Placenta percreta management in a rural setting: a case report

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ABSTRACT

Placenta accreta spectrum, formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of the placenta. Placenta accreta spectrum is a complicated pregnancy linked to significant maternal and fetal health risks. There should be high suspicion for placenta accreta spectrum in previous cesarean delivery to early diagnose and treat the condition. Placenta accreta spectrum can be classified into three groups: placenta accreta, where the villi attach to the myometrium; placenta increta, where the villi invade the myometrium; and placenta percreta, where the villi penetrate the entire thickness of the myometrium.[1, 2] We report a case of placenta percreta who underwent cesarean hysterectomy while working in a resource-limited setting of rural Nepal.

Keywords: obstetrics, obstetric emergency, placenta percreta, uterine rupture, rural surgery

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CASE REPORT

We present to you a case of 37 years old female, G3P1L1A1 at 25 weeks of gestation with previous LSCS, who presented to Dolakha Hospital, Dolakha with complaints of abdominal pain for 3 days, with increased intensity over the past 6 hours. Also reports decreased fetal movement for the past 6 hours and dizziness for the past 3 hours. On examination, the patient was in a state of hypovolemic shock. Her abdomen was distended about 26 weeks size with tenderness and guarding present in the epigastrium. Bed-side ultrasound showed fluid collection in the abdominal cavity and absent fetal cardiac activity. Placenta was fundally placed. Fluid resuscitation was done and the patient underwent emergency exploratory laparotomy. Per operatively, gross hemoperitoneum was noted in the abdominal cavity along with clots of about 2000 ml (fig. 2). A ruptured uterus at fundus (fig. 1) with ongoing bleeding was present. Placenta was adherent to the uterine wall and penetrated the serosa at the site of rupture (fig. 1). Lower Uterine Segment was not well formed and the urinary bladder was adherent to the previous cesarean scar. A single dead fetus weighing 800gms was delivered via low transverse uterine incision and a subtotal hysterectomy was subsequently performed with placenta in situ. The uterus along with the placental tissue was sent for histopathological evaluation. A total of about 1400ml of fresh whole blood was transfused operatively and post-operatively. Patient needed ionotropic support on 1st post-operative day. The patient's condition improved on the following day, and inotrope was gradually tapered off. After further discussion with the patient party, the patient was referred to TUTH on their request.

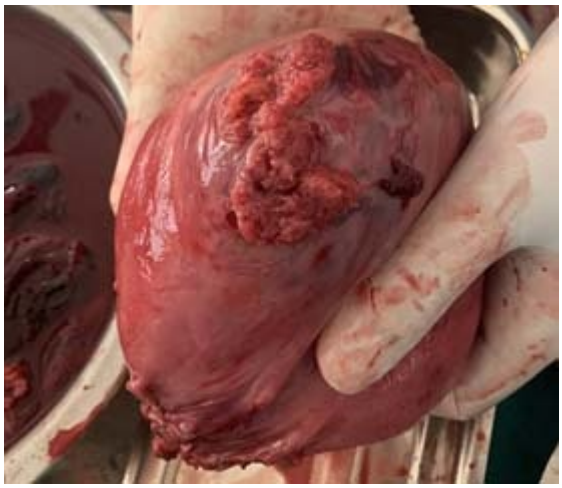

Figure 1. Placental tissue piercing the fundus of uterus

Figure 2. Uterus with placenta insitu removed with intra-abdominal blood clots collection

Patient was admitted to the HDU at TUTH and was discharged on the 12th Post-operative day.

HPE results were followed and were consistent with placenta percreta.

DISCUSSION

Placenta accreta occurs in approximately 1: 1000 deliveries with a reported range from 0.04% rising up to 0.9%.[3] [4] The median maternal age is around 34 years and the median parity is 2.5. The risk of developing placenta accreta increases with the number of previous cesarean deliveries.

A Clinical and Histologic Grading System to Assess and Categorize Placental Adherence or Invasion at Delivery According to FIGO Guidelines is given in the table 1:

Numerous hypotheses have been put forward to elucidate the causes and mechanisms behind the occurrence of PAS. The primary theory suggests that a medically induced issue in the endometrium-myometrium boundary results in the failure of typical decidualization at the location of a uterine scar. This, in turn, allows for unusually deep infiltration of trophoblast cells. The decidua, which is normally present, appears to play a role in regulating trophoblast invasion.6 This is evident in cases of ectopic implantation in areas where the decidua is naturally absent, like the fallopian tube or the abdominal cavity, where trophoblast cells invade the muscular and serosal layers more aggressively.

Table 1. FIGO classification for the clinical diagnosis of placenta accreta spectrum disorders.[5]

Grade	Definition	
	Clinical Criteria	**Histologic Criteria**
Grade 1: Abnormally adherent placenta (Placenta accreta)	At vaginal delivery: - no separation with synthetic oxytocin and gentle controlled cord traction; - attempts at manual removal of the placenta results in heavy bleeding from the placenta implantation site requiring mechanical or surgical procedures.	Microscopic examination of the placental bed samples from hysterectomy specimen shows extended areas of absent decidua between villous tissue and myometrium with placental villi attached directly to the superficial myometrium - The diagnosis cannot be made on just delivered placental tissue nor on random biopsies of the placental bed.
Grade 2: Abnormally invasive placenta (Placenta Increta)	At vaginal delivery: - no separation with synthetic oxytocin and gentle controlled cord traction; - attempts at manual removal of the placenta results in heavy bleeding from the placenta implantation site requiring mechanical or surgical procedures.	Microscopic examination of the placental bed samples from hysterectomy specimen shows extended areas of absent decidua between villous tissue and myometrium with placental villi attached directly to the superficial myometrium - The diagnosis cannot be made on just delivered placental tissue nor on random biopsies of the placental bed.
Grade 3: Abnormally invasive placenta (Placenta Percreta)	Further divided into Grade 3a, 3b and 3c as follows:	
Grade 3a: Limited to the uterine serosa	At laparotomy: abnormal macroscopic findings on uterine serosal surface (as above) and placental tissue seen to be invading through the surface of the uterus; - no invasion into any other organ, including the posterior wall of the bladder (a clear surgical plane can be identified between the bladder and uterus).	Hysterectomy specimen showing villous tissue within or breaching the uterine serosa.
Grade 3b: With urinary bladder invasion	At laparotomy: placental villi are seen to be invading into the bladder but no other organs: - clear surgical plane cannot be identified between the bladder and uterus.	Hysterectomy specimen showing villous tissue breaching the uterine serosa and invading the bladder wall tissue or urothelium.
Grade 3c: With invasion of other pelvic tissue or organs	At laparotomy: placental villi are seen to be invading into the broad ligament, vaginal wall, pelvic sidewall or any other pelvic organ (with or without invasion of the bladder).	Hysterectomy specimen showing villous tissue breaching the uterine serosa and invading pelvic tissues/organs (with or without invasion of the bladder).

Detecting the placenta accreta spectrum during pregnancy is strongly recommended because the best results are achieved when delivery takes place at a maternal care facility of level III or IV before the onset of labor or bleeding, while also preventing placental disruption. Ultrasonography is the diagnostic choice.[7] Most of the placenta accrete are diagnosed in the second and third trimester but can also be diagnosed in the late first trimester. Ultrasound may identify the protrusion of placental tissue beyond the outer confines of the uterine myometrium and/or increased vascularity between serosa and adjacent structures such as the bladder. Nonetheless, it is widely recognized that magnetic resonance imaging (MRI) plays a significant role in accurately diagnosing PAS, demonstrating both high sensitivity and specificity.

The accepted and practical approach to treat the placenta accreta spectrum is a cesarean hysterectomy for most low- and middle-income countries where diagnosis, follow-up and additional treatments are not available.[8] Conservative management or expectant management where the placenta is left insitu after delivery of newborn with umbilical cord ligated and hysterotomy site closed followed by uterotonic drugs, compression sutures, intrauterine balloon tamponade and uterine artery embolization or ligation should be considered only for carefully selected cases of placenta accreta spectrum where resource rich expertise and facility is available.[9] The multidisciplinary team includes maternal-fetal medicine specialists, anesthesiologists, neonatologists, interventional radiologists, pathologists, and blood bank and nursing personnel. The patient underwent a

cesarean hysterectomy as it is the standard care of choice in our settings.

Placenta accreta spectrum has been rising due to increased operative procedures for the delivery of the baby. So it is important to consider diagnosis in early pregnancy for early management. In resource limited settings, cesarean hysterectomy is the best possible treatment for the patients.

CONCLUSION

Placenta accreta spectrum can be a life-threatening obstetric emergency. In rare cases it can lead to uterine rupture. Uterine rupture should be considered as a differential diagnosis in any trimester pregnancy presenting with abdominal pain especially in case of shock. Quick diagnosis and management can avoid catastrophic outcomes and decrease maternal and fetal morbidity and mortality.

Consent

Verbal consent was taken from the patient before submission of this article.

Conflicts of Interest

None

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REFERENCES

1. Garmi G, Salim R. Epidemiology, etiology, diagnosis, and management of placenta accreta. Obstet Gynecol Int. 2012;2012:873929. | DOI |
2. Jauniaux E, Chantraine F, Silver RM, Langhoff-Roos J. FIGO consensus guidelines on placenta accreta spectrum disorders: epidemiology. Int J Gynaecol Obstet. 2018;140(3):265-73. | DOI |
3. Wu S, Kocherginsky M, Hibbard JU. Abnormal placentation: twenty-year analysis. Am J Obstet Gynecol. 2005;192(5):1458-61. | DOI |
4. Warshak CR, Ramos GA, Eskander R, Benirschke K, Saenz CC, Kelly TF, et al. Effect of predelivery diagnosis in 99 consecutive cases of placenta accreta. Obstet Gynecol. 2010;115(1):65-9. | DOI |
5. Jauniaux E, Ayres-de-Campos D, Langhoff-Roos J, Fox KA, Collins S. FIGO classification for the clinical diagnosis of placenta accreta spectrum disorders. Int J Gynaecol Obstet. 2019;146(1):20-4. | DOI |
6. Robertson WB, Brosens I, Landells WN. Abnormal placentation. Obstet Gynecol Annu. 1985;14:411-26. | PubMed |
7. Maged AM, El-Mazny A, Kamal N, Mahmoud SI, Fouad M, El-Nassery N, et al. Diagnostic accuracy of ultrasound in the diagnosis of Placenta accreta spectrum: systematic review and meta-analysis. BMC Pregnancy Childbirth. 2023;23(1):354. | DOI |
8. Slaoui A, Talib S, Nah A, Moussaoui KE, Benzina I, Zeraidi N, et al. Placenta accreta in the department of gynaecology and obstetrics in Rabat, Morocco: case series and review of the literature. Pan Afr Med J. 2019;33:86. | DOI |
9. Collins SL, Alemdar B, van Beekhuizen HJ, Bertholdt C, Braun T, Calda P, et al. Evidence-based guidelines for the management of abnormally invasive placenta: recommendations from the International Society for Abnormally Invasive Placenta. Am J Obstet Gynecol. 2019;220(6):511-26. | DOI |