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Uterine rupture with intact previous cesarean scar: 2 case reports

Pinkey Lakra*; Sunita Siwach; Vijayata Sangwan; Shivan Shivani

BPS, GMC (W) Khanpurkalan, Sonipat, Haryana, India.

***Corresponding Author: Pinkey Lakra**

BPS, GMC (W) Khanpurkalan, Sonipat, Haryana, India.

Tel: 91-8398836181; Email: drpinki_18@yahoo.com

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Abstract

A previous cesarean section case has a potential risk of uterine rupture at the primary cesarean scar site. Uterine rupture at sites like fundus and posterior wall with intact previous cesarean scar are rare events and both are associated with high fetomaternal morbidity and mortality. We report two such cases and discuss their probable etiology and management.

Keywords: Previous lower segment cesarean section; Uterine rupture; Intact previous cesarean scar.

Introduction

Uterine rupture is an obstetric catastrophe with high maternal morbidity and sometimes mortality and very high perinatal mortality and morbidity. There has been a change in the causes of uterine rupture over the decades from causes like obstructed labour to scar rupture in previous cesarean cases especially due to rising rates of cesarean section globally. The prevalence of spontaneous uterine rupture at any gestation in population-based studies is reported to be 0.05% and that in previous one cesarean pregnancies is 0.2-1.5% [1,2]. The literature suggests an increasing trend of uterine rupture in the last 4 decades in both scarred and unscarred uteri during pregnancy, ranging from 0.9/10,000 to 6.1/10,000 and sharply increased in scarred uteri from 14.2/10,000 to 66.8/10,000 [3]. But we came across two cases in which the site of rupture was some other with intact previous cesarean scar.

Case 1

Fundal rupture with intact previous cesarean scar: A 25 years old G3P2 L1 with previous one cesarean 3 years back was referred from a General hospital with labour pains and fetal distress. There was no history of induction or augmentaion of labour. On examination she had tachycardia (pulse rate -110/min) and blood pressure was 90/50 mm of Hg. Abdominal examination revealed a tender abdomen with superficially palpable fetal parts and uterine contour could not be made with an absent fetal heat sound on auscultation. On Per vaginum examination cervical os was closed and bleeding was present. Diagnosis of uterine rupture was made and same was confirmed on sonography. Patient was taken up for laparotomy, and a 2.4 kg dead baby boy was delivered. Figure 1a & 1b shows the fundal rupture extending anteroposteriorly, but the previous cesarean section lower segment scar was intact and rupture site was repaired in 2 layers. There was haemoperitoneum of 1.5 litres and it was replaced by 3 units of blood. Post operative period was uneventful and patient was discharged in 7 days.

Case 2

Posterior wall rupture with intact previous cesarean scar: A 28 year old G3P2L2 with 28 weeks pregnancy with previous one cesarean 6 years back followed by one VBAC 3 years back, was referred from a general hospital with preterm labour. On admission her vitals were stable and she was in active phase of la-

bour. On Per abdominal examination, uterus was 28 weeks size with cephalic presentation, good uterine contractions, no scar tenderness, and fetal heart sound was 140-150 bpm. On per vaginum examination she was 4 cm dilated, 70% effaced, station at 0, membranes absent and liquor was clear. Her Hb was 8.5 g%. She had a Preterm vaginal delivery of baby girl of 1.1 kg after 9 hours of admission. But immediately after delivery she had shortness of breath, hypotension (52 systolic), tachycardia (138/ min) and she became pale. On per vaginum examination omentum was felt coming through a uterine rent. Patient was immediately rushed to OT and laparotomy was done. There was an 8 cm vertical rent in the posterior uterine wall with intact previous cesarean scar as depicted in figure 2a & 2b. The same was repaired in 2 layers. There was haemoperitoneum of 2 litres which was replaced by 4 units of Packed cells, FFP and platelet concentrates. She stayed in ICU for 1 day, Postoperative period was uneventful and she was discharged after 1 week.

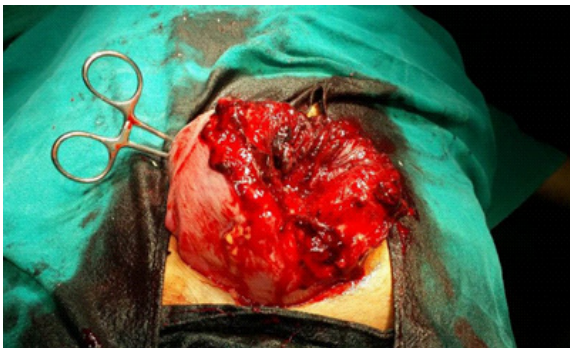

Figure 1a: Fundal rupture with intact previous lower segment cesarean scar of case 1.

Figure 1b: Repair of fundal rupture of case 1.

Discussion

On extensive research it was found that there are a few case reports of posterior uterine wall rupture with intact previous cesarean scar but only two reports of fundal rupture with intact previous cesarean scar. In our case of posterior wall rupture there was a history of intramuscular injection (most likely oxytocin) to enhance contractions, given to her prior to admission to the hospital similar to the case reported by K Navratanam et al in which patient was induced by PGE2 gel and later by oxytocin [4]. In contrast in another case report of post wall rupture with intact scar by Wang et al there was no induction or augmentation and the patient had rupture in active phase of spontaneous labour unlike our patient where rupture happened in

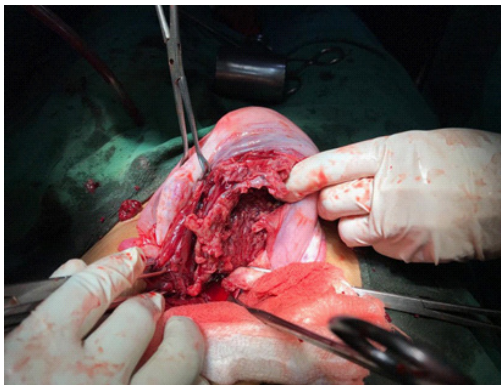

Figure 2a: Posterior uterine wall rupture of case 2.

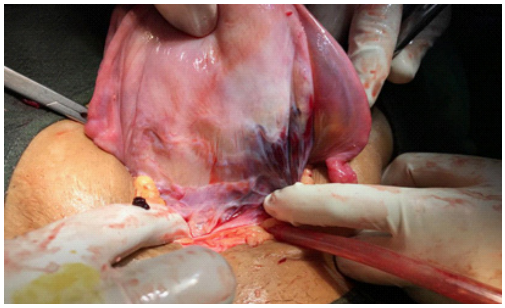

Figure 2b: Intact scar of previous cesarean of case 2.

second stage of labour [5]. Fundal ruptures are rare because of the thick fundal myometrium and the fact that during labour the upper uterine segment becomes thicker and thicker with each contraction and retraction. The reason for fundal rupture may be weakness in the fundal myomerium due to an abonormal invasion of placenta or a previous injury to fundus because of any perforations in D&C or surgeries like myomectomy and metroplasty as was reported by Tonisame et al and Venkatesh et al in their case reports [6,7]. Tonisame has reported a spontaneous fundal rupture with intact previous cesarean scar in a 17 weeks pregnancy with previous 2 lower segment cesareans and since there was significant bleeding and haemoperitoneum they did a supracervical hysterectomy. We managed to save the uterus with the repair of rupture site but this shows that fundal ruptures always bleed more. Venkatesh et al reported a spontaneous fundal rupture at 33 weeks gestation. Their patient had a history of septal resection and they also managed to save the uterus with a repair. Endoscopic myomectomy and metroplasty have become very common surgical procedures in the present era owing to the increasing incidence of infertility and advances in the reproductive medicine leading to greater number of such pregnancies. In our case there was no such history of myomectomy/ septal resection/ hysteroscopy and placenta was also not adherent. But sometimes patients conceal a history of previous induced surgical abortion because of the strict Preconception Prenatal Diagnostic Techniques Act (PC-PNDT Act) in North India which might be a reason in this case.

Although it is difficult to explain the reason of the uterus giving way at stronger places like posterior uterine wall and fundus and not the weakened previous cesarean scar but at the same time it provides support to the fact that lower uterine segment with a scar as in previous cesarean section with favourable factors should always be given trial of vaginal delivery.

Conclusion

Uterine rupture is a condition with significantly poor feto-maternal outcome. A detailed history of pregnancy and labour helps to identify the factors leading to uterine rupture. Documentation and communication of uterine perforation during any procedure, myomectomy with opening of uterine cavity and metroplasty with any breach in uterine integrity should always be done. Nonetheless use of PGE2 and oxytocin in such patients should always be monitored strictly.

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