Computed tomography in postpartum hemorrhage due to incomplete rupture of an unscarred uterus

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Description

Patient 1 was a 33-year-old woman, gravida 2 para 1, who vaginal delivery at 40 weeks’ gestation. Patient 2 was a 37-year-old woman, gravida 2 para 1, who vaginal delivery at 39 weeks’ gestation. Neither case had undergone uterine surgery, including cesarean section. Both patients developed severe postpartum hemorrhage, but not hemorrhagic shock. They did not complain of abdominal pain. Ultrasonography showed heterogeneous echogenicity in the uterus and no hemoperitoneum. Computed tomography showed extravasation from the myometrium and hematoma formation in the broad ligament (Figs. 1a, b and 2a, b). We performed exploratory laparotomy and identified incomplete uterine rupture in both cases; both recovered well with suture repair (Figs. 1c, d and 2c, d).

Uterine rupture is a rare and life-threatening event. Uterine rupture can be divided into complete rupture, which involves all layers of the uterine wall, and incomplete rupture, in which the visceral peritoneum or broad ligament is left intact. Generally, uterine rupture occurs in patients with a scarred uterus, including those with a history of cesarean section; one study showed that uterine rupture occurred in 0.46% of patients with a scarred uterus [1]. Rupture of an unscarred uterus can also occur, but this is even rarer. The reported risk factors for rupture of an unscarred uterus include induction of labor with oxytocin or prostaglandins, breech extraction, age of > 35 years, parity of > 3, and birth-weight of > 4000 g [2]. Incomplete rupture of an unscarred uterus is difficult to diagnose, but it can be identified by computed tomography.
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Declarations

Conflict of interest  The authors declare that they have no competing interests.

Ethics approval  Our facility determined that ethics approval was not required.

Consent to participate  Informed consent was obtained from the patient.

Consent for publication  Informed consent for publication was obtained from the patient.

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