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Case Report

Section: Obstetrics & Gynaecology

## Beyond Appendicitis: A Rare Case of Succenturiate Placenta Increta Presenting as Acute Abdomen

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### HIGHLIGHTS

- Atypical PAS caused a diagnostic challenge
- Succenturiate lobe masked invasion
- Acute abdomen revealed increta
- Emergency surgery prevented hemorrhage
- Multidisciplinary care improved outcomes

#### Key Words:

Placenta accreta spectrum  
Placenta increta  
Succenturiate placenta  
Hemoperitoneum  
Acute abdomen in pregnancy  
Obstetric hemorrhage

### ABSTRACT

**Introduction:** Placenta accreta spectrum (PAS) is a severe obstetric condition characterized by abnormal adherence and invasion of the placenta into the myometrium, often leading to massive hemorrhage and significant maternal morbidity. Despite advances in antenatal imaging, atypical presentations remain diagnostically challenging, particularly in cases with placental morphological variations such as succenturiate lobes. These variants may obscure diagnosis and delay timely intervention. **Case Presentation:** A 34-year-old multigravida at 32 weeks of gestation presented with acute abdominal pain, initially suggestive of a non-obstetric cause. Initial clinical evaluation and imaging were inconclusive, and the patient was managed conservatively. Due to worsening abdominal pain and rising clinical suspicion, repeat imaging was performed. This revealed a previously undetected succenturiate placental lobe located in the lower uterine segment, showing features consistent with placenta increta, along with hemoperitoneum. The main placental mass was situated anteriorly in the upper uterine segment, contributing to the missed diagnosis in earlier scans. **Results:** Given the high risk of catastrophic hemorrhage, an emergency cesarean section was undertaken. Intraoperative findings confirmed significant placental invasion with massive hemorrhage, necessitating obstetric hysterectomy and transfusion of blood products. With prompt multidisciplinary management, the patient had an uneventful postoperative recovery. **Conclusion:** This case highlights the need to consider placenta accreta spectrum in the differential diagnosis of acute abdomen during pregnancy, especially in patients with a history of prior uterine surgery. Thorough placental evaluation, heightened clinical suspicion, and timely multidisciplinary intervention are essential to optimize maternal and fetal outcomes in such rare and life-threatening scenarios.



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## INTRODUCTION

Placenta accreta spectrum (PAS) encompasses a range of abnormal placental adherence characterized by defective decidualization and varying depths of trophoblastic invasion into the myometrium, including placenta accreta, increta, and percreta [1,2]. It represents a significant obstetric challenge and is a leading cause of severe maternal morbidity due to life-threatening haemorrhage [3,4]. Over recent decades, the incidence of PAS has increased substantially, largely attributed to the rising global rates of cesarean deliveries, with current estimates approaching 1 in 500 pregnancies [5,6].

The pathophysiology of PAS is closely linked to disruption of the endometrial–myometrial interface, commonly in areas of prior uterine scarring. Major risk factors include placenta previa, previous cesarean section, prior uterine curettage, advanced maternal age, and assisted reproductive techniques [7–9]. The coexistence of placenta previa and PAS significantly escalates the risk of catastrophic bleeding, often necessitating cesarean hysterectomy and massive transfusion [3,10]. Maternal complications may include coagulopathy, urological injury, prolonged intensive care admission, and mortality if not managed appropriately [11].

Antenatal diagnosis plays a pivotal role in improving maternal outcomes. Ultrasonography remains the first-line modality, with adjunctive magnetic resonance imaging used in selected cases to delineate the extent of invasion [12–14]. However, PAS may occasionally remain undiagnosed prenatally, particularly in atypical presentations or when placental morphology is unusual. Importantly, the absence of classical sonographic features does not exclude the diagnosis, and clinical risk factors remain equally significant predictors [3,13]. Succenturiate placenta is a relatively rare placental anomaly characterized by one or more accessory

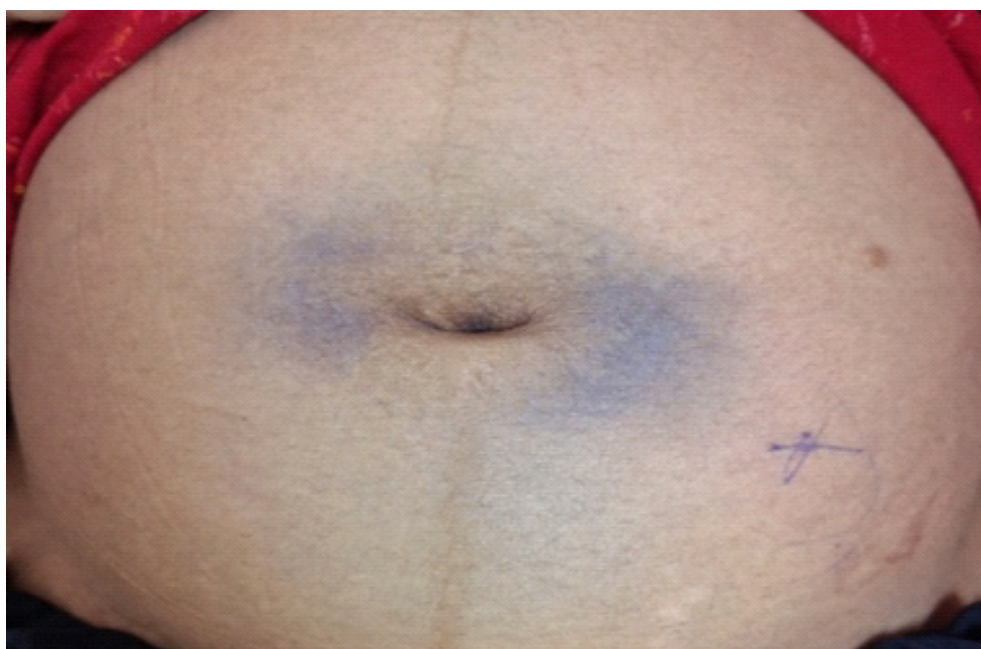
lobes connected to the main placental disc by vascular channels, with an incidence ranging from 0.6% to 1% [15]. Although often asymptomatic, it is associated with complications such as retained placental tissue, postpartum hemorrhage, and vasa previa [16]. The occurrence of PAS involving a succenturiate lobe is exceedingly rare and poses a diagnostic challenge, as routine imaging may overlook small accessory lobes, particularly when the main placenta is normally located [17].

Acute abdomen in pregnancy is a diagnostic dilemma, encompassing both obstetric and non-obstetric etiologies such as appendicitis, pancreatitis, placental abruption, and uterine rupture [18]. Hemoperitoneum secondary to PAS is an uncommon but critical presentation that may mimic surgical emergencies and delay appropriate obstetric intervention [19]. Such atypical presentations necessitate a high index of suspicion, especially in patients with underlying risk factors.

The present case illustrates a rare presentation of succenturiate placenta increta manifesting as acute abdomen with hemoperitoneum, initially masquerading as a non-obstetric pathology. This highlights the importance of meticulous placental assessment, awareness of uncommon variants of PAS, and timely multidisciplinary management to optimize maternal and fetal outcomes.

## CASE PRESENTATION

A 34-year-old G4P1L1A2 pregnant female at 32 weeks of gestation presented to us with c/o lower abdominal pain on and off for 1 week. She was vitally stable at the time of presentation. Her abdominal ultrasound suggested a bulky heteroechoic pancreas and mild ascites; the rest of the findings were normal. Serum Amylase & Lipase levels were within normal limits. She was being managed with IV analgesics & fluids. Her urine culture



**Figure 1:** Severe episode of abdominal pain with associated bluish discoloration of the periumbilical skin, suggestive of Cullen's sign.

culture report showed growth of *E. coli*, and antibiotics were started as per the culture sensitivity report.

Her pain had subsided. At 32 weeks 4 days, she complained of severe abdominal pain and went into preterm labour, tocolytics and steroid coverage were started, following which the contractions subsided. At 32 weeks 5 days, she had a severe episode of abdominal pain, and we noticed bluish discoloration of skin around the umbilicus, suspected Cullen's sign (**Figure 1**).

We did an ultrasound examination of the patient, and surprisingly, we noted a small succenturiate lobe of placenta in the lower segment, which was completely covering the internal & showing ultrasound features of placenta increta, and there was a collection in the pouch of Douglas, suggesting a moderate amount of hemoperitoneum. She has h/o previous cesarean section and dilatation and curettage. Her previous ultrasound showed an anterior placenta, which was in the upper segment, and the succenturiate lobe was possibly missed during the scan. Her blood group was B negative, and immediately, extensive efforts were put into arranging adequate blood and blood products, anticipating massive hemorrhage intraoperatively.

She was taken for an emergency caesarean section on the same day. Intraoperatively, there was hemoperitoneum of around 200 ml on opening the peritoneal cavity. Vessels were seen invading the uterine serosa in the lower uterine segment. Upper segment incision was given, and a preterm live baby of 1780 grams was delivered. Placenta was found anteriorly with a succenturiate lobe in the lower segment invading into the uterine serosa, which could not be removed completely manually. Due to a massive haemorrhage of 4.5 litres, an obstetric hysterectomy and bilateral internal iliac artery ligation were done. 7 units of PRBC, 4 units of RDP and 5 units of FFP were transfused intraoperatively, and inotropes were started.

Careful, detailed inspection of the abdominal cavity was done, and a mass with a small hematoma was noted in the appendix and mesoappendix. General surgeon assistance was taken, and the clots over the mass were removed. No active bleeding was noted, and they suggested no urgent surgical intervention and to treat it with antibiotics in the post-operative period. A pelvic drain was placed, and the abdomen was closed. Postoperatively, the patient was shifted to the ICU for hemodynamic monitoring. She was weaned off from inotropes and shifted to the ward on postoperative day 2. The pelvic drain was removed on postoperative day 4. She passed flatus and stool, and her general condition was good. Sutures were removed on postoperative day 14, and she was discharged along with her healthy baby.

## RESULTS

The patient underwent an emergency cesarean section, which revealed approximately 200 mL of hemoperitoneum & abnormal

placental invasion into the uterine serosa in the lower uterine segment. A preterm live neonate weighing 1780 g was delivered. Due to incomplete placental separation and massive intraoperative hemorrhage of approximately 4.5 liters, obstetric hysterectomy with bilateral internal iliac artery ligation was performed. The patient required extensive transfusion, including 7 units of packed red blood cells, 4 units of random donor platelets, and 5 units of fresh frozen plasma, along with inotropic support. Postoperatively, she was managed in the intensive care unit, showed gradual hemodynamic stabilization, and recovered well. She was discharged in stable condition along with her healthy baby.

## DISCUSSION

The present case is unique due to the presence of a small succenturiate lobe in the lower uterine segment exhibiting features of placenta increta, while the main placental mass was located anteriorly in the upper segment. This anatomical separation likely contributed to the missed diagnosis on prior ultrasonography, as routine scans may fail to identify small accessory lobes, especially when overshadowed by a normally positioned primary placenta. Similar diagnostic challenges have been highlighted by Cali et al., who emphasized that atypical placental morphology can reduce the sensitivity of antenatal imaging in detecting placenta accreta spectrum (PAS) [17]. This underscores the importance of meticulous and systematic placental evaluation, particularly in high-risk patients.

The patient had significant predisposing factors for PAS, including a history of previous caesarean section and dilatation and curettage, both of which are well-established contributors to abnormal placentation due to disruption of the endometrial-myometrial interface [1,7,9]. Jauniaux et al. have described defective decidualization and excessive trophoblastic invasion as the key mechanisms underlying PAS [1,4]. Additionally, Silver et al. and Bowman et al. have demonstrated that the risk of PAS increases progressively with the number of prior caesarean deliveries and associated uterine instrumentation [7,8]. In the present case, the coexistence of these risk factors likely predisposed to focal invasion within the accessory placental lobe.

The hemoperitoneum in this case is presumed to have resulted from the invasion of placental vessels into the uterine serosa with subsequent extravasation of blood. Such presentations are rare but have been reported in association with advanced forms of PAS, particularly when invasion extends beyond the myometrium [10]. Belfort et al. & Fitzpatrick et al. have highlighted that severe hemorrhage remains the most significant complication of PAS & is a major determinant of maternal morbidity [10,11]. The hematoma noted near the appendix may represent dependent accumulation of intraperitoneal blood or secondary involvement of adjacent vascular structures.

The need for prompt multidisciplinary management is evident in this case. Early surgical intervention, availability of adequate blood products, and involvement of experienced obstetricians and surgeons are critical in reducing adverse outcomes. As highlighted by ACOG and Jauniaux et al., planned delivery in a tertiary care setting significantly improves maternal prognosis in PAS cases [3,4].

Overall, this case highlights a rare, atypical presentation of succenturiate placenta increta, manifesting as an acute abdomen with hemoperitoneum. It reinforces the importance of high clinical suspicion, careful placental assessment, and timely multidisciplinary management to prevent life threatening complications.

## CONCLUSION

This case highlights a rare and atypical presentation of placenta accreta spectrum in the form of a succenturiate placenta increta manifesting as an acute abdomen with hemoperitoneum. The presence of an accessory placental lobe in the lower uterine segment, distinct from the main placenta, contributed to missed antenatal diagnosis and diagnostic confusion with non-obstetric causes. It underscores the importance of maintaining a high index of suspicion for PAS in patients with known risk factors such as prior cesarean section and uterine instrumentation. Careful and systematic placental evaluation during ultrasonography is essential, especially in atypical presentations. Early recognition, prompt decision-making, and a multidisciplinary approach with adequate blood product preparedness are crucial in managing such life threatening obstetric emergencies. Timely surgical intervention can significantly reduce maternal morbidity and improve outcomes for both mother and fetus.

## LIMITATIONS & FUTURE PERSPECTIVES

The study's limitations include a single-centre setting, a relatively small sample size, and a short study duration, which may limit the broader applicability of the results. Future studies should incorporate multi-centre designs with larger populations to enhance validity, assess long-term outcomes, and investigate advanced diagnostic and management approaches. Such efforts will improve overall patient care and help minimize complications.

## CLINICAL SIGNIFICANCE

This case emphasized the critical role of diagnostic hysteroscopy in the evaluation of infertility, particularly in patients with long-standing unexplained infertility or inconclusive imaging findings. It highlights that reliance solely on non-invasive modalities such as ultrasonography and HSG may lead to misdiagnosis or incomplete assessment. The identification of a bicornuate uterus and coexisting abdominal tuberculosis in this patient demonstrates the importance of direct visualization in detecting subtle and complex pathologies. Early and appropriate

use of laparoscopy can significantly alter clinical management by providing accurate diagnosis and enabling targeted treatment. It also helps in avoiding unnecessary interventions based on misleading imaging findings. Furthermore, in regions with high prevalence of tuberculosis, clinicians should maintain a high index of suspicion for genital tuberculosis as a cause of infertility. Overall, this case underlines the need for a comprehensive, stepwise, and individualized approach in infertility evaluation.

## ABBREVIATIONS

**PAS:** Placenta Accreta Spectrum

**PI:** Placenta Increta

**LSCS:** Lower Segment Cesarean Section

**USG:** Ultrasonography

**PPH:** Postpartum Hemorrhage

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All authors significantly contributed to the study conception and design, data acquisition, or data analysis and interpretation. They participated in drafting the manuscript or critically revising it for important intellectual content, consented to its submission to the current journal, provided final approval for the version to be published, and accepted responsibility for all aspects of the work. Additionally, all authors meet the authorship criteria outlined by the International Committee of Medical Journal Editors (ICMJE) guidelines.

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Authors declared that there is no conflict of interest.

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