

En bloc hysterectomy for treatment of symptomatic cervical varix in the early second trimester

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Summary

The authors present a case of a cervical varix with morbidly adherent placentation treated with total abdominal hysterectomy. A 38-year-old presented at 15 weeks gestation with heavy painless vaginal bleeding and was found to have complete placenta previa and a cervical varix. After recurrent episodes of heavy bleeding requiring transfusion, she elected pregnancy termination. She underwent en bloc total abdominal hysterectomy with the fetus in utero at 18 weeks gestation. Pathology revealed dilated vessels at the cervical os and placenta percreta. The authors conclude that en bloc abdominal hysterectomy may be a reasonable management option to reduce hemorrhage risk in patients with a symptomatic cervical varix in the setting of a morbidly adherent placenta.

Key words: Varix; Cervical varix; Varicosity; Cervical varices; Morbidly adherent placenta; Placenta previa.

Introduction

Cervical varicosities during pregnancy are rare but can cause significant hemorrhage. Most cases ultimately require delivery or termination due to hemorrhage. The optimal management of pregnancies complicated by cervical varices has not been determined.

Case Report

A 38-year-old, gravida 5 para 1121, presented at 15 weeks gestation with heavy painless vaginal bleeding. Her prior pregnancy had been complicated by a 22-week emergent classical cesarean section of a pre-viable fetus after preterm premature rupture of membranes and hemorrhage due to placenta previa.

The amount of bleeding at the time of presentation necessitated an exam under anesthesia. Exam revealed a vascular anterior cervical mass (Figure 1a). Vaginal packing was initially required to control bleeding but later was removed without complication. She was admitted to the high-risk maternity care unit for observation.

Ultrasound revealed a single intrauterine pregnancy and a complete placenta previa with a vascular mass within the cervical

canal (Figure 1b). Due to concerns for cervical malignancy, the patient was evaluated by a gynecologic oncology physician and a Pap smear was obtained. Cytology returned negative. Pelvic MRI was performed and revealed complete placenta previa with heterogeneous soft tissue protruding into the vaginal vault which was of concern for placenta. She was taken again to the operating room for an exam under anesthesia, and a 5-cm blood clot was removed from the vagina. No placental tissue was noted and the vascular cervical lesion was unchanged in appearance. At 17 weeks gestation the patient experienced preterm premature rupture of membranes. Days later she had an additional episode of vaginal bleeding of approximately 800 ml. Exam performed in the operating room revealed the source of bleeding to be the cervical varix. No bleeding was noted from the cervical os. The patient was transfused two units of packed red blood cells and vaginal packing was required to control bleeding.

Given her early gestation and significant episodes of bleeding, the patient and her husband elected to undergo pregnancy termination. Although ultrasound and MRI did not have findings suggesting a morbidly adherent placenta, there was concern, hence she underwent her prior classical cesarean, with the presence of a cervical varix and complete placenta previa. She elected for management with a hysterectomy after counseling regarding management options. Total abdominal hysterectomy with bilateral salpingectomy was performed at 18 weeks gestation with no additional unexpected blood loss. Frozen section performed intraoperatively showed edematous cervical mucosa with dilated vessels at the os. Final pathology of the uterus revealed placenta percreta, adenomyosis, small leiomyomata, and cervical hyperemia with hemorrhage and inflammation.

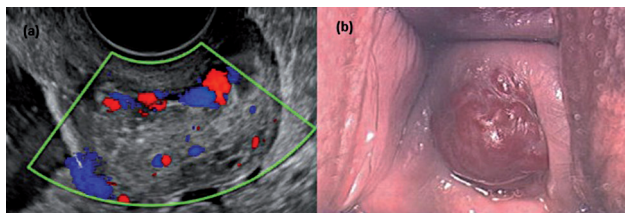


Figure 1. — Transvaginal ultrasound and macroscopic findings. (a) Transvaginal ultrasound findings utilizing color Doppler. (b) Macroscopic findings of anterior cervical varicosities.

Discussion

Varicosities in general are more common in pregnancy and have been reported in approximately 40 percent of pregnancies [1, 2]. Cervical varicosities, however, are rare and have been associated with significant risk of hemorrhage. Most reported cases have resulted in delivery due to hemorrhage during the second or third trimester [3-11]. Cervical varicosities diagnosed during pregnancy have been associated with maternal in utero exposure to diethylstilbestrol, Klippel-Trenaunay syndrome, and abnormal placentation [3, 7-14]. Although most cases occur in the setting of placenta previa, there have been cases reported without concurrent abnormal placentation [3].

A recent literature review by Tanaka *et al.* includes 15 previously reported cases [3]. O'Brien and Smoleneic indicated cervical varicosities may be more common than reported in the literature [11]. In a retrospective study evaluating transvaginal ultrasound images of patients with placenta previa, cervical varicosities were identified in nine out of 28 cases. However, this study is limited by its retrospective design, small number of cases with color Doppler images available, and its lack of a definition of a cervical varix.

Optimal management of pregnancies complicated by cervical varix is yet to be determined. While most reported cases were initially managed conservatively with vaginal packing and bedrest, all ultimately required delivery or termination due to hemorrhage. Alternative management options in the early second trimester are limited. Lesko *et al.* described successful treatment with uterine artery embolization followed by dilation and evacuation at 17 weeks gestation for a patient with recurrent hemorrhage [15]. Due to the rare occurrence of cervical varicosities, it is unlikely that one specific treatment or therapy will be identified. The authors present en bloc hysterectomy as a potential management option that may reduce the risk of maternal hemorrhage, particularly in the setting of a coexisting cervical varix with recurrent bleeding and a morbidly adherent placenta.

References

- [1] Rabhi Y., Charras-Arthapignet C., Gris J.C., Ayoub J., Brun J.F., Lopez F.M., *et al.*: "Lower limb vein enlargement and spontaneous blood flow echogenicity are normal sonographic findings during pregnancy". *J. Clin. Ultrasound*, 2000, 28, 407.
- [2] Robertson L.A., Evans C.J., Lee A.J., Allan P.L., Ruckley C.V., Fowkes F.G.R.: "Incidence and risk factors for venous reflux in the general population: Edinburgh vein study". *Eur. J. Vasc. Endovasc. Surg.*, 2014, 48, 208.
- [3] Tanaka M., Matsuzaki S., Kumasawa K., Suzuki Y., Endo M., Kimura T.: "Cervical varix complicated by placenta previa: a case report and literature review". *J. Obstet. Gynaecol. Res.*, 2016, 42, 883.
- [4] Kurihara Y., Tachibana D., Teramae M., Matsumoto M., Terada H., Sumi T., Koyama M., Ishiko O.: "Pregnancy complicated by cervical varix and low-lying placenta: a case report". *Jpn. Clin. Med.*, 2013, 4, 21.
- [5] Brown J.V., Mills M.D., Wong H., Goldstein B.H.: "Large volume cervical varix bleeding in a gravid patient". *Gynecol. Oncol. Case Rep.*, 2013, 4, 20.
- [6] Kusanovic J.P., Soto E., Espinoza J., Sites S., Goncalves L.F., Santolaya J., *et al.*: "Cervical varix as a cause of vaginal bleeding during pregnancy: prenatal diagnosis by color Doppler ultrasonography". *J. Ultrasound Med.*, 2006, 25, 545.
- [7] Yoshimura K., Hirsch E., Kitano R., Kashimura M.: "Cervical varix accompanied by placenta previa in twin pregnancy". *J. Obstet. Gynaecol. Res.*, 2004, 30, 323.
- [8] Horton T., Morrill H., Mascola M., York C., Bromley B.: "Cervical varices: an unusual etiology for third-trimester bleeding". *J. Clin. Ultrasound*, 1998, 26, 317.
- [9] Sukur Y.E., Yalcin I., Kahraman K., Soylemez F.: "Cervical varix complicating marginal placenta previa: a unique coexistence". *J. Obstet. Gynaecol. Res.*, 2011, 37, 1515.
- [10] Kumazawa Y., Shimizu D., Hosoya N., Hirano H., Ishiyama K., Tanaka T.: "Cervical varix with placenta previa totalis". *J. Obstet. Gynaecol. Res.*, 2007, 33, 536.
- [11] O'Brien B., Smoleneic J.: "Cervical varicosities and placenta praevia". *Aust. N. Z. J. Obstet. Gynaecol.*, 2013, 53, 451.
- [12] Hasegawa J., Matsuoka R., Ichizuka K., Mimura T., Sekizawa A., Farina A., Okai T.: "Predisposing factors for massive hemorrhage during cesarean section for patients with placenta previa". *Ultrasound Obstet. Gynecol.*, 2009, 34, 80.
- [13] Minguez J.A., Auba M., Olartecoechea B.: "Cervical prolapse during pregnancy and Klippel-Trenaunay syndrome". *Int. J. Gynaecol. Obstet.*, 2009, 107, 158.
- [14] Watermeyer S.R., Davies N., Goodwin R.I.: "The Klippel-Trenaunay syndrome in pregnancy". *BJOG*, 2002, 109, 1301.
- [15] Lesko J., Carusi D., Shipp T., Dutton C.: "Uterine artery embolization of cervical varices before second-trimester abortion". *Obstet. Gynecol.*, 2014, 123, 458.

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