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Case Report

Spontaneous rupture of unscarred uterus in a primigravida: Unusual cause of postpartum collapse

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Introduction

Uterine rupture is a catastrophic obstetrical event; but in modern day obstetrics, its incidence is rare, and when it occurs, then the most common cause is the previous one or more cesarean sections. In developed countries, most uterine ruptures follow cesarean section.¹ Rupture of unscarred uterus is encountered very infrequently, its incidence being quoted as 1 in 16,849 deliveries.² Rupture of unscarred uterus is most dangerous, both for mother and baby, as this kind of rupture occurs when it is least suspected.

The causes of rupture of unscarred uterus include uterotonic drugs; oxytocin or prostaglandins, instrumentation

like forceps application or vacuum extraction; high parity, uterine anomalies, malpresentation, internal podalic version, and manual removal of placenta.³ Traditionally, the primigravida uterus⁴ has been considered almost immune to spontaneous rupture; it is a very rare event but not unknown. Unscarred rupture may occur before or after onset of labor, at term or preterm, and with or without abnormal fetal heart pattern.⁵

Rupture of the unscarred uterus carries more risks, both for mother and fetus compared to scarred uterus. It results in more intraperitoneal hemorrhage as compared to scarred uterus. We report one such case of rupture uterus in a primigravida, which was encountered after the patient had delivered vaginally without any difficulty and there were no high-risk factors.

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Case report

A 24-year-old primigravida patient, a booked case, with normal antenatal period, was admitted with spontaneous onset of labor at 38 weeks gestation. Her blood group was 'B positive' and all relevant antenatal investigations were normal. At the time of admission, she was in early, first stage of labor (3 cm cervical dilatation). She progressed well without augmentation, membranes were ruptured at 6 cm dilatation, and liquor was clear. She progressed well and delivered a male baby weighing 3.1 kg; duration of both first and second stages was not prolonged. Placenta and membranes were expelled spontaneously. After delivery, some bleeding per vaginam was noticed, in spite of uterus being well contracted. There were two small cervical tears, which were sutured in the labor room. There was no extension of cervical tears to the vault or fornix. She had pallor and hemodynamic instability, which was out of proportion to the bleeding. Her vitals had become unstable, pulse was thready, and BP was not recordable. Abdominal and pelvic examinations did not reveal any swelling in broad ligament.

In view of her pallor, her Hb was tested, which turned out to be very low (3.3 g%). Two wide bore IV cannulas were introduced and crystalloids infused rapidly. Urgent demand for blood was sent, Hb was repeated; which had fallen further to 2.1 g. Bedside USG showed free fluid in peritoneal cavity. A diagnosis of intraperitoneal hemorrhage was made, but the source of hemorrhage could not be pin pointed. In the absence of any risk factor for rupture uterus, nonobstetrical causes were also considered. Blood transfusion was started as soon as it was available and she was taken up for laparotomy along with the surgical team. Laparotomy revealed massive hemoperitoneum, and the source of hemorrhage was actively bleeding rupture of posterolateral aspect of the uterus on left side (Figs. 1 and 2) along with broad ligament hematoma on left side. In view of her poor general condition and persistent

Fig. 1 – Posterolateral rupture of uterus on left side.

Fig. 2 – Hysterectomy specimen.

active bleeding from the rupture site, it was decided to perform total hysterectomy instead of repair of the rupture site. Left-sided broad ligament hematoma was drained. She was transfused 16 PRBCs along with FFPs, cryoprecipitates, and RDPs. She developed thrombocytopenia, which was managed with platelet transfusions. Subsequent recovery was uneventful and she was discharged after 11 days with Hb of 10.2 g%.

Discussion

Whatever be the cause of uterine rupture, scarred or unscarred uterus, it remains a life-threatening situation, which may cause severe postpartum hemorrhage resulting in hysterectomy and, at times, maternal mortality.⁶ Total hysterectomy is the operative procedure of choice; repair is possible in some cases.⁷ There have been successful pregnancies after repair of rupture uterus.⁸ In our case, repair was contemplated but not done, as her condition was poor with Hb of 2 g and continuous bleeding at rupture site.

Rupture uterus should be one of the differential diagnosis in every case of postpartum collapse.⁹ The cause of rupture of the unscarred uterus is not well-defined, and this is one of the reasons described is inherent collagen weakness called Ehlers-Danlos syndrome.¹⁰ Our case could be saved due to immediate surgical intervention and massive blood and component therapy along with support from critical care specialists.

Conflicts of interest

The authors have none to declare.

REFERENCES

1. Hofmeyr GJ, Say L, Gülmezoglu AM. WHO systematic review of maternal mortality and morbidity: the prevalence of uterine rupture. *BJOG*. 2005;112(9):1221.
2. Miller DA, Goodwin TM, Gherman RB, Paul RH. Intrapartum rupture of the unscarred uterus. *Obstet Gynecol*. 1997;89(5):671.
3. Abdulkadir T, Ali O, Evsen MS, et al. Uterine rupture revisited: predisposing factors, clinical features, management and outcomes from a tertiary care center in Turkey. *Pak J Med Sci*. 2013;29(3):753–757.
4. Walsh CA, Baxi LV. Rupture of the primigravid uterus: a review of the literature. *Obstet Gynecol Surv*. 2007;62(5):327.
5. Dow M, Wax JR, Pinerre MG, Blackstone J, Cartin A. Third-trimester uterine rupture without previous cesarean: a case series and review of the literature. *Am J Perinatol*. 2009;26(10):739.
6. Chuni N. Analysis of uterine rupture in a tertiary center in Eastern Nepal: lessons for obstetric care. *J Obstet Gynaecol Res*. 2006;32(6):574–579.
7. Kapoor DS, Sharma SD, Alfrevic Z. Management of unscarred ruptured uterus. *J Perinat Med*. 2003;31(4):337–340.
8. Palacios-Jaraquemada JM, Fiorillo A, von Petery F, Colaci D, Leguizamón G. Uterine repair and successful pregnancy after myometrial and placental rupture with massive haemoperitoneum. *BJOG*. 2009;116(3):456.
9. Zwart JJ, Richters JM, Ory F, De Vries JI, Bloemenkamp KW, Van Roosmalen J. Uterine rupture in The Netherlands: a nationwide population-based cohort study. *BJOG*. 2009;116(8):1069.
10. Pepin M, Schwarze U, Superti-Furga A, Byers PH. Clinical and genetic features of Ehlers–Danlos syndrome type IV, the vascular type. *N Engl J Med*. 2000;342(10):673.