showed placenta implanted on anterior and left lateral wall with T2 hypointense intraplacental bands within. There was thinning of the retroplacental zone with loss of fat plane with the overlying urinary bladder. A heterogeneous signal intensity blood clot was noted within the urinary bladder. A diagnosis of Type IV placenta previa with increta was made [Figure 1].

Decision on conservative management was taken with bed rest and hospitalization to prevent any emergency untoward catastrophe. Throughout her stay, she had multiple episodes of lower abdomen pain and intermittent haematuria with retention of urine. Urology consultation sought and treated symptomatically with bladder irrigation, intermittent catheterization, treatment for urinary tract infections, and alpha-adrenergic blockers. Her elective caesarean delivery was planned at 32 weeks after cover of prophylactic steroids and inj. magnesium sulphate.

Classical incision was given in the upper segment and a healthy 1825-g female was delivered. Bilateral internal iliac artery ligation was done; however, the placenta could not be removed with gentle traction, and no surgical plane could be identified between the uterine wall and the placenta, suggesting the presence of morbidly adherent placenta. The surgical team immediately proceeded with an emergency hysterectomy. Massive haemorrhage was noted (~2000 ml) and was replaced adequately with blood products perioperatively. The lower uterine segment was found to be densely adherent to the bladder wall [Figure 2]. Intraoperative urology assistance was sought. Following sharp dissection intraoperatively, a 4 × 3 cm cystotomy was noted at the bladder dome and the bladder mucosa was noted as normal throughout. The bladder was then closed in two layers with running absorbable sutures. An 18-Fr Foley catheter was placed, and the bladder was irrigated to ensure water-tight closure. The patient was monitored in ICU for 24 hours. Foley catheter was left in place for 14 days and then the patient was discharged with no further urinary difficulties. The patient was reviewed again at 6 weeks postpartum, which was normal.

Discussion

Morbidly adherent placenta is a general term defined by the level of invasion of chorionic villi in the maternal myometrium. Previous reports describe the incidence of placenta percreta as 1:1000–1:70,000 births.[4] Approximately 7%–10% of cases of maternal mortality worldwide are due to adherent placenta.[5] Prior invasive procedures on the uterus, such as uterine curettage, hysteroscopic surgery, endometrial ablation, myomectomy, and most commonly caesarean section, have been identified as important risk factors for developing this complication along with advanced maternal age and grand multiparity.[6] The risk of accreta formation is not only linearly increased with the number of previous caesarean deliveries but also with the presence of placenta previa.[7]

In our index case, the patient had a prior spontaneous abortion with no invasive procedure performed and thus did not have any established risk factors, which is a very rare occurrence. Kuhite et al.[8] in their review found only five reported cases of invasive placenta in a primigravida without risk factors.

Vaginal bleeding is the most common presentation of placenta percreta. Other symptoms include unusual dull, prolonged lower abdominal pain. Haematuria is a rare presentation comprising only 25% of all placenta percreta cases.[9] Kaukora et al.[10] in their report presented a case of a third gravida patient with previous two caesarean deliveries with gross haematuria at 24 weeks of gestation diagnosed to be due to placenta percreta. However, in our report, the patient presented as early as 16 weeks with urinary retention and haematuria, a time when only the diagnosis of the low-lying placenta could be made and ruling out morbid adhesion is extremely difficult. Thus, a high degree of suspicion and use of modern techniques for diagnosis is required to categorize the high risk and plan management of these cases.

Early suspicion of the adherent placenta is raised when an ultrasound shows a low-lying gestational sac over a uterine

Figure 1: Axial T2-weighted MRI image showing placenta percreta with a blood clot in the urinary bladder

Figure 2: Post hysterectomy specimen showing placenta previa percreta left in situ
scar during the 1st trimester. Multiple placental lakes, thin myometrium, loss of decidua placental layer, and an irregular border between the bladder and myometrium during the 2nd and 3rd trimesters are important features of this condition. Colour Doppler helps differentiate between normal placentation versus percreta with 100% accuracy. MRI is not more sensitive than ultrasound but is used as an adjunct, especially in cases with suspected invasion into surrounding organs and in obese patients. Abnormal uterine bulging, heterogeneity of signal intensity within the body of the placenta, and presence of intraplacental bands are features suggestive of adherence on MRI. Cystoscopy is not very sensitive for its occurrence. Timely referral to a higher centre, availability of blood and blood products, and a multidisciplinary team are of utmost importance. Caesarean hysterectomy without any attempts to remove the placenta is the recommended treatment as separation of the bladder from the placenta may cause severe blood loss. Preoperative use of ureteric stents also decreases the risk of ureteral injury. Hypogastric artery ligation, though not been found to decrease mean blood loss nor the need for massive blood transfusions, is routinely performed in such cases. Adjuvant medical therapy has been tried for in situ placentae with methotrexate injection with a success rate of 78.4% but is associated with a high risk of secondary postpartum haemorrhage and sepsis. Concomitant vascular disembolization also decreases intraoperative haemorrhage and may facilitate postoperative placental involution. Khoiwal et al. reported that patients who underwent UAE had a better outcome in terms of intraoperative blood loss and the requirement of blood and blood products. In such cases, regular postpartum monitoring is required as complete regression of the placental remnants may take several months to ensue.

**Conclusion**

Placenta percreta is a rare potential life-threatening condition. The alarming increase in the rate of placenta percreta over the past few years is likely due to a change in risk factors, most notably the increased rate of caesarean deliveries. Urological manifestation of this ailment spectrum is a late presentation normally at term. Gross haematuria in early pregnancy may be an unusual presentation of placenta accreta spectrum. Thus, a high degree of suspicion with referral to an experienced radiologist to rule out morbidly adhered placenta is the major contributing factor to reduce maternal complications. Use of modern techniques for early diagnosis, categorizing the risk, and multidisciplinary management in these cases can prevent catastrophic complications.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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