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Case Report

Intrapartum posterior wall rupture in unscarred uterus during labour augmentation with oxytocin: a case report

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ABSTRACT

Intrapartum rupture of unscarred uterus during labour augmentation is an exceedingly rare occurrence with very few case reports of this entity in the literature. We intend to report such case to highlight the importance of constant vigilance during oxytocin infusion even in patients with unscarred uterus. The 27 years old lady who had a previous normal vaginal delivery, came in early labour at term gestation. Augmentation of labour was done with oxytocin. After 30 mins of starting oxytocin patient complained of severe pain abdomen and on CTG fetal heart dropped to 70 bpm. Despite all measures fetal heart rate did not pick up and patient was taken up for cesarean section. Intraoperatively, posterior uterine wall ruptured was found with baby and placenta lying in the abdominal cavity. Baby had a low Apgar score and died on third day. Uterine rupture repair was done and patient was discharged on 5th postoperative day. Although oxytocin has excellent safety record in unscarred uterus, the possibility of rupture uterus should be kept in mind in relevant clinical scenario.

Keywords: Unscarred uterus, Uterine rupture, Labour augmentation, Oxytocin infusion

INTRODUCTION

Rupture of a gravid uterus is one of the gravest catastrophes in obstetrics carrying often fatal consequences for both the mother and fetus. It may not only endanger her life but also may even affect her future fertility status as well.¹ Uterine rupture is an extremely rare event in a patient with a history of spontaneous vaginal deliveries and no obvious risk factors.² In a WHO systematic review of uterine rupture worldwide found the incidence of 2.3 per 10 000 births. A study in India reported that the incidence of uterine rupture among women with prior CS was 1.69% however data on the incidence of rupture of unscarred uterus is scarce. Although most uterine ruptures occur in women with prior scarred uterus, rupture of the nulliparous unscarred uterus is also possible. A very high perinatal mortality is the hallmark of rupture uterus, the incidence ranging from

75% to 93%. Presently maternal mortality due to rupture uterus ranges from 0-1% in developed countries and 5-10% in developing countries.³

CASE REPORT

A 27 years old gravida 2, para 1 was a booked low risk patient. Patient had a full term uneventful normal vaginal delivery 3 years back. She presented with labour pains at 39 weeks and 2 days period of gestation to our hospital. On examination her vitals were stable and per abdomen uterus was term size with cephalic presentation, head was 4/5th above brim, fetal heart rate was 130/minute and she was getting 1 contraction every 10 minutes lasting for 20-30 seconds. On per vaginal examination cervix was 3 cm dilated, early effaced; vertex at -3 station, bag of membrane was present. Oxytocin augmentation was started at the rate of 2 mU/min with continuous cardiotocographic

monitoring. After 30 mins of starting oxytocin patient complained of severe pain abdomen and on CTG fetal heart dropped to 70 bpm. Oxytocin infusion was stopped, patient was kept in left lateral position, oxygen supplementation was started and intravenous fluid was rushed but fetal bradycardia persisted. Patient was immediately shifted to operation theater for cesarean section in view of non-reassuring fetal status. Intra operatively, there was hemoperitoneum of about 1 liter and fetus with placenta were lying in the peritoneal cavity. There was uterine rupture on posterior surface of uterus extending from left cornua to lower part of uterus till uterosacral ligament. Uterine rupture was repaired in 2 layers, bilateral uterine arteries were ligated, hemostasis was achieved and two units of whole blood were transfused. Her postoperative period was uneventful and she was discharged on 5th day. Baby's birth weight was 2800 gm Apgar score of 0, 3, 5 and died on third day after a stormy course in NICU.



Figure 1: Unscarred uterus with intact anterior surface.

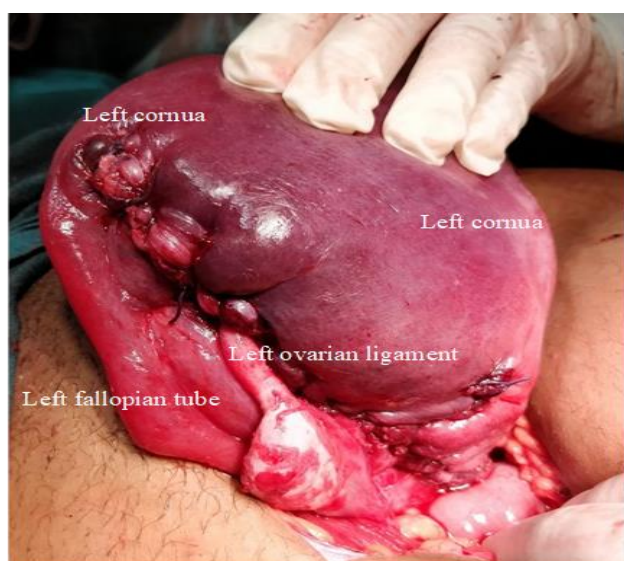


Figure 2: Repaired posterolateral surface of uterus.

DISCUSSION

Uterine rupture is a true obstetrical emergency. It has high maternal and fetal morbidity and mortality. Risk factors for uterine rupture in an unscarred uterus include grand multiparity, induction with misoprostol or oxytocin, malpresentation and macrosomia. Other identified risk factors included placenta percreta, a congenitally abnormal uterus, Ehlers-Danlos syndrome, gestational trophoblastic disease, and adenomyosis.⁴

Unscarred uterine rupture is a rare obstetric complication, with an estimated incidence of 1 in 8000-15,000 deliveries.^{5,6} As a result, few large studies have examined this disease process. One population based Norwegian study (1967-2008) sought to examine specific risk factors for uterine rupture. It was found that, among women with an unscarred uterus, age over 35 years, having a parity of at least 3, being born in a non-Western country, and having a previous miscarriage before 12 weeks put them at a particularly high risk for rupture. Of greatest significance, they found that oxytocin has a higher odds ratio for rupture than induction with prostaglandins (6.5 and 4.5 respectively), and that the sequential use of prostaglandins and oxytocin had an odds ratio of 48.⁷

In the index case, patient had none of the above-mentioned risk factors except use of oxytocin infusion for induction. During labor, the non-reassuring fetal status and severe abdominal pain led to the decision to proceed immediately to the operating room. At this time, placental abruption was originally thought to be the cause of her symptoms. There was a low suspicion for uterine rupture at the time and it was diagnosed only after her abdomen was entered surgically. Most ruptures occur in the lower uterine segment, however, in the index case rupture was located on the posterior wall of uterus.⁸

CTG abnormalities are associated with 55-87% of uterine ruptures.⁹ Other recognized signs of uterine rupture include loss of station of presenting part and new inefficient contractility.¹⁰

CONCLUSION

Rupture of the unscarred uterus can be a catastrophic event that results in maternal and fetal morbidity and mortality. It is imperative to have increased suspicion and distinguish these symptoms from other occurrences in the intrapartum period, such as placental abruption or intrauterine infection. The risk for maternal and neonatal morbidity and mortality is higher in cases involving unscarred uteri because there can be delayed awareness of the rupture due to typical labour pains and lack of obvious risk factors. This case serves as an educational example of a detrimental outcome in an apparently low-risk situation. Heightened awareness, close supervision and low threshold for intervention would enable obstetrical team to achieve a better outcome when presented with a similar situation. This case underscores the point that the excellent

safety record of oxytocin for labor augmentation depends upon vigilant monitoring of the fetal, uterine, and cervical effects of infusion.

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