RECURRENT LATE POSTCESAREAN SECTION HEMORRHAGE DUE TO PSEUDOANEURISM FORMATION

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Postcesarean section pseudoaneurismal changes in the local uterine arterial wall are rare. Usually, the patient presents in hypovolemic shock with recurrent massive vaginal bleeding. Herein, we report on two patients who had recurrent massive hemorhage on the days 17, 21, and 50 after an uncomplicated elective cesarean section. These patients had severe hemorrhage and hypovolemic shock. After general evaluation, they were treated with multiple broad-spectrum antibiotics, uterotonic medications, dilatation and curettage, and hysterectomy (case 1) and ligation of the feeding vessel (case 2).

Pathology report of the first patient revealed pseudoaneurismal changes in the uterine arterial vessels at the site of cesarean incision.

Keywords: Cesarean section • postpartum hemorrhage • pseudoaneurism • uterine artery

Case Report

Herein, we report on two patients. Both patients had elective cesarean sections with normal coagulation profiles.

The first patient was admitted to Taleghani Hospital, affiliated to Shaheed Beheshti University of Medical Sciences, Tehran, Iran. She was a 32-year-old woman who had had a repeated cesarean section. She had episodes of massive uterine bleeding on days 17, 35, and 50 after cesarean section.

Involution of the uterus was optimal. Vaginal ultrasonography revealed a small hypoechoic area. We initially performed a dilatation and curettage (D&C). The patient finally underwent a hysterectomy. Gross appearance of the resected specimen showed some necrotic tissues in the middle of the incision line in the lower segment of uterus with a diameter of almost 3 mm. Pathology report revealed pseudoaneurismal changes of the branches of the uterine arteries at the same site (Figure 1).

The second patient was a 28-year-old woman...
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who had an elective and uncomplicated repeated cesarean section at another hospital. She was referred to Mahdieh Hospital, affiliated to Shaheed Beheshti University of Medical Sciences due to multiple episodes of massive vaginal bleeding up to the 45th day postcesarean section. Administration of antibiotics, oxytocine, curettage, hysteroscopy, and other conservative interventions failed. With the diagnosis of pseudoaneurism of the uterine vessel, laparotomy was performed. There was a small area of necrotic tissue on the right angle of the lower segment of the incision. By removing the clot over the hematoma, the bleeding vessel was found and ligated with a figure-of-eight suture. She had an uneventful hospital course and she was discharged after two days.

Discussion

Late postpartum hemorrhage (more than 24 hours after delivery) is most often the result of abnormal involution of the placental site. When the bleeding is more severe, retained placental fragments are often noted. These patients usually require D&C to control the hemorrhage.

Andrew et al described 25 patients with hemorrhage between 7 and 40 days postpartum associated with noninvoluted utero-placental arteries at the placental bed.2

Subinvolution of the uterus is sometimes due to infection. The cause of which, particularly in late puerperal period, might be C. trachomatis.3

Uterine artery pseudoaneurism is a very uncommon cause of late postpartum massive hemorrhage. Pseudo- or falseaneurism differs from a true aneurism in that it is not surrounded by three layers of the arterial wall. Pseudoaneurisms are known complications following vascular injuries. After an arterial injury occurs, blood may dissect along the arterial wall, leading to a collection of blood, which communicates with the injured vessels, resulting in an active pulsating hematoma, the so-called pseudoaneurism.4

Pseudoaneurism should be considered in every case with recurrent serious late postpartum hemorrhage. In this condition, bleeding is massive, of arterial nature, and recurrent. This condition leads to hypovolemic shock and death if left untreated.

Traditional management of postpartum hemorrhage refractory to standard measures included hypogastric artery ligation. Nevertheless, bleeding might be continued even after internal iliac artery ligation, due to collateral uterine blood flow.5

In any case, after ruling out other causes of postpartum hemorrhage, when pseudoaneurism is suspected, we can perform pelvic (uterine) angiography that shows extravasation in the responsible vessel. Occasionally, pelvic bleeding can be controlled through embolization.

Indeed, hysteroscopy, color Doppler, and three-dimensional ultrasonography may help to make this diagnosis.

Figure 1 (A and B). Photomicrographs revealing tissue necrosis with some dilated and congested vessels. Luminal thrombosis and hemorrhagic dissection of the wall of a large vessel are apparent.
Recurrent late postcesarean section hemorrhage

Direct visual inspection of the incision line on the lower segment shows necrosis and hematoma formation on the cut edge; by removing the clots organized over the arterial branch, the area will bleed seriously.

Through ligation of this injured artery, the problem will be resolved and there is generally no need to perform a hysterectomy in these patients.

References