

Eun Byeol Jo<sup>1</sup>, In Yeong Jo<sup>1</sup>, Hee Young Bang<sup>1</sup>, Seo Young Park<sup>1</sup>, Myeong Gyun Choi<sup>1</sup>,  
Jong Woon Kim<sup>1</sup>, Yoon Ha Kim<sup>1,\*</sup>

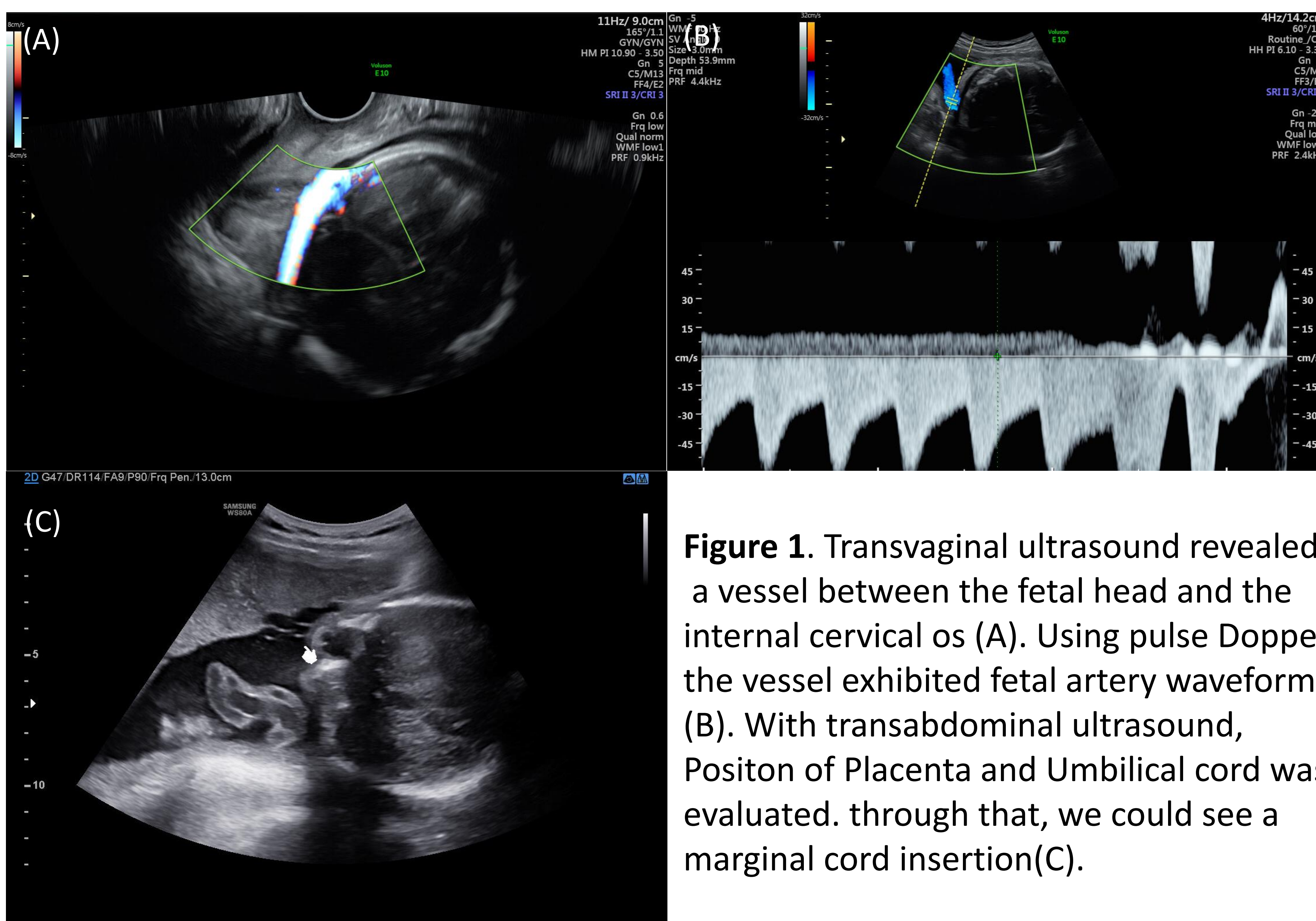
<sup>1</sup> Department of Obstetrics and Gynecology, Chonnam National University Hospital, Gwanju

## ABSTRACT

Vasa previa is a rare complication in which fetal blood vessels are located on fetal membranes near the internal cervical os. In general, vasa previa has been classified into two types. Type 1 occurs with a velamentous cord insertion and Type 2 occurs with bilobed or succenturiated lobe placenta. In this case, vasa previa that cannot be classified into two types was shown.

A 28-year-old nulliparous woman who had conceived spontaneously was referred to our hospital at 30 weeks' gestation. After referral to our hospital, Transvaginal ultrasound examination revealed a fetal vessel near the internal cervical os that had pulsation (Figure 1A,B). Position and morphology of the placenta were normal with a marginal cord insertion. At 36 weeks' gestation, Scheduled cesarean section was performed and a healthy male neonate weighing 2460g was born. After delivery, fetal vessels running over the internal cervical os were seen (Figure 2). Gross finding after operation revealed a part of the membranous fetal vessels meandering (Figure 3).

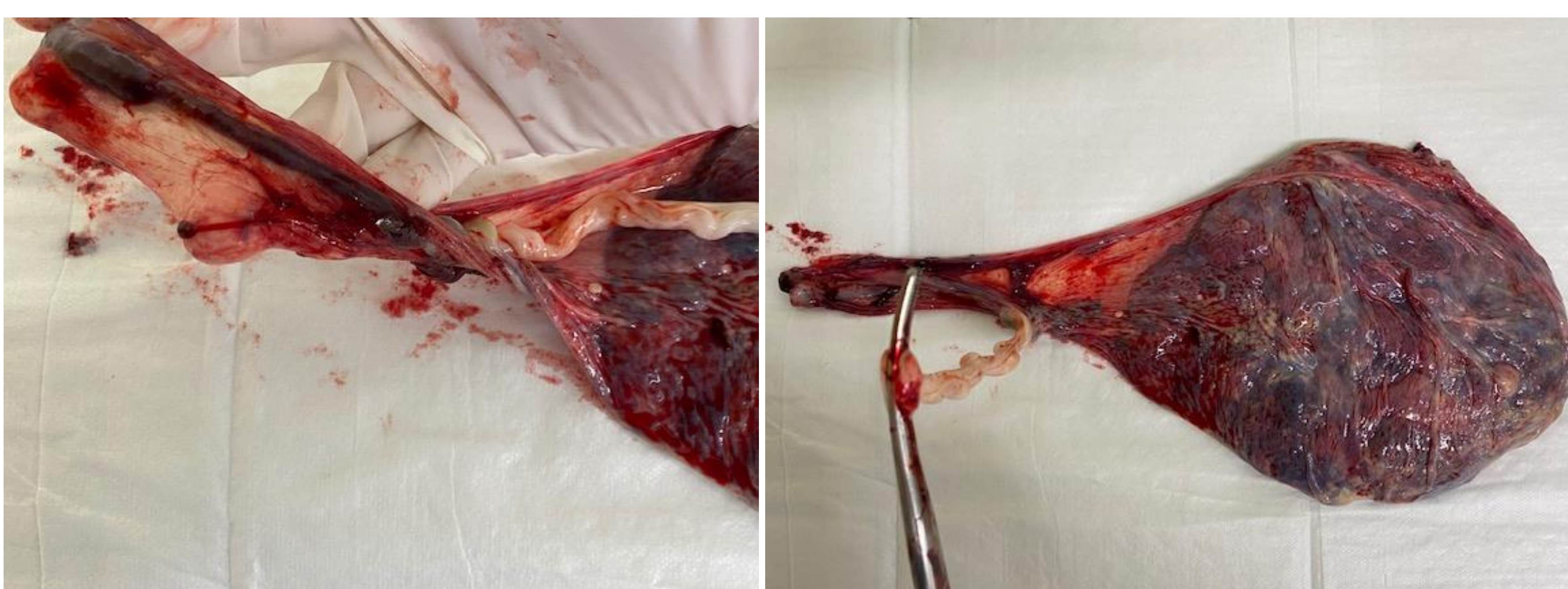
Severe case reports were mentioned this type of vasa previa, especially in Japan. Single center study in Japan, total 14 cases of vasa previa, there were 5 cases of this unusual case (in this report, named type 3 vasa previa). This results suggest that type 3 vasa previa may account for a large portion of vasa previa. ISUOG and SMFM guideline recommend that at second-trimester, clinicians should evaluate the morphology and location of placenta and the relationship between the placenta and internal cervical os. However, no complication were found for the placenta and cord insertion, but vasa previa can be detected like our case. So clinicians should be aware that atypical vasa previa is also possible and should perform transvaginal ultrasonography using color or pulse Doppler.



**Figure 1.** Transvaginal ultrasound revealed a vessel between the fetal head and the internal cervical os (A). Using pulse Doppler, the vessel exhibited fetal artery waveforms (B). With transabdominal ultrasound, Position of Placenta and Umbilical cord was evaluated. through that, we could see a marginal cord insertion (C).



**Figure 2.** Intraoperative findings indicated that the fetal vessels were found in the exposed amniotic membrane. Fetal vessels was running over the internal cervical os.



**Figure 3.** Gross finding of the placenta after delivery. A part of membranous fetal vessels (left side of the figure) was meandering (other end of fetal vessel was injured during operation)