

Delayed postpartum hemorrhage: the implications of making a diagnostic mistake

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Dear editor,

A 25-year-old woman, P1001 with unremarkable clinical history was admitted to her local referral hospital for severe vaginal bleeding (SVB), significant anemia (Hb 7 g/dl) and abdominal pain occurred 6 weeks after caesarean section. Ultrasound revealed a minimal flap in the Douglas and a 25-mm vascularized area on the uterine wall at the site of caesarean scar, which was confirmed by CT scan, hence a vascular malformation (AVM) was suspected. Angiography showed the presence of AVM at left corner of the uterus. Left ipogastric arteriography showed the early opacification of the dilated para-uterine venous plexus, associated with multiple microflow of active spreading of contrast from a branch of the uterine artery. Hemoglobin blood value rose to 10.1 g/dl after the first arterial embolization and red blood cell transfusion, but after the second hemorrhage it dropped to 8.0 g/dl. Then, a second selective embolization of the left uterine artery was performed with complete vessel occlusion. Nevertheless, the SVB persisted and a further embolization was performed on anterior branch of the left internal iliac artery. After few days SVB reappeared and the patient was admitted to our hospital (101 days after caesarean section). Ultrasonography and color Doppler evaluation showed a $15 \times 8 \times 5$ mm left parametrial vascularized formation and intraperitoneal free fluid. Hysteroscopy was not performed because of the SVB. Because the angiography had been already detected location, size and relation of AVM to the uterine vasculature, an operative laparoscopy with multiple ligations of the uterine plexus was performed. This approach was

preferred to laparotomic surgery because of its minimal invasion and complications, few hospitalization and recovery days. An ultrasound control showed a reduction of the left parametrial formation and the patient was asymptomatic. Elapsed 4 days, the patient presented the same symptoms and she was prepared for emergency hysteroscopy; a dehiscence of previous hysterotomy at the left uterine corner extended to isthmus–cervical tract was detected. Dehiscence was sutured after a laparotomy on previous scar. Common causes of delayed postpartum hemorrhage are retention of gestational products and endometritis. In this case, both were excluded. The management of vaginal bleeding provides hysteroscopy, which has not been possible to perform at first, because of the severe bleeding. Operative laparoscopy was carried out, but the lesion was not visible outside the uterus. A new episode of vaginal bleeding required an emergency diagnostic hysteroscopy, which showed the underlying cause of bleeding: a uterine scar dehiscence. This is a rare but potentially dangerous cause of delayed postpartum hemorrhage, which should be considered because of the increasing number of cesarean deliveries. Uterine scar dehiscence is estimated to occur between 0.3 and 1.9 % of cases and only a minority of these shows vaginal bleeding or abdominal pain [1]. Many patients may be asymptomatic, consequently incidence rate may be underestimated. The risk of scar deficiency is increased in retroflexed uterus and after multiple cesarean sections [2]. The etiopathogenesis is unclear. Generally, the uterine incision is performed transversely in the lower uterine segment, whose reduced thickness and vascularization decrease the risk of dehiscence [3]. Dehiscence could depend on the suture material used, the suturing technique itself, or both [4]. High uterine incisions, ischemic technique and the slowest resorbable suture should be considered. In our case, the

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initial diagnosis has been misleading and resulted in the execution of a series of superfluous procedures. Although the appropriate workup has been planned (ultrasound is the first exam to perform and can be useful to detect uterine scar dehiscence), the diagnosis has been delayed because hysteroscopy, the gold standard for characterization of abnormal uterine bleeding, has not been performed at first. Probably because of SVB, we could perform sonohysterography at first. The distension medium could allow to wash the uterine cavity and to make the diagnosis. This procedure could be followed by hysteroscopic visualization of the lesion, but the definitive treatment should be laparotomic.

Conflict of interest I certify that no actual or potential conflict of interest in relation to this article exists.

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