

## CLINICAL IMAGE

# A rare type of vasa previa

Takeya Hara | Shinya Matsuzaki  | Aiko Kakigano | Kazuya Mimura |  
Tsuyoshi Takiuchi | Tadashi Kimura

Department of Obstetrics and Gynecology, Osaka University Graduate School of Medicine, Osaka, Japan

**Correspondence**

Shinya Matsuzaki, Department of Obstetrics and Gynecology, Osaka University Graduate School of Medicine, 2-2 Yamadaoka, Suita, Osaka 565-0871, Japan.  
Email: zacky@gyne.med.osaka-u.ac.jp

**Abstract**

Vasa previa is associated with high fetal morbidity and mortality rates. Although early diagnosis is important, rare types (non-type I and II) of vasa previa are diagnostically challenging. Our reconstructed images of the rare type of vasa previa are educational and could help clinicians to clinically diagnose this condition.

**KEYWORDS**

rare type, three-dimensional image, vasa previa

## 1 | CASE

A 36-year-old patient with gravida 2, para 1 was referred to our hospital at 31 weeks of gestation following in vitro fertilization. She presented with low-lying placenta and velamentous cord insertion, succenturiate lobe, and/or multi-lobed placenta were not identified. However, transvaginal color Doppler ultrasonography revealed the presence of vasa previa (VP) (Figure 1A). Despite considerable efforts, we were unable to classify the type of VP or confirm the pathway of the cord vessels. Cesarean section was successfully performed at 34 weeks of pregnancy without any complications. After placental expulsion, gross findings showed that a part of the placenta was defective, and the cord vessels in this part were passing through the placental membranes without Wharton's jelly (Figure 1B). The lower segment of the placental membranes was not ruptured during cesarean section; therefore, we were able to fill the placenta and membrane with water to restore the course of the cord vessels back to what it was during pregnancy (Figure 1C,D).<sup>1</sup> This case emphasizes that careful examination is warranted to diagnose VP, even after excluding type I and II VP. As previously reported, non-type I and II VP are rare conditions,<sup>2</sup>

and our previous gross findings of type I VP<sup>1,3,4</sup> and this report will help readers gain a better understanding of this rare condition.

**ACKNOWLEDGMENTS**

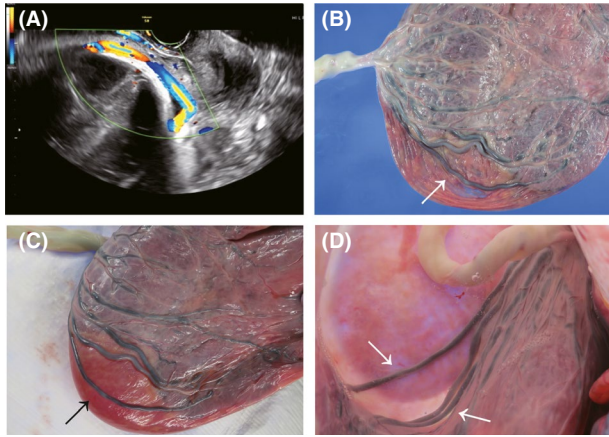
The authors thank H. Abe and K. Sakiyama for their administrative assistance in the preparation of this manuscript.

**CONFLICT OF INTEREST**

The authors declare no conflicts of interest or relevant financial relationships related to this study.

**AUTHOR CONTRIBUTIONS**

TH, SM, AK, KM, and TT: made substantial contributions to the conception and design of this manuscript, collected the clinical data, and drafted and revised the manuscript. Tadashi Kimura conceived and generally supervised the study and gave final approval for the publication of this manuscript. All authors have read and approved the final manuscript.



**FIGURE 1** A, Transvaginal color Doppler ultrasonography showing the posterior low-lying placenta with a cord vessel covering the internal cervical os. The placenta was located on the posterior wall of the uterus. Notably, velamentous cord insertion, succenturiate lobe, and/or multilobed placenta are not observed; therefore, type I and II of vasa previa was excluded. B, Marginal cord insertion is observed, and the white arrow indicates a cord vessel running along the extraplacental membranes without Wharton's jelly. C, We were careful not to cause extensive damage to the lower segment of the placental membrane during cesarean delivery. After delivery, we filled the placenta and membranes with water to visualize the three-dimensional images of the cord vessels. These procedures successfully restored the positional relationship of the cord vessels during pregnancy. The outer surface of the placenta shows a few cord vessels. The black arrow indicates the cord vessels running in placental membranes. D, The inner surface of the placenta is filled with water (fetal view). The white arrows indicate the cord vessels located in the placental membranes

## INFORMED CONSENT

The patient provided written informed consent for the publication of the details of the diagnosis.

## ORCID

Shinya Matsuzaki  <https://orcid.org/0000-0001-5725-9994>

## REFERENCES

1. Matsuzaki S, Kakigano A, Mimura K, Nagase Y, Endo M, Kimura T. Gross image of vasa previa restored in the postpartum period. *Clin Case Rep.* 2019;7:383-384.
2. Derbala Y, Grochal F, Jeanty P. Vasa previa. *J Prenat Med.* 2007;1:2-13.
3. Matsuzaki S, Endo M, Kimura T. Vasa previa with an intact amniotic membrane. *Am J Obstet Gynecol.* 2017;216(616):e1-e2.
4. Matsuzaki S, Kimura T. Vasa previa. *N Engl J Med.* 2019;380:274.

**How to cite this article:** Hara T, Matsuzaki S, Kakigano A, Mimura K, Takiuchi T, Kimura T. A rare type of vasa previa. *Clin Case Rep.* 2019;7:2263–2264. <https://doi.org/10.1002/ccr3.2446>