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Case Report

Crossing the line: unprotected and unseen; vasa previa and the perils of fetal vessel rupture

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ABSTRACT

Vasa previa is a rare but life-threatening obstetric condition in which unprotected fetal vessels traverse the fetal membranes near the cervical OS, predisposing them to rupture during labor or membrane rupture. We present the case of a 39-year-old gravida 3 para 2 woman at 39 weeks gestation with a history of assisted reproductive technology conception and a low-lying placenta. Following induction of labor and artificial rupture of membranes, she developed sudden vaginal bleeding with fetal bradycardia. Emergency cesarean section was performed under general anesthesia. The patient experienced massive peripartum hemorrhage requiring transfusion of multiple blood products, vasopressor support, and insertion of a bakri balloon. Placental examination revealed velamentous cord insertion with an accessory lobe consistent with vasa previa. The neonate, delivered with low APGAR scores, required intubation and NICU admission but recovered successfully. Both mother and infant were discharged in stable condition, with favorable outcomes on follow-up. This case underscores the critical importance of early recognition, timely intervention, and multidisciplinary management in vasa previa to prevent catastrophic maternal and fetal morbidity and mortality.

Keywords: Antepartum haemorrhage, Vasa previa, Fetal exsanguination, Haemorrhagic shock, Intubation, Ventilation

INTRODUCTION

Vasa previa is an uncommon but potentially catastrophic obstetric condition in which fetal blood vessels traverse the membranes over the cervical OS without protection from Wharton's jelly or placental tissue.[1,2] These unprotected vessels are highly vulnerable to rupture during labor or membrane rupture, leading to rapid fetal blood loss and significant maternal hemorrhage.[1] Vasa previa can cause catastrophic complications not only to the fetus but also to the mother, including massive antepartum hemorrhage requiring transfusion of multiple blood products.[1-3] Risk factors include velamentous cord insertion, multi-lobed placenta, low-lying placenta, and pregnancies conceived via assisted reproductive technology (ART).[5-9] Prenatal diagnosis using a combination of abdominal and transvaginal ultrasound, particularly with color doppler imaging, significantly improves outcomes, with a reported sensitivity of 100% and specificity of 99.8%.[7] MRI may be useful when ultrasonography is inconclusive.[8]

Early recognition and timely intervention are critical because rupture of the unprotected fetal vessels can result in rapid fetal exsanguination, stillbirth, or severe maternal

hemorrhage.[2-4] Vasa previa cannot be diagnosed through physical examination alone, making imaging essential. Despite regular prenatal follow-up, cases can still present acutely, underscoring the need for vigilance, especially in high-risk pregnancies. This report presents a case of vasa previa causing massive peripartum hemorrhage with favorable maternal and neonatal outcomes.

CASE REPORT

A 39-year-old woman, gravida 3 para 2, was admitted at 39 weeks gestation in labor. Her obstetric history included one normal vaginal delivery and one ectopic pregnancy treated with laparoscopic left salpingectomy. The current pregnancy was conceived via ART. Antenatal ultrasound at 31 weeks revealed a low-lying placenta with normal doppler waveforms (Table 1). The patient had a history of hypertension, controlled on medication.

Table 1: Maternal demographic details and obstetric history of the patient. ART: assisted reproductive technology.

Parameter	Details
Age	39 years
Gravida/para	G3p2
Previous obstetric history	1 normal vaginal delivery, 1 ectopic pregnancy (left salpingectomy)
Current pregnancy	Conceived via ART
Antenatal findings	Low-lying placenta at 31 weeks
Comorbidities	Hypertension (on treatment)

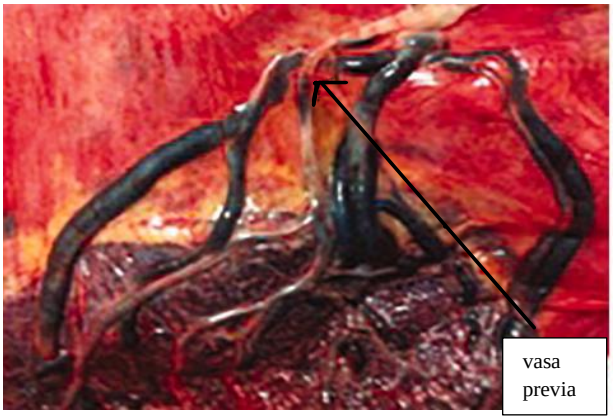

Figure 1: Intraoperative view of the placenta demonstrating velamentous cord insertion with an accessory lobe, consistent with vasa previa. The unprotected fetal vessels (arrows) traverse the fetal membranes near the cervical OS, highlighting the high risk of rupture and fetal hemorrhage.

Given her obstetric history and low-lying placenta, elective induction of labor with oxytocin was planned. Following artificial rupture of membranes, the patient experienced a sudden gush of vaginal blood with fetal bradycardia. Vasa previa was suspected, prompting emergency cesarean section under general anesthesia, maintained with propofol and inhalational anesthetics, along with simultaneous resuscitation using blood and blood products.[8,9] The mother's estimated blood loss was 3.9 liters. She received eight units of packed red blood cells, six units of fresh frozen plasma, twelve units of platelet concentrates, four grams of fibrinogen, and two grams of tranexamic acid. Hemodynamic support included a phenylephrine infusion and insertion of a bakri balloon to control ongoing bleeding. Placental examination confirmed velamentous cord insertion with an accessory lobe, consistent with vasa previa (Table 2 and Figure 1).

Table 2: Summary of peripartum events, interventions, and placental findings. PRBC: packed red blood cells, FFP: fresh frozen plasma.

Event/parameter	Details
Gestational age at delivery	39 weeks
Onset of labor	Induced with oxytocin
Trigger event	Assisted rupture of membranes → sudden vaginal bleed and fetal bradycardia
Mode of delivery	Emergency cesarean section under general anesthesia
Estimated blood loss	3.9 liters
Blood products administered	8 units PRBC, 6 units FFP, 12 units platelets, 4 g fibrinogen, 2 g tranexamic acid
Hemodynamic support	Phenylephrine infusion
Additional intervention	Bakri balloon insertion
Placental findings	Velamentous cord insertion with extra lobe (vasa previa)

Table 3: Neonatal condition and interventions immediately post-delivery. NICU: neonatal intensive care unit.

Parameter	Details
APGAR score	1 min: 2,5 min: 5,10 min: 6
Birth weight	(insert actual weight)
Initial management	Intubation and NICU transfer
Duration of ventilation	Extubated on day 3
Outcome	Stable and discharged with mother

The neonate was pale with low APGAR scores (1 min: 2, 5 min: 5,10 min: 6), requiring intubation and NICU admission (Table 3). The neonate was successfully extubated on day 3. Both mother and baby were discharged on day 5 and remain well on follow-up.

DISCUSSION

Vasa previa, from Latin "vasa" meaning blood vessels, "prae" meaning prior, and "via" meaning passage, is a pathological condition in which fetal vessels traverse the membranes near the cervical OS unprotected by Wharton's jelly or placental tissue.[2,3] There are two types: Type 1 involves velamentous cord insertion (seen in our case), and Type 2 is associated with a multi-lobed placenta, where vessels connecting lobes travel near the cervix.[4]

During membrane rupture or repeated uterine contractions, fetal vessels may be compressed, leading to thrombosis or rupture, resulting in catastrophic fetal hemorrhage.[4] Risk factors include velamentous cord insertion, multi-lobed placenta, low-lying placenta, and ART conception.[5] In our patient, three risk factors were present: velamentous cord insertion, multi-lobed placenta, and ART conception (Table 4).

Table 4: Key risk factors for vasa previa observed in this patient. ART: assisted reproductive technology.

Risk factor	Present in this case
Velamentous cord insertion	Yes
Multi-lobed placenta	Yes
Low-lying placenta	Yes
ART pregnancy	Yes
Prior cesarean section	No

Awareness of vasa previa among healthcare providers remains limited. Surveys show significant gaps in knowledge and experience, highlighting the need for targeted education.[6] Early antenatal diagnosis using transvaginal ultrasound with color doppler, and in selected cases MRI, allows planning of delivery before membrane rupture.[7,8] Elective cesarean delivery is recommended prior to labor onset, typically between 34-36 weeks, along with steroid administration from 32 weeks to enhance fetal lung maturity.[11] In our case, membrane rupture prompted an emergency cesarean section with aggressive resuscitation, resulting in favorable maternal and neonatal outcomes. This underscores the importance of timely recognition, multidisciplinary management, and readiness with blood products to prevent mortality.

CONCLUSION

Vasa previa is a rare but potentially life-threatening obstetric condition that can cause rapid fetal exsanguination and massive maternal hemorrhage if undiagnosed. This case highlights the critical importance of early recognition through antenatal imaging, especially in high-risk pregnancies with velamentous cord insertion, multi-lobed placenta, low-lying placenta, or ART conception. Timely intervention with cesarean delivery before membrane rupture, along with readiness for aggressive maternal resuscitation, can result in favorable maternal and neonatal outcomes. By documenting a successful management of massive peripartum hemorrhage due to vasa previa, this report underscores the value of multidisciplinary coordination, prenatal screening, and heightened clinical vigilance, thereby advancing understanding of optimal strategies to prevent catastrophic morbidity and mortality in similar high-risk cases.

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REFERENCES

1. Datta S, Babu KM, Mitra S, Patil D. Vasa previa: an avoidable obstetric tragedy. J Obstet Gynaecol India. 2015;66(3):185-7.
2. Oyelese Y, Javinani A, Shamshiraz AA. Vasa previa. Obstet Gynecol. 2023;142(3):503-18.
3. Donnolley N, Halliday EL, Oyelese Y. Vasa previa: a descriptive review of existing literature and the evolving role of ultrasound in prenatal screening. Australas J Ultrasound Med. 2015;16(2):71-6.
4. Oyelese Y. Vasa previa: time to make a difference. Am J Obstet Gynecol. 2019;221(6):539-41.
5. Ruiter L, Limpens J, Kok N, Derks JB, de Graaf IM, Mol B, et al. Incidence of and risk indicators for vasa previa: a systematic review. BJOG. 2016;123(8):1278-87.
6. Ioannou C, Wayne C. Diagnosis and management of vasa previa: a questionnaire survey. Ultrasound Obstet Gynecol. 2010;35(2):205-9.
7. Ruiter L, Kok N, Limpens J, Derks JB, de Graaf IM, Pajkrt E, et al. Systematic review of accuracy of ultrasound in the diagnosis of vasa previa. Ultrasound Obstet Gynecol. 2015;45(5):516-22.
8. Wu J, Gahman F. MRI prenatal diagnosis for vasa previa when ultrasonography is inconclusive. 2022.
9. Sullivan EA, Javid N, Duncombe G, Li Z, Safi N, Cincotta R, et al. Vasa previa diagnosis, clinical practice and outcome in Australia. Obstet Gynecol. 2017;130(3):591-8.
10. Silver RM. Abnormal placentation: placenta previa, vasa previa and placenta accreta. Obstet Gynecol. 2015;126(3):654-8.
11. Gagnon R. Guidelines for the management of vasa previa. J Obstet Gynaecol Can. 2017;39(10):e415-21.

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