Section: Radio-Diagnosis

Case Report

UTERINE RUPTURE IN THE ANTERIOR MYOMETRIUM FOLLOWING VAGINAL DELIVERY: A RARE POSTPARTUM COMPLICATION

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ABSTRACT

Background: Background: Uterine rupture is a rare but potentially life-threatening obstetric emergency, commonly associated with previous cesarean delivery or uterine trauma. Rupture of the anterior uterine wall following an unassisted vaginal delivery in an unscarred uterus is exceedingly rare. **Case Presentation:** We report a case of anterior uterine rupture in a G2P1L1 woman who underwent an uncomplicated vaginal delivery. The patient developed acute abdominal pain, vomitings and hemodynamic instability in the early postpartum period. Imaging raised suspicion of uterine rupture, which was confirmed intraoperatively. A full-thickness anterior myometrial defect with hemoperitoneum was identified and surgically repaired. The patient recovered without complications. **Conclusion:** Clinicians should maintain a high index of suspicion for uterine rupture in postpartum patients presenting with abdominal pain, vomitingsand hypovolemia, regardless of delivery route or scar history. Early diagnosis and prompt surgical intervention are crucial to avoid severe maternal morbidity and mortality.

INTRODUCTION

Uterine rupture is a serious obstetric complication most commonly associated with a scarred uterus, particularly in women undergoing a trial of labor after cesarean section (TOLAC). The incidence of uterine rupture in unscarred uteri is extremely low. Spontaneous rupture in the early postpartum period following an unassisted vaginal delivery is even rarer and is often unanticipated. This case report highlights a rare presentation of anterior myometrial rupture in the postpartum period following an uneventful vaginal delivery in a G2P1L1 woman with an unscarred uterus.

Case Presentation

A 23 -year-old G2P1L1 woman presented in spontaneous labor at term. Her antenatal course had been uneventful, and she had no history of uterine surgery, trauma, or known risk factors for uterine rupture. Labor progressed spontaneously, and she delivered a healthy 3.2 kg neonate via vaginal delivery with no complications. The placenta was delivered completely, and uterine tone was adequate.

Approximately after 4 hours postpartum, the patient complained of increasing lower abdominal pain, distension, vomitings and dizziness. On examination, she was tachycardic and hypotensive with a soft, distended abdomen. Uterine fundus was poorly palpable. There was minimal vaginal bleeding.

Ryles tube was inserted which showed ~ 800 ml of biliary aspirate.

Xray was taken which showed Pneumoperitoneum.

Urgent bedside ultrasonography revealed free fluid in the peritoneal cavity.

Patient was advised for CECT abdomen - Showed postpartum uterus with anterior myometrial wall defect in lower uterine segment - lower uterine segment rupture.

Moderate to gross hemoperitoneum. Mild to moderate pneumoperitoneum

A diagnosis of uterine rupture with hemoperitoneum and penumoperitoneum was considered, and the patient was taken for emergency laparotomy and obstretic hysterectomy.

Intraoperatively, approximately [800] mL of blood was found in the peritoneal cavity.

A full-thickness rupture was identified in the anterior myometrial wall, extending from the lower uterine

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segment to the right broad ligament uptomesosalpinx. There was no evidence of uterine anomalies or adhesions. The uterus was removed. The patient received blood transfusions intraoperatively and was monitored in the intensive care unit postoperatively. She made a full recovery and was discharged on postoperative day 12. She was counseled on the nature of the complication.

Figure 1: Ultrasound image shows gross free fluid in the peritoneal cavity. Fluid is represented by black small circle

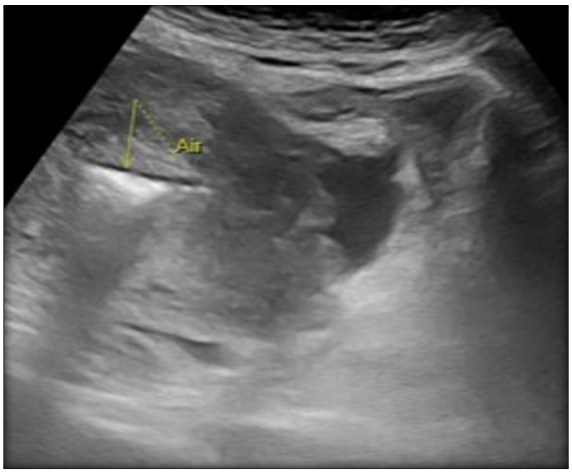

Figure 2: Ultrasound image showing linear hyperechoic air foci in the endometrial cavity

Figure 3: Contrast enhanced CT scan axial section, showing moderate free fluid in the peritoneal cavity. Fluid is marked with black arrows

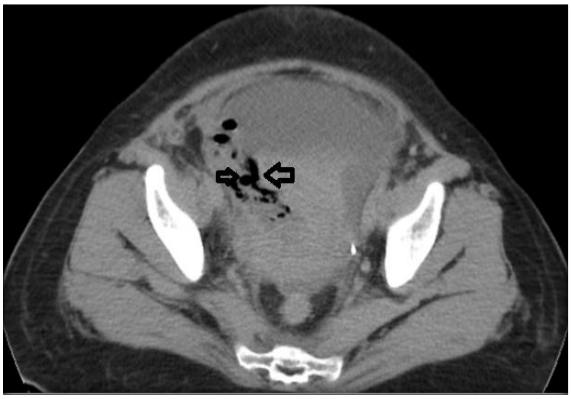

Figure 4: Contrast enhanced CT scan axial section, showing free air seen entering from anterior myometrium. Air is marked with black arrows

Figure 5: Contrast enhanced coronal CT showing air foci in the endometrial cavity. Air foci is marked with the black arrow

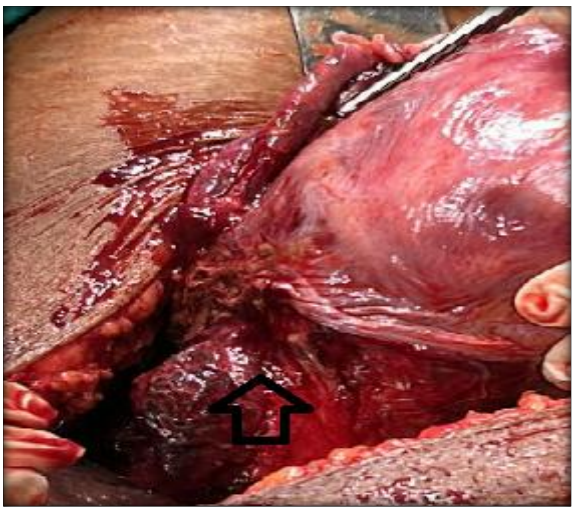

Figure 6: Intraoperative finding showing the rupture at the anterior myometrium in the lower segment

DISCUSSION

Uterine rupture is a rare and potentially catastrophic obstetric emergency, most frequently associated with previous uterine surgery, high parity, or obstructed labor. In women with an unscarred uterus and an uneventful vaginal delivery, the diagnosis is

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particularly challenging due to its rarity and atypical presentation. When rupture occurs in the early postpartum period, symptoms may be subtle and nonspecific, including abdominal pain, pallor, hypotension, vomiting and minimal vaginal bleeding—features that can be mistaken for more common postpartum conditions.

In our case, the patient presented with acute abdominal pain and signs of hypovolemic shock shortly after delivery, prompting consideration of intra-abdominal hemorrhage. While ultrasonography is typically the first-line imaging modality in postpartum evaluation, it may be limited by overlying bowel gas, uterine involution, or difficulty visualizing the anterior uterine wall. In such scenarios, contrast-enhanced computed tomography (CT) plays a crucial role in confirming the diagnosis. CT imaging can demonstrate discontinuity of the uterine wall, active contrast extravasation, and hemoperitoneum—findings that are highly suggestive of uterine rupture. In our patient, CT clearly revealed a defect in the anterior myometrium along with associated hemoperitoneum, allowing for rapid surgical planning. Several case reports have also documented the utility of CT in detecting uterine rupture when sonographic findings are equivocal or incomplete.

The timely use of CT in our case not only expedited the diagnosis but also guided urgent surgical intervention, minimizing maternal morbidity. Thus, in postpartum patients presenting with hemodynamic instability and inconclusive ultrasound findings, CT should be considered a vital diagnostic tool, particularly in differentiating uterine rupture from other causes of acute abdomen such as uterine inversion, retained products, or hematomas.

CONCLUSION

This case underscores the importance of maintaining clinical vigilance for uterine rupture even in low-risk postpartum women. Sudden abdominal pain, vomitings and signs of hypovolemia after delivery, especially in the absence of vaginal bleeding, should prompt consideration of intra-abdominal hemorrhage and potential uterine rupture. Early imaging, prompt surgical intervention, and supportive care are essential in ensuring optimal outcomes.

Conflicts of Interest

The authors declare no conflicts of interest.

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REFERENCES

1. Roth C, et al. Eur J Radiol. 2009;70(3):e129–e133.
2. Lopes FPPL, et al. Radiol Bras. 2015;48(6):376–82.
3. Peng YH, et al. Acta Radiol Short Rep. 2014;3(10):2047981614554845.
4. Balci O, et al. J Obstet Gynaecol Res. 2011;37(8):1087–90.
5. Chou MM, Ho ES. J Obstet Gynaecol Res. 2005;31(5):434–8.
6. Abbas F, et al. J Coll Physicians Surg Pak. 2017;27(5):S65–7.
7. Catry F, Geusens E, Vanbeckevoort D, Volders W, Spitz B. Delivery related rupture of the gravid uterus: imaging findings: a case report. Abdom Imaging. 2004 Jan;29(1):120–2. doi: 10.1007/s00261-003-0063-5.
8. Has R, Topuz S, Kalelioglu I, Tagrikulu D. Imaging features of postpartum uterine rupture: a case report. Abdom Imaging. 2008 Jan;33(1):101–3. doi: 10.1007/s00261-007-9206-4.
9. Hamidi H. Unexpected uterine rupture: a case report. Cureus. 2023 Mar 10;15(3):e36229. doi: 10.7759/cureus.36229.

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