

CASE REPORT

PLACENTA ACCRETA SPECTRUM: A CASE SERIES OF FIVE PATIENTS

Sana Ansari^{1*}, Meraj Alam Ansari², Rehana Mushtaq¹, Ravi Kumar Shah¹, Pravin Shah¹, Ruby Shrestha¹, Jagat Deep Prasad¹, Tarannum Khatun¹

¹Department of Obstetricians and Gynecology, National Medical College, Birgunj, Nepal

²Department of Surgery, Kathmandu Medical College, Kathmandu, Nepal

Date of Submission : November 23, 2024

Date of Acceptance : November 28, 2024

Date of Publication : January 3, 2025

***Correspondence to:**

Dr. Sana Ansari

Department of Obstetricians and Gynecology,
National Medical College and Teaching Hospital,
Birgunj, Parsa, Nepal

Email: docsana1112@gmail.com

Phone: (+977) 9866691385

ORCID ID: 0000-0001-9196-3758

Citation:

Ansari S, Ansari MA, Mushtaq R, Shah RK, Shah P, Shrestha R, Prasad JD, Khatun T. Placenta Accreta Spectrum: A Case Series of Five Patients. Medphoenix. 2024;9(2):64-67.

DOI: <https://doi.org/10.3126/medphoenix.v9i2.73418>

Conflict of interest: None, **Funding:** None

Publisher: National Medical College Pvt. Ltd.
MedPhoenix - Journal of National Medical College (JNMC); 2024,9(2), available at www.jnmc.com.np

ISSN:2631-1992 (Online); ISSN:2392-425X (Print)



This work is licensed under a Creative Commons Attribution 4.0 International License.



ABSTRACT

Introduction: In the present world as the incidence of Caesarean section have increased, Placenta accreta also has increased and considered as an important cause of maternal and fetal/neonatal morbidity and mortality. In the present case series, we report a case series of five patients of placenta accreta spectrum diagnosed intraoperative presenting obstetric emergency. The American College of Obstetricians and Gynecology generally recommends for Caesarean Section Hysterectomy in cases of placenta accreta because removal of placenta is associated with significant hemorrhage. We present the case series of five patients as only few studies described Caesarean Hysterectomy in patients with placenta accreta spectrum with images as well as to highlight the surgical difficulties and need for further research into the prevention of abnormal placental development and to prevent their risk of massive hemorrhage.

Keywords: Caesarean Hysterectomy, Obstetric Hemorrhage, Placenta Accreta

INTRODUCTION

Placental invasion anomalies are important conditions as they may cause severe morbidity and mortality. The increasing rate of caesarean section has been responsible for increasing incidence of morbidly adherent placenta.¹ The etiology of abnormal placental invasion is not known for certain; it has been presumed that it occurs with the myometrial invasion of the placenta due to lack of placental barrier function as a result of disruption of the basal decidua.¹ When chorionic villus adhere to myometrial surface, it is called placenta accreta only when there is no myometrial infiltration; when there is myometrial infiltration, it is called placenta increta and if there is infiltration into serosa and sometimes into adjacent organs by infiltrating the whole myometrium, it is called placenta percreta. For women with placenta previa, the risk of placenta accreta is 3%, 11%, 40%, 61% and 67% for the first, second, third, fourth and fifth or more caesarean section, respectively.² Placenta invasion anomalies constitute the most common indication

of Caesarean Hysterectomy that may result in severe morbidity and mortality.^{3,4} On average 3000-5000 ml blood loss, massive transfusion and as a result of this several complications such as disseminated intravascular coagulopathy, acute respiratory distress syndrome, infection, ureter and intestine injury, laceration of the bladder can be seen.⁴ Therefore, determining the abnormalities of placental invasion is crucially important in the prevention of morbidity and mortality.

CASE HISTORY 1

37 years female G₅P₂L₁A₂ with Previous I Caesarean section at 37 weeks was admitted to emergency with active per vaginal bleeding and labour pain for 2 hours. Her USG showed posterior placenta partially covering internal os, Type III placenta previa (figure 1). Patient was taken for Emergency LSCS but intraoperative morbidly adherent placenta was present after baby was

delivered. Immediate bilateral uterine artery ligation was done proceeding to Caesarean Hysterectomy in view of intractable PPH; however no attempt was made for external iliac artery ligation.



Figure 1: Ultrasonography showing Placenta Previa

CASE HISTORY 2

30 years female $G_4P_2L_2A_1$ with Previous II Caesarean Section at 23+2 week of gestation was referred to our hospital with heavy per vaginal bleeding and in the state of shock with anterior low-lying placenta and placenta accreta diagnosed on doppler ultrasonography (Figure 2) was taken for Emergency Hysterotomy proceeding to subtotal peripartum hysterectomy for intractable PPH.

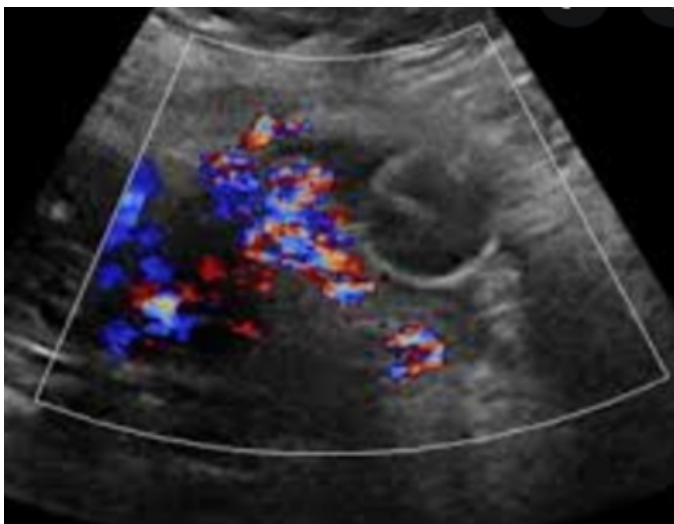


Figure 2: Doppler Ultrasonography showing Placenta Accreta

CASE HISTORY 3

36 years female $G_2P_1L_1$ at 36+5 week of gestation with previous I Caesarean section with complete placenta previa underwent Emergency Caesarean Section in view of bleeding placenta previa along with labour pains. Intraoperative Placenta Accreta was present

(figure 3). Intraoperative bilateral uterine artery was ligated but immediately proceeded to hysterectomy in view of intractable PPH. Three Units of fresh blood was transfused intraoperative and noradrenaline at the rate of 8 ml/hr was started by anesthetist as blood pressure becomes unrecordable intraoperative. Patient remained stable postoperatively and was discharged on eighth postoperative day.



Figure 3: Intraoperative picture showing PAS



Figure 4: Cut section Placenta Accreta

CASE HISTORY 4

28 years female $G_3P_2L_2$ with Previous I Caesarean section at 24 weeks of gestation was referred to our emergency department with history of fall injury followed by severe abdominal pain. Her USG showed haemoperitoneum

along with ruptured uterus. Patient was taken for emergency exploratory laparotomy proceeding to subtotal hysterectomy for ruptured uterus with placenta percreta which was present intraoperative. Placental vessel was seen penetrating from thin lower uterine segment to bladder surface. Bladder mucosa got teared off during separation which was repaired. Patient remained on mechanical ventilator for 11 days in postoperative period and was on inotrope support for 14 days. During hospital stay she was transfused 4 units of whole blood and 1 unit of FFP and 1 unit of PRP. Her histopathology report showed Placenta Accreta (Figure 5).

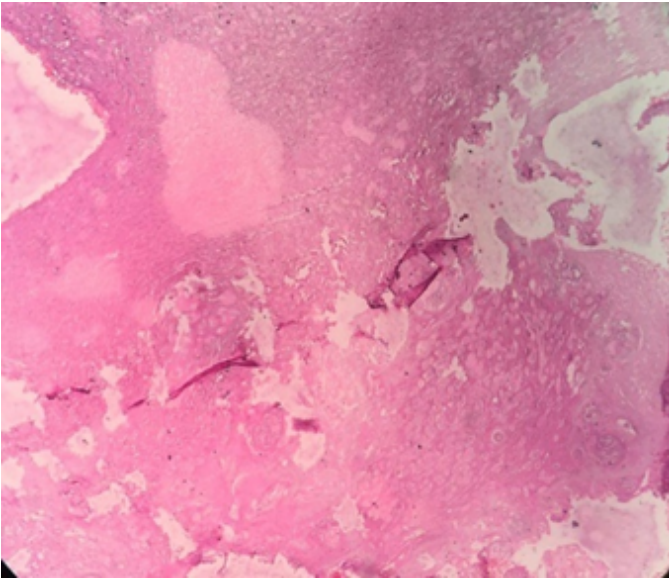


Figure 5: Microscopic picture of Placenta accreta

CASE HISTORY 5

27 years female G₃P₂L₂ with Previous II Caesarean Section at 32 weeks of gestation was admitted in our ward with bleeding per vaginum and preterm labour pains. Patient was in a state of shock. Immediately resuscitation was done and patient was taken for emergency caesarean section. Intraoperative Anterior low-lying placenta was present with placental vessels encroaching upon the surface of lower uterine segment (figure 6). Classical incision was given and baby was delivered by breech extraction. As the placenta was morbidly adherent no attempt was made for removal of placenta and immediately proceeded for caesarean hysterectomy as patient attendant gave consent for this and refused for conservative approach. Patient remained in ICU for two days under observation. Two units of fresh blood was transfused postoperatively. The patient was discharged on 8th postoperative day with no other complications.



Figure 6: Intraoperative picture showing PAS

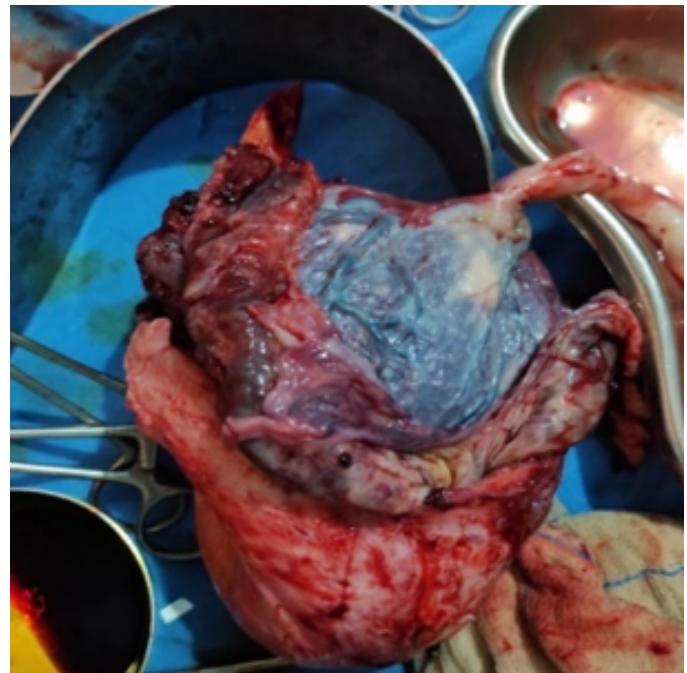


Figure 7: Uterus with placenta specimen

DISCUSSION

There are several risk factors for abnormal placental invasion like placenta previa, previous caesarean section, endometrial dilatation and curettage, mother with age over 35years, in vitro fertilization.^{5,6,7} The most common risk factors in the presented case series are previous caesarean section and placenta previa followed by maternal age. Besides clinical findings, trans-abdominal, trans-vaginal and doppler ultrasonography is used in the diagnosis. MRI is another method that can be used in addition to ultrasound in the cases of obese patients

and fundal or posterior placenta. In the present case series, PAS was diagnosed preoperatively in only one case in which doppler ultrasonography was done and in remaining all cases PAS diagnosed intraoperative. As caesarean section and placenta previa are risk factors for PAS, doppler ultrasonography should have been done before proceeding for surgery. As in the presented case series all patients landed up in emergency it was not done. There are two procedures to handle invasion abnormalities, which are surgical and conservative. Classic and definite treatment of abnormalities of placental invasion is caesarean hysterectomy. As the conservative approach is associated with risks, uncertain benefits and efficacy, none of the patient's attendant gave consent for it. So, we proceeded for caesarean hysterectomy in all the cases with PAS. In the entrance to the uterus, classical median incision that is opened at least 2cm superior of the placenta location was preferred in the presented case series. This method prevented hemorrhage from injuring the placental vessels. From a technical point of hysterectomy, problems were bladder adherence to uterus due to previous operation and the increase of vascularization which developed secondary to placental invasion behind bladder. As a result of these, during the dissection bladder injury and excessive bleeding may occur between bladder and uterus. Among the five cases, bladder injury occurred in one case during separation which was repaired. During pre-operative period, prophylactic perioperative intravascular balloon occlusion or hypo gastric artery embolization might be applied in order to prevent bleeding in the patients for whom placenta accreta is being considered.^{8,9} However, these facilities are not available in our hospital. It has been revealed that peripartum blood loss and transfusion amount are significantly lower if caesarean hysterectomy is performed leaving the placenta in situ which was preferred in the presented case series.

CONCLUSION

PAS is potential life-threatening condition for both mother and baby. Caesarean hysterectomy performed under controlled circumstances, without any attempt at removing the placenta, availability of adequate transfusion support; significantly reduce maternal morbidity and mortality.

REFERENCES

1. Ali H, Chandraran E. Etiopathogenesis and risk factors for placental accreta spectrum disorders. *Best Practice & Research Clinical Obstetrics & Gynaecology*. 2021 Apr 1;72(1):4-12. [[PubMed](#) | [Full Text](#) | [DOI](#)]
2. Allahdin S, Voigt S, Htwe TT. Management of placenta praevia and accreta. *Journal of Obstetrics and Gynaecology*. 2011 Jan 1;31(1):1-6. [[PubMed](#) | [Full](#)

[Text](#) | [DOI](#)]

3. Zuckerwise LC, Craig AM, Newton JM, Zhao S, Bennett KA, Crispens MA. Outcomes following a clinical algorithm allowing for delayed hysterectomy in the management of severe placenta accreta spectrum. *American journal of obstetrics and gynecology*. 2020 Feb 1;222(2):179-e1. [[PubMed](#) | [Full Text](#) | [DOI](#)]
4. Marcellin L, Delorme P, Bonnet MP, Grange G, Kayem G, Tsatsaris V, Goffinet F. Placenta percreta is associated with more frequent severe maternal morbidity than placenta accreta. *American journal of obstetrics and gynecology*. 2018 Aug 1;219(2):193-e1. [[PubMed](#) | [Full Text](#) | [DOI](#)]
5. Coutinho CM, Giorgione V, Noel L, Liu B, Chandraran E, Pryce J, Frick AP, Thilaganathan B, Bhide A. Effectiveness of contingent screening for placenta accreta spectrum disorders based on persistent low-lying placenta and previous uterine surgery. *Ultrasound in Obstetrics & Gynecology*. 2021 Jan;57(1):91-6. [[Full Text](#) | [DOI](#)]
6. Silver RM, Branch DW. Placenta accreta spectrum. *New England Journal of Medicine*. 2018 Apr 19;378(16):1529-36. [[PubMed](#) | [Full Text](#) | [DOI](#)]
7. Salmanian B, Fox KA, Arian SE, Erfani H, Clark SL, Aagaard KM, Detlefs SE, Aalipour S, Espinoza J, Nassr AA, Gibbons WE. In vitro fertilization as an independent risk factor for placenta accreta spectrum. *American journal of obstetrics and gynecology*. 2020 Oct 1;223(4):568-e1. [[PubMed](#) | [Full Text](#) | [DOI](#)]
8. Kingdom JC, Hobson SR, Murji A, Allen L, Windrim RC, Lockhart E, Collins SL, Majd HS, Alazzam M, Naaisa F, Shamshirsaz AA. Minimizing surgical blood loss at cesarean hysterectomy for placenta previa with evidence of placenta increta or placenta percreta: the state of play in 2020. *American journal of obstetrics and gynecology*. 2020 Sep 1;223(3):322-9. [[PubMed](#) | [Full Text](#) | [DOI](#)]
9. Tamate M, Matsuura M, Habata S, Akashi Y, Tanaka R, Ishioka S, Endo T, Saito T. Preservation of fertility and subsequent childbirth after methotrexate treatment of placenta percreta: a case report. *Journal of medical case reports*. 2015 Dec;9(1):1-4. [[Full Text](#) | [DOI](#)]
10. Jauniaux ER, Alfirevic Z, Bhide AG, Belfort MA, Burton GJ, Collins SL, Dornan S, Jurkovic D, Kayem G, Silver R, Sentilhes L. Placenta Praevia and Placenta Accreta: Diagnosis and Management: Green-top Guideline No. 27a. *BJOG*. 2018 Dec 11;126(1): e1-48. [[PubMed](#) | [Full Text](#) | [DOI](#)]