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Case Report

Rare Urological Complications Associated with Placenta Accreta Spectrum (PAS): A Series of Eight Cases

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ABSTRACT

The placenta accreta spectrum encompasses a range of conditions characterized by abnormal placental attachment. Placenta percreta is the most severe form, with deeper invasion into and beyond the uterine wall. The increasing incidence of placenta accreta spectrum mandates vigilance and skill acquisition for safe surgical intervention. This case series aims to create awareness among young practitioners to the rare urological complications associated with abnormally adherent placenta.

Keywords: Placenta Accreta Spectrum, Placenta Percreta, Urological Complications.

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INTRODUCTION

Placenta Accreta Spectrum (PAS) represents a rare obstetric disorder characterized by abnormal invasion of the placenta into the uterine wall, posing significant risks to both maternal and fetal health.[1] This condition often develops following prior caesarean sections or uterine surgeries, leading to the placenta being firmly attached to the myometrium with varying degrees of invasion. As the depth of invasion increases, so do the rates of complications, which can be life-threatening.[2] There is a rise in the incidence of PAS worldwide in recent decades, highlighting its emergence as a significant challenge in obstetric practice.[3] The increasing incidence is a result of caesarean delivery, operative hysteroscopy, surgical termination, endometrial ablation, or suction curettage.4 Complications due to PAS can lead to maternal mortality due to severe antepartum and intraoperative haemorrhage.[4] The urinary bladder's proximity to the anterior segment of the uterus is particularly vulnerable to injury in this condition. Neovascularization and fibrosis in this region as described by make-safe dissection of the bladder from the uterus particularly challenging during a hysterectomy.[5] Additionally, pelvic anatomy is considerably altered by the abnormally invasive placental mass. This further increases the risk of ureteric injuries.[6]

Hence, vigilant antenatal screening, prompt diagnosis, and the involvement of multidisciplinary teams are essential for the effective management of PAS cases.

CASE REPORT-1

A 32-year-old female with previous three lower segment caesarean sections (LSCS) was diagnosed with placenta percreta on Doppler ultrasound at 36 weeks. Magnetic Resonance Imaging (MRI) reported a loss of placental myometrial interface at the lower uterine segment with placenta invading the bladder. A multi-disciplinary team was assembled comprising of consultant obstetrician, consultant anaesthetist, urologist, haematologist and senior scrub nurse. Blood and blood products were arranged as the risk of massive blood transfusion was anticipated. Preoperative ureteric stents were placed cystoscopically to avoid ureteric injury. Placental vessels were visualized during cystoscopy (Figure-1). Careful incision was planned to avoid the placenta. After the delivery of the baby, the placenta was noted to be invading the bladder. A hysterectomy with partial excision of the bladder wall was done. The bladder was repaired and the patient kept catheterized for 14 days. The estimated blood loss was 2500ml.

CASE REPORT-2

A 34-year-old female, with prior 2 LSCS, had a history of caesarean hysterectomy and bladder repair due to placenta accreta spectrum. She presented to the urogynaecology clinic six months after the procedure with complaints of haematuria and recurrent urinary tract infections. She was being treated based on culture and sensitivity for the infection; however, the ultrasound of the urinary bladder showed a soft tissue nodule with internal vascularity raising the suspicion

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of placental tissue or papilloma (Figure-2). A cystoscopic examination and biopsy were planned. Serum beta-hCG at the time was 2.5mIU/ml. The polyp was removed cystoscopically.

Figure-1: Cystoscopic view of the Bladder showing Placental Vessels

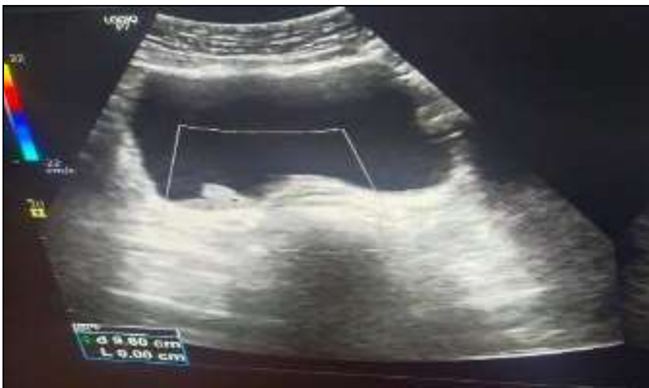

Figure-2: Ultrasound Examination of the Bladder showing a Placental Polyp

CASE REPORT-3

A 35-year-old female with previous three LSCS and caesarean hysterectomy one month back due to placenta accreta spectrum presented in the urogynaecology clinic with continuous dribbling of urine. On examination, a vesico-vaginal fistula was seen about 1 cm in size. On CT-Urogram there was a wide neck vesico-vaginal fistula 12 mm in transverse diameter and 7 mm in vertical dimension. Cystoscopy was planned to see the fistula and identify the ureteral orifices. On cystoscopy, a cauliflower-like growth was identified on the margins of the fistula (Figure-3). A urologist was involved and the decision to remove the growth and biopsy was made before the fistula could be repaired to rule out neoplasia. The biopsy showed a benign lesion with metaplasia with differentials of tubal metaplasia and nephrotic adenoma. The fistula was repaired in a following procedure.

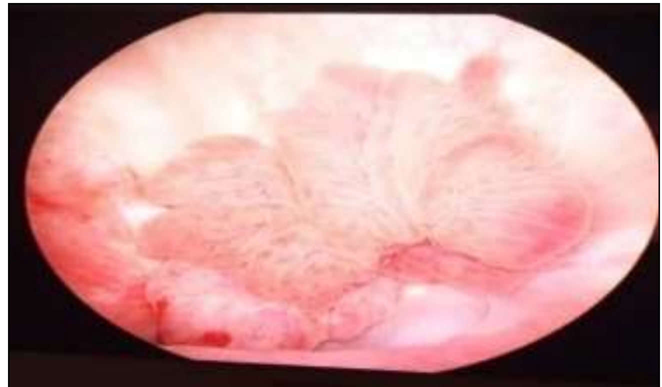

Figure-3: Cystoscopic view showing a Cauliflower-like growth at the Margin of the Fistula

CASE REPORT-4

A 27-year-old female with 2 previous LSCS and placenta accreta spectrum invading the bladder was planned to have surgery. A plan of hysterectomy and partial excision of the bladder was made as the MRI showed extensive involvement of the bladder. Caesarean hysterectomy, bladder excision and bladder repair were done. There was a massive haemorrhage with estimated blood loss of 4000 ml. The patient was critical postoperatively in high high-dependency unit. After a prolonged stay, she recovered gradually.

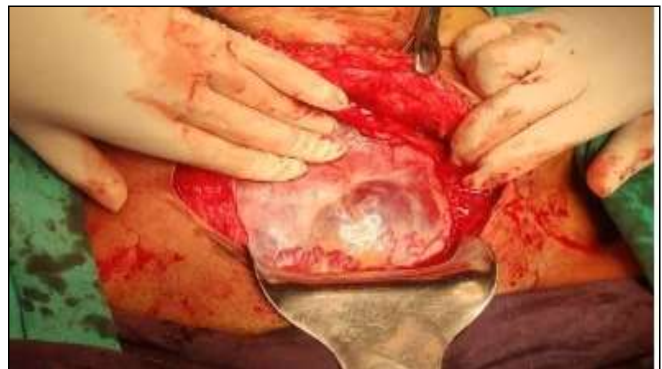

Figure-4: Intraoperative appearance of Placenta Percreta

CASE REPORT-5

A 42-year-old female underwent a hysterectomy and bladder repair for placenta accreta spectrum. She had a history of 4 prior LSCS and presented to us in the urogynaecology clinic with dribbling of urine, particularly in a lying position along with a desire to pass urine throughout the day. She was morbidly obese with a BMI of 45kg/m^2. No fistula was

identified on CT-Urogram. She was diagnosed and managed as a case of mixed urinary incontinence. Notably, her response to weight reduction and fluid modification was remarkable.

CASE REPORT-6

A 35-year-old female presented in the urogynaecology clinic with lower abdominal pain and debris in urine. She had a history of hysterectomy and partial bladder excision with repair four months ago due to placenta accreta spectrum. The debris in the urine was presumed to be faecal matter. A CT-Urogram was done which raised suspicion of colo-vesical fistula. Cystoscopy was planned revealing threads of bladder repair which were perceived as faecal matter. The patient was managed conservatively with analgesia and good hydration.

CASE REPORT-7

A 34-year-old female with previous LSCS and placenta accreta diagnosed on Doppler ultrasound and MRI underwent a caesarean hysterectomy. The placenta invaded the bladder and its venous plexus which bled heavily during surgery. Bleeding was secured and partial excision of the bladder wall was performed with bladder repair (Figure-5). Foleys catheter was retained for 21 days, and the patient recovered well.

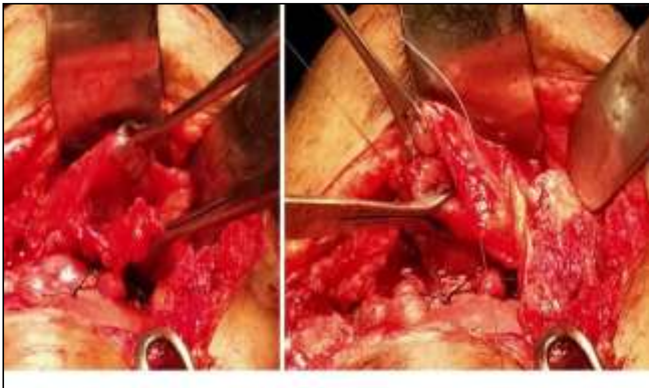

Figure-5: Intraoperative Bladder Excision and Repair

CASE REPORT-8

A 40-year-old female with 4 previous LSCS and placenta percreta was admitted for caesarean section. She was operated by a multidisciplinary team with all pre-operative preparations. During surgery there was extensive placental bladder invasion seen. Partial bladder excision and hysterectomy were carried out. It was difficult to control the haemostasis. Internal artery ligation was also done. There was a massive blood transfusion. She was kept in intensive care for 10 days. She recovered after 2 weeks.

DISCUSSION

The incidence of placenta praevia and placenta accreta spectrum is increasing. Caesarean deliveries have significantly contributed to this trend. In Pakistan, the reported incidence is 9.1 per 100 cases.[7] These cases are associated with an alarming increase in maternal morbidity and mortality. Urological complications are also more prevalent in these complicated cases. Approximately 29% of women with placenta accreta spectrum experience bladder or ureteral injuries.[8]

Cystostomy emerges as the predominant urologic injury in surgeries for PAS. The guidelines set forth by the International Federation of Gynaecology and Obstetrics (FIGO) advocate for deliberate cystostomy in cases of placenta percreta involving urinary bladder invasion. This intentional cystostomy serves several purposes, including revealing the full extent of placental invasion, delineating dissection planes, and assessing the necessity for resection at the posterior bladder wall.[9]

Patients with salpingo-vesical fistulas may present with various symptoms, including abdominal discomfort, dysuria, recurrent urinary tract infections (UTIs), vaginal discharge, sterility, or urinary incontinence. A short segment of a dilated fallopian tube with visible endosalpingeal ridges, when filled with contrast material, can resemble the folds of the normal ileum. This similarity can lead to misinterpretation, where an interpreter may mistake it for an ileovaginal fistula.[10] Cystoscopy and biopsy is crucial in such cases.

Considering the high risk of such complications, multidisciplinary team involvement is vital to safely manage these challenging scenarios and minimize potential maternal complications. Efforts to reduce caesarean rates are crucial for improving overall maternal health. Preoperative strategies including leaving placenta in-situ and ureteric stenting can be crucial in high-risk scenarios.

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Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

NH & IN: Data acquisition, data analysis, critical review, approval of the final version to be published.

SY: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES

1. Berhan Y, Urgie T. A Literature Review of Placenta Accreta Spectrum Disorder: The Place of Expectant Management in Ethiopian Setup. Ethiop J Health Sci 2020; 30(2): 277-292. https://doi.org/10.4314/ejhs. v30i2.16
2. Badr DA, Al Hassan J, Salem WG, Ramadan MK. Uterine body placenta accreta spectrum: A detailed literature review. Placenta 2020; 95(1): 44-52. https://doi.org/10.1016/j.placenta.2020.04.005
3. Tsolakidis D, Zouzoulas D, Pados G. Pregnancy-Related Hysterectomy for Peripartum Hemorrhage: A Literature Narrative Review of the Diagnosis, Management, and Techniques. Biomed Res Int 2021; 2021: 9958073. https://doi.org/10.1155/2021/9958073
4. Huang J, Zhang X, Liu L, Duan S, Pei C, Zhao Y, et al. Placenta Accreta Spectrum Outcomes Using Tourniquet and Forceps for Vascular Control. Front Med 2021; 8: 557678. https://doi.org/10.3389/fmed.2021.557678
5. Alanwar A, Al-Sayed HM, Ibrahim AM, Elkotb AM, Abdelshafy A, Abdelhadi R, et al. Urinary tract injuries during cesarean section in patients with morbid placental adherence: retrospective cohort study. J Matern Fetal Neonatal Med 2019; 32(9): 1461-1467. https://doi.org/10.1080/14767058.2017.1408069
6. Matsuo K, Conturie CL, Lee RH. Snowman sign: a possible predictor of catastrophic abnormal placentation. Eur J Obstet Gynecol Reprod Biol 2014; 181: 341-342. https://doi.org/10.1016/j.ejogrb.2014.07.035
7. Akhtar O, Yasmin H, Malik S, Naseeb S. Frequency and Clinical Outcome in Patients with Placenta Accreta Spectrum. J Soc Obstet Gynaecol Pak 2022; 12(1): 43-46.
8. Nieto-Calvache AJ, López-Girón MC, Messa-Bryon A, Ceballos-Posada ML, Duque-Galán M, Ríos-Posada JG, et al. Urinary tract injuries during treatment of patients with morbidly adherent placenta. J Matern Fetal Neonatal Med 2021; 34 (19): 3140-3146. https://doi.org/10.1080/14767058.2019.1678135
9. Jain N, Patwardhan S, Jain H. Surgical strategies for placenta percreta invading the bladder and review of literature. Afr J Urol 2020; 26: 57. https://doi.org/10.1186/s12301-020-00065-2
10. Srinivasan R, Cortes G, Richardson I, Guelfguat M. Salpingovesical fistula mimicking an enterovaginal fistula. Radiol Case Rep 2020; 15(9): 1473-1476. https://doi.org/10.1016/j.radcr.2020.05.063

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