



## Correspondence

# Letter to “Cervical varices unrelated to placenta previa as an unusual cause of antepartum hemorrhage: A case report and literature review”: Successful management of postpartum hemorrhage due to cervical varix: Modified Matsubara Nelaton method using Bakri balloon

## Keywords:

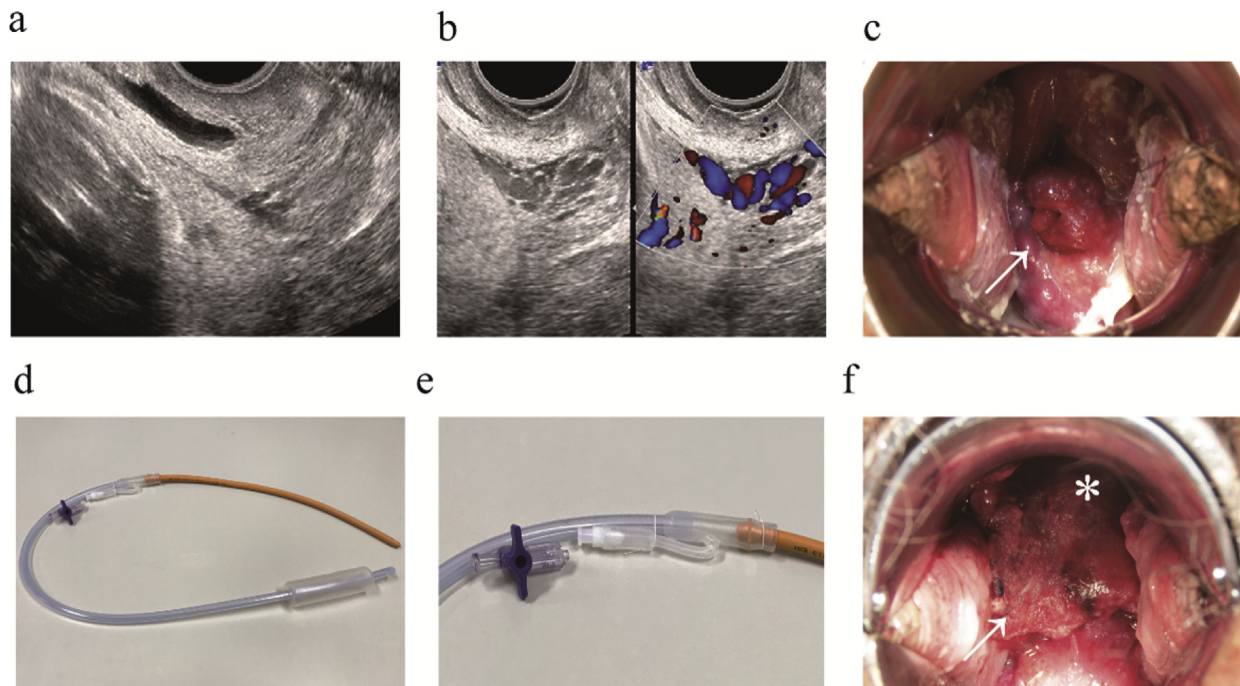
Balloon tamponade  
Placenta previa  
Cervical varix

Dear Editor,

We read the manuscript titled “Cervical varices unrelated to placenta previa as an unusual cause of antepartum hemorrhage:

A case report and literature review” with great interest because cervical varix is rare, with a poorly understood clinical course [1]. Postpartum hemorrhage (PPH) was fortunately not encountered in this case; however, it is difficult to control PPH if it is complicated with cervical varix. We recently experienced a case of a patient with cervical varix complicated with placenta previa (CVPP). The patient had encountered PPH, which was successfully controlled. We would like to present our case to contribute to the knowledge regarding this rare disease.

We previously experienced a case of a patient with CVPP, in which the patient encountered intraoperative hemorrhage during a cesarean delivery (CD), with difficult-to-control bleeding due to a vertical compression suture resulting in massive hemorrhage



**Fig. 1.** Transvaginal sonography and speculum examination results. (a) Transvaginal sonography at 35-weeks' gestation showing no intracervical vessel. (b) Transvaginal color Doppler sonography showing the large intracervical vessel. (c) Macroscopic view of the cervical varix. White arrow indicates the cervical varix. (d, e) Image of our modified Matsubara Nelaton method. The type of Nelaton rubber tube and its connections have been modified from the original method because of unavailability of the original Nelaton tube at our hospital. The no. 13 Nelaton rubber tube was used and connected to the blood drainage port of the Bakri balloon. (f) The view after removing the Bakri balloon. White arrow indicates the posterior lip of external os of the uterus. Disappearance of the cervical varix is marked by a white asterisk. It remains unknown whether the varix was ruptured. Previous reports stated that cervical varix may have immediately regressed after delivery.

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[2,3]. Professor Matsubara suggested the use of Bakri balloon with a novel simple abdominal traction stitch for CVPP [4]. However, we considered that using Bakri balloon involved the risk of hemorrhage owing to cervical varix rupture, which can be caused by i) passing of the drainage and insufflation portion of Bakri balloon through the cervical os from the uterine wall to the vagina and ii) removal of the Bakri balloon on postoperative day 1. To discuss this matter, we present the case of a patient with CVPP who encountered PPH.

A 34-year-old woman at 28-weeks' gestation (gravida 1 para 0) presented with placenta previa. Her pregnancy was otherwise uncomplicated. At 35-weeks' gestation, her transvaginal ultrasound revealed total placenta previa without uterine cervical varix (Fig. 1a). However, transvaginal ultrasound at 36-weeks' gestation revealed vascular engorgement following the cervical canal and continuing to the external os (Fig. 1b). Speculum examination revealed blood vessel engorgement to approximately 3 cm, indicating cervical varix (Fig. 1c). Therefore, we decided to expedite the delivery to avoid hemorrhage due to rupturing of the cervical varix that had rapidly enlarged; emergency CD was planned. While performing CD, the patient hemorrhaged due to placenta previa. We decided to place the Bakri balloon via a modified Matsubara Nelaton method [5] (Fig. 1d,e) with vaginal gauze tamponade and successfully controlled the hemorrhage. We adopted this method as it did not include touching the uterine cervix and cervical varix. Abdominal traction stitch method was not performed owing to our lack of experience. Estimated blood loss was approximately 2,000 mL, and no transfusion was needed. The mother and the child were discharged on postoperative day 8 without any postoperative complications.

Here, cervical varix disappeared when the Bakri balloon was removed (Fig. 1f). However, it remains unclear whether the Bakri balloon damaged the cervical varix. Nevertheless, placement of the Bakri balloon did not cause hemorrhage from the cervical varix and, in fact, successfully controlled the hemorrhage.

To the best of our knowledge, the use of balloon tamponade to control massive hemorrhage in CVPP has not been previously reported. We thus recommend using the Bakri balloon via the Matsubara Nelaton method to control hemorrhage during CD in case of CVPP. We also considered that Matsubara Nelaton method is also useful in the treatment of cervical varix.

#### Conflict of interest statement

We have no conflict of interest regarding this article.

#### Approval of Institutional review board

Approval #15240, approved on September 10, 2015.

#### Sources of funding

None.

#### Patient anonymity

Preserved.

#### Informed consent

Obtained.

#### Disclosure

The authors report no conflicts of interest concerning the materials or methods used in this review or the findings specified in this paper. The authors have no competing financial interests related to this study.

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