

Case Report

Recurrent Vasa Previa: The Importance of History Based Screening

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Abstract

Vasa previa is a rare form of abnormal placentation that if not detected in a timely manner can have catastrophic consequences. We present a 32-year-old Gravida 3 Para 2, whose pregnancy has been complicated by 3 consecutive instances of a vasa previa. This case highlights the benefits of history-based screening.

ABBREVIATIONS

IVF: In Vitro Fertilization

INTRODUCTION

Vasa previa is a rare but life threatening form of abnormal placentation that is found in the literature at a rate of 1:2500 – 1:5000 deliveries [1-14] and 1 in 202 deliveries in pregnancies resulting from IVF [2]. With the increasing incidence of cesarean deliveries both in the United States and globally, the occurrence of abnormal placentation has increased. Abnormal placentation can be identified in the antepartum period or incidentally intrapartum following rupture of membranes or spontaneous labor. Antenatally diagnosed vasa previa is associated with greater fetal survival 97% versus 44% and decreased fetal transfusion rates 3.4% versus 58.5%, respectively [3]. Increased awareness of this phenomenon has led to the argument for targeted screening for vasa previa in high-risk patients. Risk factors associated with vasa previa include low lying placenta in the second trimester, multiple gestations, succenturiate placenta and in vitro fertilization [7,10,14].

An extensive literature search was completed with Mesh Terms: “recurrent” and “vasa previa”. No cases of recurrent vasa previa were found. We present a rare case of recurrent vasa previa starting from the patient’s first pregnancy to the most recent occurrence. This case highlights the importance of considering screening in patients with a history of a single gestation complicated by vasa previa.

CASE PRESENTATION

32-year-old female, whose first pregnancy was complicated by a bleeding vasa previa at 38/5 weeks of gestation. Patient had a known placenta previa and presented to Labor and Delivery with

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a presumed placental abruption. At the time of the subsequent primary low transverse cesarean intraoperative diagnosis of a vasa previa was made. Ultimately the neonate required a postoperative blood transfusion due to excessive blood loss. During the patient’s second pregnancy she underwent a repeat low transverse cesarean. Again the patient had a known placenta previa, however at the time of surgery an overt vasa previa was noted.

Initial prenatal care for this pregnancy began at 8 weeks gestation. The patient underwent a routine anatomy ultrasound in her second trimester, which demonstrated a vasa previa seen with color Doppler mapping (Figure 1). In addition, the body of the placenta was located at the fundus of the uterus consistent with a concealed bi-lobed placenta. The patient presented to our institution at 30/1wks for admission secondary to this known vasa previa. Antenatal care plan included delivery at 34-35wks with antenatal corticosteroid administration at 28 and 32 weeks respectively. After admission the patient received a second course of antenatal corticosteroids, intermittently contracted and at one point was started on Nifedipine for tocolysis.

At 34wks and 1 day she underwent a repeat low transverse cesarean section. Before entry into the uterus, the lower uterine segment was appreciated to be extremely thin. Additionally, the placenta was noted to be anterior. The neonate was delivered from cephalic presentation, APGARs of 8/9, weighing 2121g (4lbs 10.8oz). Was subsequently admitted to the neonatal intensive care unit secondary to prematurity. Upon further investigation, the placenta was noted to have a velamentous cord insertion and confirmed to be bi-lobed. The umbilical cord was noted to be traversing the cervical os (Figure 2).

Pathology demonstrated a bi-lobed placenta with a velamentous cord insertion 12cm to the closest placental margin

(Figure 3), the maternal surface showed only a scant dark-red blood clot that stripped away easily.

The patient had an uncomplicated postoperative course. No further transfusions were needed for the neonate based on maternal stability, and was discharged from the NICU at 22 days of life.

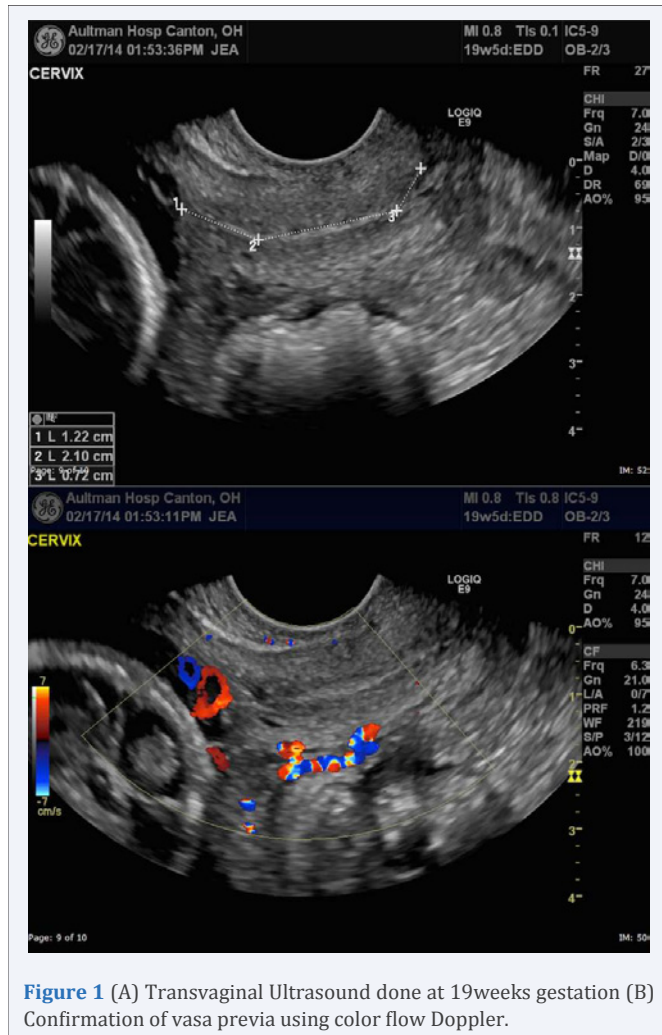


Figure 1 (A) Transvaginal Ultrasound done at 19weeks gestation (B) Confirmation of vasa previa using color flow Doppler.



Figure 2 Aberrant vessels noted to be traversing the cervical os at the time of surgery.



Figure 3 Identification of succenturiate lobe on placenta and vessels contributing to diagnosis of vasa previa.

DISCUSSION

Risk factors for vasa previa have been identified in the literature. Case reports have demonstrated a higher incidence of vasa previa in pregnancies conceived by IVF [2], placenta previa in the second trimester, bi-lobed and succenturiate placentas [2,7-15].

The importance of identifying vasa previa in the second trimester lies in the increased risk of neonatal morbidity if not detected. Studies have demonstrated that bleeding of even 100mL is sufficient to cause fetal death and shock [6].

Antenatal diagnosis is imperative to maintain fetal and maternal safety during the duration of the pregnancy. Multiple modalities remain available for antenatal diagnosis, including transvaginal ultrasound, MRI and amnioscopy [3]. Furthermore diagnosis of a vasa previa has been made by palpation of vessels on digital examination, or by identification of fetal blood in the vaginal vault intrapartum. Current recommendations suggest that high-risk women undergo transvaginal ultrasound with color Doppler routinely in the second trimester. The literature demonstrates that this technique can identify up to 99% of abnormal placentation when performed between 18-20 weeks [4-6].

With improved antenatal diagnosis, the ability for emergent delivery and aggressive neonatal resuscitation survival rates has increased dramatically. Aberrant vessels regress in approximately 15% of cases and therefore serial color Doppler ultrasounds are recommended [12,13].

Although risk factors for Vasa previa have been outlined in the literature and well studied, our case represents the value of history-based screening. Lending to the importance of recognizing that, although rare a vasa previa can recur in subsequent pregnancies. This could be an additive risk factor to take into consideration when completing second trimester ultrasounds in high-risk pregnancies with a history of vasa previa.

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