

**CLINICAL IMAGE**

# Gross image of vasa previa restored in the postpartum period

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**Key Clinical Message**

Vasa previa has been represented in many reports only by images of the placenta with velamentous cord insertion after delivery. Our image of the restored membranous vessels with an intact membrane of the uterine lower segment is educational and should help readers to visualize vasa previa.

**KEYWORDS**

gross image, three-dimensional image, vasa previa, velamentous cord

## 1 | CASE

A 42-year-old woman (gravida 2, para 1) was referred to our hospital because of ultrasonographic identification of type I vasa previa (Figure 1A, the white arrow) without a short cervix at gestational week 31. Velamentous cord insertion was observed, and the vessels ran along the anterior wall of the uterus. No other obstetric complications were observed. A healthy male infant (2348 g) was delivered at gestational week 35 by elective cesarean delivery with uterine vertical incision without antenatal corticosteroid administration. No acute neonatal complications were observed. The lower segment uterine membranes were not ruptured during the cesarean delivery, and velamentous cord insertion was confirmed after delivery (Figure 1B). Water was filled to the placenta and membranes, and details of the vasa previa present during pregnancy were restored in a gross image (Figures 1C-E).

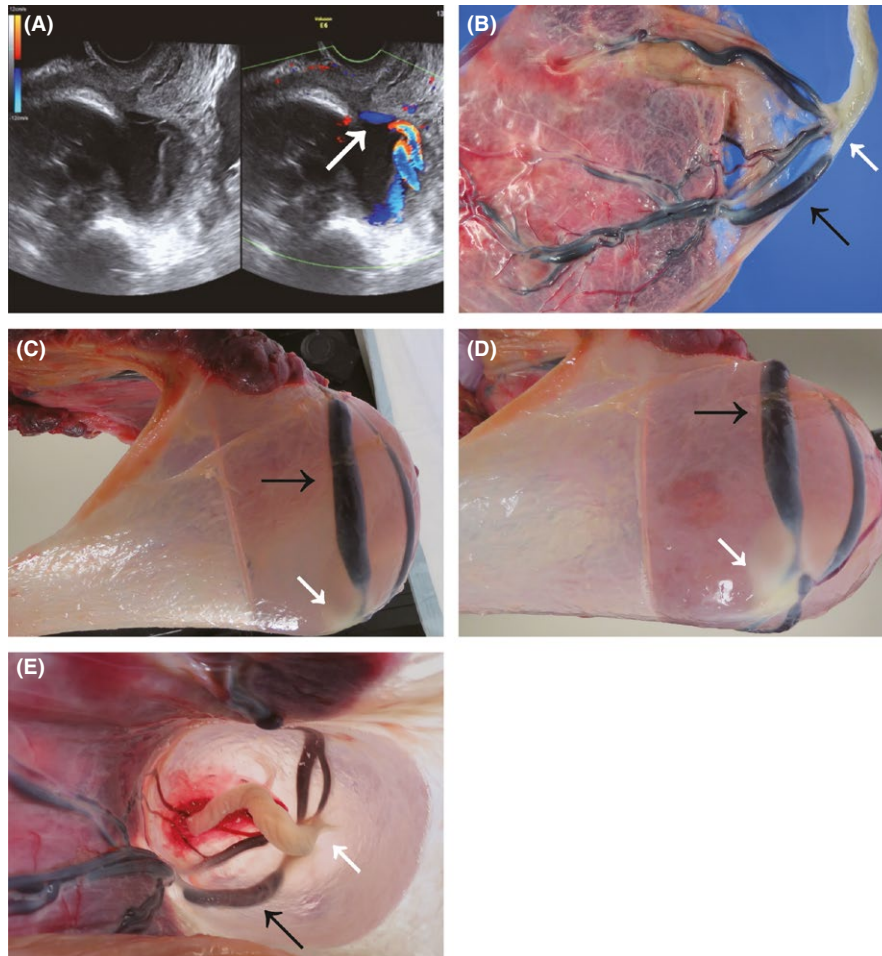
Vasa previa is associated with high fetal and neonatal death rates.<sup>1,2</sup> Most previous reports showed only two-dimensional gross images. Therefore, we present three-dimensional images of the cord with placental images after delivery. We previously presented a case of vasa previa with a surgically resected uterus due to placenta accreta.<sup>3</sup> These two cases may help clinicians visualize and understand vasa previa.

## CONFLICT OF INTEREST

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

## INFORMED CONSENT

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



**FIGURE 1** Transabdominal ultrasonography image showing the placenta located on the anterior wall of the uterus and velamentous cord insertion. A, Subsequent transvaginal ultrasonography image shows the presence of fetal blood vessels in the membranes covering the internal cervical os. Transvaginal color Doppler sonography shows flow within the veins overrunning the internal cervical os and the artery near the internal cervical os. Gross findings of the placenta: (B) Velamentous cord insertion is confirmed, and cord vessels run along the membrane for approximately 5 cm. The black arrow indicates the cord vessel running through the extra-placenta membrane without Wharton's jelly. The white arrow indicates the umbilical cord. We filled the placenta with water to restore the positional relationship during pregnancy. (C) Outside view of the gross findings. We believe this vessel (black arrow) was a vein and overran the internal cervical os during the pregnancy. The white arrow indicates some membranous vessels that merged and formed the umbilical cord. (D) Another outside view of C. (E) Inside view of B and C (fetal view). The black arrow indicates the cord vessel running along the amniotic membrane. The white arrow indicates the umbilical cord

## AUTHOR CONTRIBUTIONS

SM, AK, YN, and KM: made substantial contributions to the conception and design of this manuscript, collected the clinical data, and drafted and revised the manuscript. ME: helped in drafting the manuscript and responded to the submission requirements. TK: 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.

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