Uterine Artery Laceration after Vacuum Delivery

Laceração da Artéria Uterina após Parto Auxiliado por Ventosa

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ABSTRACT

Post-partum hemorrhage is one of the major causes of maternal mortality and is the most common reason for blood transfusion after delivery.1-3 According to the World Health Organization, post-partum hemorrhage accounts for approximately one-quarter of all maternal deaths globally and for approximately half of all post-partum deaths in low-income countries.4 Post-partum hemorrhage that occurs in the first 24 hours after delivery is considered primary and is mostly due to uterine atony, genital tract lacerations, placental retention, abnormal placentation or coagulopathy.2,5-7

We present a rare case of right uterine and cervical laceration after vacuum-assisted delivery resulting in disseminated intravascular coagulopathy, treated with uterine artery embolization and hysterectomy.

INTRODUCTION

Post-partum hemorrhage is one of the major causes of maternal mortality and is the most common reason for blood transfusion after delivery.1-3 According to the World Health Organization, post-partum hemorrhage accounts for approximately one-quarter of all maternal deaths globally and for approximately half of all post-partum deaths in low-income countries.4 Post-partum hemorrhage that occurs in the first 24 hours after delivery is considered primary and is mostly due to uterine atony, genital tract lacerations, placental retention, abnormal placentation or coagulopathy.2,5-7

CASE REPORT

A 39-year-old woman with two previous vaginal deliveries and no history of undergoing major surgery was transferred to our tertiary hospital center, five hours after a vacuum-assisted delivery (due to fetal bradycardia, applied in Hodge’s plane III), complicated with shoulder dystocia and repair of cervical laceration. She was admitted in refractory hemorrhagic hypovolemic shock and disseminated intravascular coagulation and underwent total hysterectomy due to infectious complications.

We present a rare case of right uterine and cervical laceration after vacuum-assisted delivery resulting in disseminated intravascular coagulopathy, treated with uterine artery embolization and hysterectomy.

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injury. Histological and micro-bacteriological findings confirmed the diagnosis: a right cervical and uterine wall laceration with subsequent infection and necrosis (Fig. 4).

The post-operative period presented no further complications; the patient was treated with intravenous vancomycin and meropenem for seven days and was discharged home 30 days after giving birth and seven days after hysterectomy with complete clinical resolution, without any coagulation disorder, hemoglobin 8.8 g/dL, and indication for deep venous thrombosis prophylaxis for two more weeks. The ureteral catheter was removed on day 58 after surgery, without any intercurrences.

DISCUSSION

We described a rare case of right uterine and cervical laceration after vacuum-assisted delivery. Post-partum hematomas, particularly intra-abdominal hematoma, are an unusual presentation of post-partum hemorrhage and can be caused by collapse of blood vessels following laceration, episiotomy or an operative delivery. Spontaneous uterine artery rupture is also a rare complication.

Post-partum hemorrhage is an unpredictable emergency usually controlled by uterine massage, uterotonic agents or by surgical intervention in the event of persistent bleeding. Secondary disseminated coagulopathy often occurs in cases of massive post-partum hemorrhage as described in the literature.

Pelvic transcatheter arterial embolization is a safe, effective and minimally invasive alternative to surgical intervention for severe post-partum hemorrhage refractory to conservative treatment measures, particularly in cases of uterine atony, genital tract tears and vaginal-perineal hematoma, and may also preserve future fertility. Spontaneous uterine artery rupture is also a rare complication. Post-partum hemorrhage is an unpredictable emergency usually controlled by uterine massage, uterotonic agents or by surgical intervention in the event of persistent bleeding. Secondary disseminated coagulopathy often occurs in cases of massive post-partum hemorrhage as described in the literature.

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We consider a case a success, as selective arterial embolization allowed hemorrhage control in an unstable patient with disseminated intravascular coagulopathy, thus minimizing the bleeding risks associated with major anesthetics and surgical procedures. The patient eventually underwent hysterectomy, but the surgery could be carried out in a safer environment and performed without any intercurrences.

This case reminds us of the importance of a multidisciplinary team (obstetrics, interventional radiology, intensive care unit, blood bank and urology) in a life-threatening case. This multidisciplinary intervention, with a quick diagnosis and prompt treatment, was crucial to the patient’s survival.

AUTHORS CONTRIBUTION

SCC: Draft of the paper. Acquisition and analysis of the medical information.
PVP: Significant contribution to the draft of the paper. Critical review.
PM: Selection of the illustrations. Critical review of the paper.
NM: Critical review of the paper.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients’ data publication.

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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REFERENCES

1. Inge M, Levent A, Delibas IB, Pulur A, Karaca I. A case of primary postpartum bleeding due to vaginal laceration after vaginal delivery: successful

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Figure 1 – Pelvic arteriogram, with multifocal laceration of horizontal and ascending branches of right uterine artery, with contrast extravasation (arrows), reflecting active bleeding
Figure 2 – Abdomin-pelvic computer tomography performed at day 20 of puerperium. A right pelvic hematoma with two communicated loculi (dimensions of 15.1 x 13.8 x 18.1 cm and 7.3 x 7.0 x 6.9 cm) was identified (arrows).

Figure 3 – Lateral view of hysterectomy specimen

Figure 4 – Infection and necrosis of uterine wall