


Case Report

Placenta Percreta with Bladder Involvement Requiring Massive Transfusion- Successful Outcome with Multidisciplinary Management

Maryam Mohamed Alrayssi*, Amr Elmekresh, Senthil Kumar, Abdulmunem Alsadi, Hamzeh Esmacilpour, Carimbacor Ahmad**, Mohammad Hassan Alhamad, Kais Kotiesh, Mohamed Motaz Al Masri, Rafe Alhayek, Khaldon Abo alsel, Shaima Abuhejleh, Fadhel Yusuf, Elham Mahjoor Azad, Tariq Abdul Hamid, Ayman Alyammahi, Nada Abdelbadie, Abdalla Aboelkheir, Shamma Alkhattal, Thureya Binashour, Mohammad Jarai, Murdadha Altammam, Elena Survtseva, Amjad Mohamadiyah, Farida Aljanahi, Amal Hayat, Asma Mohammed*, Zahraa Haider*, Mohammad Moghaveleh, Yaser Saeedi, Fariborz Bagheri.

Abstract

Placenta percreta is a rare disorder of pregnancy in which the villi of the placenta penetrates the myometrium of the uterus and can invade into the surrounding organs. Most commonly it invades the posterior part of the urinary bladder, the ureter or ileum. The incidence of placenta percreta is increasing due to the increased prevalence of Cesarean section, increased maternal age and multiparity, other prior uterine surgeries and dilatation and curettage, endometrial ablation, irradiation to uterus, hypertensive disorders of pregnancy, and smoking. Placenta percreta with other organs involvement in the pelvis has a high maternal and foetal mortality. Hence multidisciplinary management in tertiary care centre capable of providing massive transfusions can reduce the maternal and foetal mortality.

Keywords: Placenta percreta; Placenta accreta

Introduction

Abnormal attachment of the placenta to the uterine myometrium either fully or partly is called placenta accreta. Based on the abnormal placental attachment, there are three grades, defined according to the depth of invasion.

Accreta: Chorionic villi is attached to the myometrium.

Increta: Chorionic villi invade into the myometrium.

Percreta: Chorionic villi penetrates through the myometrium to reach pelvic organs.

Placenta accreta is the most common form among the three (80%), followed by placenta Increta (15%). Placenta percreta is the rarest (5%).

Urinary bladder is the most common structure to be involved by placenta percreta. Complications of placenta percreta can be:

- Damage to pelvic organs like bladder, ureter, ileum etc.
- Post-operative bleeding which may require repeated surgery.
- Complications due to massive transfusion.
- Amniotic fluid embolism
- Post-operative thrombo-embolism, infection, multiorgan failure, and maternal death.

Affiliation:

Department of Urology, Dubai Hospital, Dubai academic health corporation - Dubai, UAE

*Department of OBGYN, Dubai Hospital, Dubai academic health corporation- Dubai, UAE

**Department of Anaesthesia, Dubai Hospital, Dubai academic health corporation- Dubai, UAE

*Corresponding author:

Amr Elmekresh, Department of Urology, Dubai Hospital, Dubai academic health corporation - Dubai, UAE

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The incidence of maternal mortality due to placenta percreta reported is 6-7%.

Therefore, a safe maternal outcome requires recognition of placenta percreta early in the antenatal period and a multidisciplinary team approach for its management.

Case Report

36 year old, G6 P5+0 woman with previous three Caesarean sections, underwent routine ultrasound at 20 weeks gestation and diagnosed as posterior low lying placenta. Placenta Previa major was confirmed at 27 weeks.

She was admitted to the hospital at 34 weeks gestation for safe delivery and MRI to rule out placenta accreta. She received corticosteroid for foetal lung maturation. MRI reported as Features of complete placenta Previa, with high suspicion of placenta percreta. Five days later at 34 weeks + 5 days gestation, she had abdominal pain, without vaginal bleeding or haematuria, with stable vital signs, and no palpable abdominal contractions.

She was planned for grade 2 caesarean section after discussing with multidisciplinary teams including Urologist, Haematologist, Anaesthesiologist, Intensivist, Neonatologist and vascular surgeon. Cystoscopy and bilateral ureteric catheterization was done under spinal anaesthesia followed by caesarean section. At C-section, presence of multiple large vessels at level of the lower uterine segment encroaching into the bladder dome were seen. The diagnosis of placenta percreta was made and decision taken for caesarean hysterectomy. Classical caesarean section done and healthy alive baby girl delivered and handed to the neonatologist. Spinal anaesthesia was converted to general anaesthesia and proceeded with hysterectomy. At hysterectomy while ligating the right uterine artery the right ureter was accidentally included in the clamp and cut, ureteric injury identified immediately. (urologist, were called for bladder dissection as there was severe bleeding while separating lower uterine segment from the dome of bladder. A cystotomy about 5cm was made at the dome of the bladder and carefully lower uterine segment was separated from the bladder. Extensive bleeding was present throughout the procedure. After doing hysterectomy, vascular surgeons were called for control of bleeding and bilateral internal iliac vessels ligated. The right ureteric injury was repaired by uretero-neocystostomy with bilateral ureteric catheters replaced by bilateral ureteric stenting. Bladder was closed in two layers with absorbable sutures, and wound closed in layers after keeping a peritoneal drain and a Foleys catheter for bladder drainage. The total intraoperative blood loss was 18,000 ml. She received 25 units of Packed RBC, 23 units of FFP, 30 units of Cryoprecipitate, 19 units of platelets and 6000ml of crystalloids. She was transferred to intensive care for 2 days. The postoperative course was uneventful, with the drain removed on the 5th postoperative

day. She was discharged on day 8 with the Foley's catheter. Outpatient cystogram was done on day 14 with no leakage and Foley's was removed. She is planned for bilateral ureteric stent removal in 6 weeks postop.

Discussion

Multidisciplinary team approach extending beyond Obstetrics, Anaesthetists and nursing staff to include specialists in Urology, Vascular surgery, Haematology, Intensivists and interventional radiologists are required for the successful management of placenta percreta. The risk of abnormal placental implantation is increasing due to the increasing number of repeat Cesarean sections [3] other risk factors are increased maternal age and multiparity, other prior uterine surgeries and dilatation and curettage, endometrial ablation, irradiation to uterus, hypertensive disorders of pregnancy, and smoking. In placenta percreta, defects in the decidua basalis cause the placenta to invade into and beyond the uterine myometrium to the surrounding viscera. Most commonly the urinary bladder is affected. In these cases, there is no plane of cleavage between the uterus and placenta. The incidence of placenta percreta is about 1 per 10,000 births [4]. The risk factors for abnormal placental attachment are the increased prevalence of Cesarean section, increased maternal age and multiparity, other prior uterine surgeries and dilatation and curettage, endometrial ablation, irradiation to uterus, hypertensive disorders of pregnancy, and smoking. In our case two of the risk factors, multiparity and prior three Cesarean sections were present. The diagnosis of placenta percreta can be difficult, as it can be asymptomatic until delivery and noticed only preoperatively during Cesarean section. If haematuria is present during pregnancy with associated risk factors, placenta percreta should be suspected and evaluated with ultrasound or MRI of the pelvis. However, only 31% of women with placenta percreta present with haematuria, and other causes of haematuria also to be ruled out. Ultrasound of the pelvis in the first and third trimester is helpful in diagnosing placenta percreta. The ultrasound findings of placenta percreta are presence of vascular flakes (lacunae) deep in the uterine wall and bladder wall, giving Swiss cheese appearance, loss of normal hypoechoic retro placental zone, blood vessels bridging uterine-placental margin, myometrial-bladder margin, retro placental myometrial thickness of less than 1mm, 3D power Doppler showing numerous coherent vessels. In cases where ultrasound is inconclusive, MRI as a subsequent imaging modality for additional staging is required. Placenta percreta is typically managed with Cesarean section followed by immediate hysterectomy. When placenta percreta is suspected during antepartum, delivery should be scheduled in a tertiary care hospital with appropriate surgical facilities and an efficient blood bank to facilitate transfusion of large amounts of various blood products. Sometimes the delivery may need to be preponed due to pregnancy complications.

Preoperative consults with anaesthesia and notification to the blood bank are indicated before scheduling surgery for placenta percreta. Additional surgical services with gynaecologic oncology, urologist and vascular surgeon and or general surgeon may provide additional surgical expertise if needed. The requirement of blood transfusion products (eg. whole blood, packed RBC, Fresh frozen plasma, Platelets and cryoprecipitate) are difficult to predict. But however the average blood loss during Cesarean hysterectomy is estimated to be around 2000 to 5000ml. In literature more than or equal to 10,000 ml blood loss has been reported [1] in our case the estimated blood loss was 18,000 ml. Hence it is always important to reserve adequate units of blood available in the blood bank preoperatively. In placenta percreta, cystoscopy and placement of ureteric catheters can guide the surgery and helps in minimising the injury. When bladder is involved and difficulty to separate the uterus from the bladder occurs, it is advisable to do cystotomy which helps in dissection. If the trigone is spared and the invasion of placental tissue is not separable, then that portion of the bladder can be resected. Attempts to dissect the adherent bladder from the uterus are discouraged as there is risk of severe bleeding and placental disruption. In some cases where total hysterectomy is not possible, subtotal hysterectomy can be done. In such cases post-operative methotrexate has been used for regression of in-situ placental tissue [2].

Conclusion

Early detection and multidisciplinary team management in a tertiary care hospital with facilities for massive transfusions are most important factors for a better outcome in patients with placenta percreta.

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