Severe postpartum hemorrhage due to rupture of the uterine artery treated by uterine artery embolisation
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Objective
Postpartum hemorrhage (PPH) is the most common cause of maternal mortality and morbidity. The main cause of PPH is uterine atony followed by cervical or vaginal tear, uterine inversion, retained placenta and blood coagulopathy. Rupture of the uterine artery is a rare cause of PPH. Hypovolemic shock, bleeding, abdominal pain and hematoma are presenting features. Hematoma evacuation and ligation of the bleeding vessel should be attempted by laparotomy. In some cases, the source of bleeding cannot be identified so that the use of surgical compression sutures, hysterectomy, pelvic arterial ligation and artery embolization could be appropriate interventions. Embolization of the bleeding artery is a reasonable consideration when surgical intervention cannot control the bleeding site. Utilizing access to the concerned artery through catheters and guidewires and extravasation of contrast material as studied by digital subtraction angiography, an interventional radiologist locates the position of the correct artery or vein supplying the site of the bleeding. To perform selective embolization the patient should be hemodynamically stable and an experienced radiologist be available.

Methods
Case report.

Results
A 37 years old patient gravida 3, para 2 underwent vaginal delivery following induction of labor at 41 weeks’ gestation. She delivered 3930 g male infant. Mediolateral episiotomy was performed during delivery. Delivery was complicated by primary postpartum hemorrhage with 2000 mL estimated blood loss. Minimal cervical laceration and episiotomy repaired quickly. Attempted to prevent hypovolemic shock by intravenous fluid therapy and blood products. Emergency hysterectomy was performed when medical procedures (bimanual uterine compression, administration of oxytocin, methylergonovine, carboprost, prostaglandins and uterine balloon tamponade) had failed to control PPH. Her hemoglobin was 6 g/dL, fibrinogen was 70 mg/dL during operation and treated with blood products. Bleeding continued from vaginal apex, apex of the episiotomy after hysterectomy. A vaginal packing placed to tamponade venous oozing after repair of the apex. The patient was followed up in the intensive care unit (ICU). After 14 hours active vaginal bleeding started again. CT angiography revealed that right uterine artery bleeding were observed and embolization was performed. She was carefully monitored ICU and discharged at 6th day postpartum.

Conclusion
Uterine artery rupture is a rare cause of PPH after vaginal delivery. Uterine artery rupture is associated with severe bleeding but difficult to diagnosis and treatment. Selective arterial embolization should be kept in mind when PPH cannot be managed successfully with other therapies used. In our case, this method successfully prevented morbidity and mortality.