

Cervical varicosities, an uncommon cause of third-trimester bleeding in pregnancy: A case report

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ABSTRACT

Cervical varicosities are dilated cervical veins and are uncommon causes of third-trimester vaginal bleeding. Early identification of patients with cervical varices is critical to prevent postpartum hemorrhage, which increases the risk of maternal morbidity and mortality. This is a case report of a 30-year-old woman, gravida 2 para 1, who presented to the labor and delivery unit at 35 weeks 6 days of gestation with a singleton pregnancy with vaginal bleeding. She underwent a pelvic exam under anesthesia and was found to have a 5x5 cm mass of varicosities protruding from the external cervical os, extending over the anterior vaginal lip to the anterior vaginal fornix. A decision was made to deliver via cesarean section. Intraoperative findings were significant for 800 cc of blood loss and a 5-6 cm right ovarian teratoma, which was excised. The patient received two units of packed red blood cells for acute blood-loss anemia postoperatively. This case is unique as the patient had none of the established risk factors for the development of cervical varices. Due to the risks of hemorrhage, morbidity and mortality, physicians and healthcare providers should include cervical varices in their differential diagnoses of patients who present with vaginal bleeding.

1. Introduction

Cervical varicosities are dilated, edematous veins in the uterine cervix and are rare causes of vaginal bleeding during pregnancy [1]. Varicose veins commonly occur in pregnant women due to the associated hormonal and hemodynamic changes, but they are mostly present in the bilateral lower extremities [1,2]. Increased intravascular volume and increased compression of the inferior vena cava and pelvic veins by the gravid uterus all promote venous stasis and dilation, which can lead to varicose veins in dependent areas [1,3–5]. In addition to the lower extremities, varicosities are also frequently found in the hemorrhoidal plexus as well as the vulva and perivulvar veins; specifically, about 15% of pregnancies are complicated by vulvar varicosities [4,5]. Cervical varicosities are extremely rare complications of pregnancies, and few cases have been reported [1,4–18]. These case reports document any associated medical conditions and discuss potential risk factors for the development of cervical varicosities.

We report a case of a pregnant woman who presented with painless third-trimester vaginal bleeding secondary to a cervical varix. A cesarean delivery was performed at term due to the risk of hemorrhage

secondary to rupture of the varix. This case is significant because the patient did not present with any of the associated risk factors documented in past literature. The patient gave written consent for the publication of this case report and the use of clinical photos, which were taken with a hospital-approved, HIPAA-compliant camera.

2. Case Presentation

A 30-year-old woman, gravida 2 para 1, presented at 35 weeks 6 days of gestation with a singleton pregnancy to the labor and delivery unit with vaginal bleeding. She reported a single episode of bleeding with passage of a clot (about the size of a US quarter) with no inciting events. Her laboratory results showed a stable hemoglobin level and no sign of a placental abruption on ultrasound or laboratory studies. Fetal antepartum testing was reassuring, besides initial contractions, which improved with intravenous fluid hydration. On sterile vaginal examination, a 2 cm clot was noted in the vaginal vault with no active bleeding noted. The cervix was noted to be normal in appearance. She was 1 cm dilated, 30% effaced and at –3 station with intact membranes. She was found to be stable and preterm labor was ruled out. The patient was

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discharged with return precautions.

Patient returned at 36 weeks 3 days with a second episode of vaginal bleeding. She reported a larger quantity of blood loss during this episode, with increasing uterine contractions. On the speculum exam, there was a new bluish discoloration and hyperemia of the anterior lip of the cervix. The examination was limited due to patient discomfort, thus ultrasonography was performed in order to better characterize the lesion. Transvaginal ultrasound showed a normal posterior placenta and hypervascular cervix. Fetal antepartum testing was reassuring, but a plan was made to perform an exam under anesthesia for better characterization and visualization. A 5x5 cm mass of varicosities was found protruding from the external cervical os extending over the anterior vaginal lip to the anterior vaginal fornix (see Fig. 1). Maternal fetal medicine was consulted and due to risk of hemorrhage, the decision was made to proceed with cesarean delivery. The patient underwent a primary low transverse cesarean delivery and bilateral tubal ligation under regional spinal anesthesia. Notable intra-operative findings included a 5–6 cm right ovarian teratoma, which was removed during the procedure.

The pregnancy yielded a healthy male infant with Apgar scores of 9 and 9 at 1 and 5 min, respectively, and a weight of 3050 g. Estimated blood loss was 800 cc. The patient received two units of packed red blood cells for acute blood-loss anemia. She was discharged on post-operative day 3 in stable condition.

The patient was seen for a postpartum check-up in the women's health clinic 5 weeks after discharge. No cervical varices were seen on pelvic exam. Bimanual exam revealed normal adnexa and uterus. She was doing well with no complaints and denied any episodes of vaginal bleeding. Placental pathology showed a mature placenta with a tri-vascular umbilical cord and unremarkable membrane. Right ovarian cyst pathology reported a mature cystic teratoma. Bilateral fallopian tubes were unremarkable. The patient was satisfied with her treatment outcome.

3. Discussion

Cervical varicosities are rare causes of postpartum hemorrhage and vaginal bleeding during pregnancy. Published case reports discuss medical conditions that are associated with cervical varicosities, and suggest them as potential risk factors. Significantly, the present patient had none of these risk factors.

According to past case reports, there is a high association of placenta previa or low-lying placentas in pregnant patients diagnosed with cervical varicosities [1,5,10–12,15]. This association is suggested to be due to the increase in cervical blood flow that occurs in placenta previa; this can lead to the development of venous dilation and varices [5]. However, in this patient, an abdominal ultrasound scan revealed a posterior placenta, with no evidence of previa. In addition, one study discussed an association of maternal exposure to diethylstilbestrol (DES) in utero. DES was commonly used between 1940 and 1970 with the intent of improving pregnancy outcomes, but has since been found to be associated with an increased risk of cancers, such as clear cell adenocarcinoma [7,19]. Further, DES exposure is known to cause vascular malformations of pelvic organs, which may be related to the etiology of cervical varices [7,10]. Notably, there is no evidence to suggest that this patient was exposed to DES in utero. Furthermore, several cases have reported twin dichorionic diamniotic gestation via in-vitro fertilization (IVF); a suggested correlation with cervical varices is that multifetal gestation presents with increased uterine size and increased pressure on the vena cava and pelvic vasculature [10,16,18]. The patient had a single gestation, without IVF. Finally, another reported risk factor is a maternal age of >35 years, but in this case the patient was 30 years old at presentation.

As such, this case of cervical varices is important to study because the patient had none of the reported risk factors, such as advanced maternal age, DES exposure, placenta previa or multifetal gestation. Since this

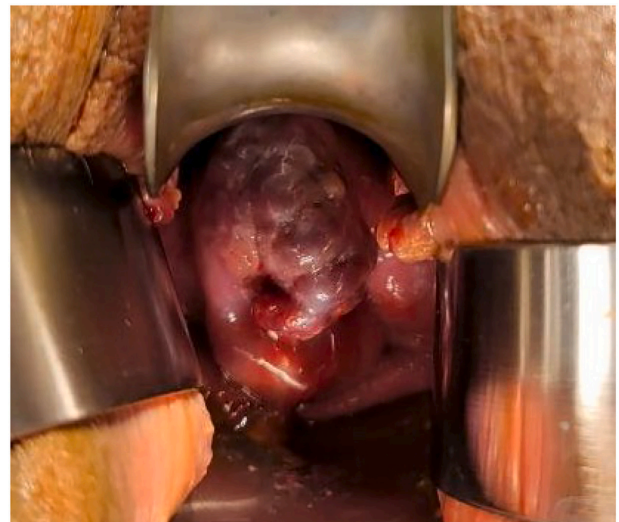


Fig. 1. a. Clinical photo taken during exam under anesthesia of cervical varix found during evaluation.

condition can occur in patients without any known risk factors, it should be considered as a differential diagnosis in any gravid patient presenting with vaginal bleeding. Documentation of cases is instrumental in ensuring early identification of cervical varices in patients without associated risk factors. This will help prevent unnecessary cervical manipulation through speculum exams, Papanicolaou smears or biopsies, which may cause rupture of varices and hemorrhage.

The standard treatment for cervical varices in pregnancy is unspecified, although the most common interventions reported were expectant management, bed rest and cesarean delivery (CD) [13]. Most patients underwent CD to decrease the risk of hemorrhage, which would occur due to the rupture of veins secondary to uterine contractions or cervical effacement and dilation. However, CD was still highly associated with postpartum hemorrhage from ruptured cervical varices, as well as from placenta previa and placental abruptions [4,5,9–12]. Fortunately for this patient, the operation was uncomplicated, with no postpartum hemorrhage. This case report further established that scheduled cesarean deliveries are indicated in patients with cervical varices in order to prevent postpartum hemorrhages. Our procedure was notable only for an incidental finding of a teratoma containing hair and sebaceous material. Past literature has found no association between ovarian cysts and cervical varices. However, one case reported a history of a stage IIc granulosa cell tumor that was resected prior to the pregnancy with cervical varices [13].

An opportunity for further investigation would be to analyze any prenatal interventions that can reduce the severity of the varices in order to safely prolong gestation and reduce the risk of prematurity. Studies have shown that McDonald's cerclages have resolved bleedings from cervical varices, and pessaries have been associated with a reduction in variceal size after placement [6,17,20]. These interventions should be studied as options to reduce the risk of hemorrhage during pregnancy, and prolong gestation if needed. Other directions for research in third-trimester cervical varices include safer management options and guidelines for patients who may opt for vaginal delivery.

This case report discusses a rare incidence of cervical varices that presented without any of the associated risk factors documented in the literature. Given the risk of symptomatic vaginal bleeding and postpartum hemorrhage, health care providers should consider cervical varices as a differential diagnosis of any vaginal bleeding during pregnancy.

Contributors

Julia Youssef contributed to patient care, conception of the case report, and editing and revising of the manuscript for important intellectual content.

Victoria Afolayan contributed to patient care, conception of the case report, acquiring the data, literature review, and drafting and editing of the manuscript.

Maat Mack contributed to patient care, literature review, and drafting and editing of the manuscript.

Angelica Sze contributed to editing and revising of the of the manuscript for important intellectual content.

All authors approved the final manuscript.

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Patient consent

Written consent was received from the patient for the publication of this case report and the accompanying images

Provenance and peer review

This article was not commissioned and was peer reviewed.

Conflict of interest statement

The authors declare that they have no conflict of interest regarding the publication of this case report.

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