



**ORIGINAL RESEARCH PAPER**

**Obstetrics & Gynaecology**

**A RARE CASE REPORT OF UTERINE SCAR RUPTURE IN THE FIRST TRIMESTER OF PREGNANCY**

**KEY WORDS:** Rupture uterus, hemoperitoneum, emergency laparotomy

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**ABSTRACT**

Uterine rupture is one of the most dreaded complications of child birth with potentially grave consequences to the mother and the fetus. The risk of uterine rupture markedly increases with previous uterine surgeries. First trimester uterine rupture that could endanger mothers and fetal life is very rare. There is an increased risk of uterine rupture with any previous surgeries on uterus and its anomalies. Medical termination of pregnancy in a scarred uterus with misoprostol poses an increased risk for uterine rupture. caesarean scar ectopic pregnancy and placenta percreta are predisposing factors of spontaneous uterine rupture. Rupture of uterus in the early trimester is clinically nonspecific and other acute causes of abdominal emergencies such as ectopic pregnancy should be distinguished from one another. Immediate diagnosis and definitive management decreases the significant risk of maternal mortality. A case of 28 years old multigravida women with one previous caesarean section who underwent an emergency laparotomy due to spontaneous early trimester uterine rupture.

**INTRODUCTION:-**

Rupture uterus is defined as the nonsurgical, full thickness tear through all layers including visceral peritoneum of the uterine wall with or without expulsion of fetus. In women who have undergone prior uterus procedures, uterine rupture most frequently happens along healed scar lines, the factors that predispose scar rupture after previous caesarean section are type and number of caesarean sections, short inter delivery interval, induction of labour and puerperal sepsis. Obstructed labour, use of excessive amounts of uterotonics, failure to recognize labour dystocia in the presence of hypertonic uterine contractions, lower segment uterine constriction ring, and prostaglandins used to induce labour, congenital uterine anomalies, trauma, overdistention of the uterus caused by twin gestation, polyhydramnios, and anomalous fetus are the other causes for rupture of uterus.

Uterine rupture symptoms include bleeding per vagina, pain between two uterine contractions, hematuria, cessation of uterine contractions, and severe abdominal pain. Although numerous uterine rupture symptoms have been reported, they might not always be present. Severe tenderness at the site of the uterine scar, loss of the foetal station, or the baby's head moving back into the abdomen, a suprapubic bulge, or the foetal head protruding from the uterine scar, the possibility of the uterus becoming flabby due to loss of uterine tone, as well as tachycardia and fall in blood pressure are all indicators of uterine rupture<sup>2</sup>. Exploratory laparotomy provides definite diagnosis. Treatment of uterine rupture is emergency laparotomy with repair of uterine rupture, and if necessary, hysterectomy<sup>3</sup>.

**CASE REPORT:**

A 28years old, G2P1L1 with 10 weeks of gestational age came to dept. of obstetrics and gynaecology opd at katuri medical college and hospital with a complaint of spotting per vaginum and lower abdominal pain for 1 day. patient vitals were stable. Per abdomen examination revealed suprapubic scar and is soft and nontender. she was sent for routine antenatal blood investigations and USG. All her blood reports were normal and Ultra sound report showed a single live intrauterine gestational sac measuring 3.01cm, CRL 2.2 cm corresponding to 9 weeks 2 days with FHR 110 bpm noted. Patient was kept on progesterone supplements and got admitted for further observation. Next day in the middle of the night, she had a complaint of severe abdominal pain and heavy bleeding per vaginum, Her PR was 154/min, blood pressure was 60/40 mm

of Hg, tenderness and guarding rigidity was present all over abdomen, and resuscitative measures were immediately instituted. She was a case of previous one cesarean delivery, and last childbirth was 1 year back. An ultrasonography revealed focal disruption of uterine contour, gross free fluid in the abdomen suggestive of hemoperitoneum with absent fetal cardiac activity. Consideration was given to the possibility of a preliminary diagnosis of scar rupture or heterotopic pregnancy with rupture of a concurrent ectopic pregnancy or uterine abnormality. Her hemoglobin was 6g/dl, she was posted for an emergency exploratory laparotomy under general anesthesia with 2 units of whole blood packets after taking consents from the patient and attenders. Intraoperatively after opening all the layers of abdomen a fresh blood of 2000ml was suctioned and there was an active bleeding from the rent of about 1 cm at the previous scar site on the anterior surface of uterus from which the products of conception were seen and removed after giving a small incision on the uterus.

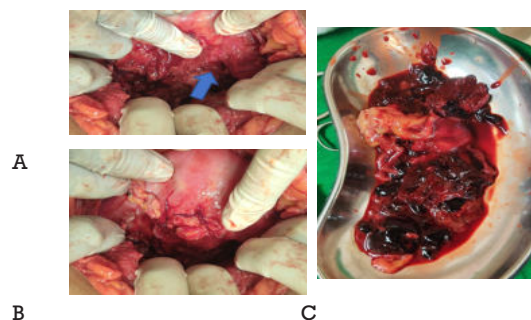


Figure: (A and B) Uterine rent & Suturing  
Figure: (C) Products of conception

Intra operatively she was transfused with 2 units of whole blood and the uterus was closed in two layers with no.1 vicryl. peritoneal wash with warm saline was given and abdomen was closed after securing hemostasis. she was shifted to ICU post operatively, where 3 units of PRBC and 2 units of fresh frozen plasma were transfused. Her vitals were stable with PR of 100bpm and BP of 90/60 mmhg. Her postoperative period was uneventful and was discharged on postoperative day VIII. Contraceptive advice with OCPs was given to prevent recurrence of rupture of uterus and promote uterine scar healing.

**DISCUSSION:**

The incidence of uterine rupture in unscarred uterus has been reported between 1 in 8000 and 1 in 15,000. This increases to 20 to 80 per 10,000 in mother with uterine scars<sup>5</sup>. Overall reported rate of uterine rupture after one caesarean section is 0.7 to 0.9% and 0.9 to 1.8% after two or more caesarean sections<sup>6</sup>. Risk of rupture is also increased with single layer closure of the uterus in previous caesarean section.

The incidence of uterine rupture after a lower segment transverse section is about 1%, low vertical scar is about 1 to 7% and previous classical caesarean section is 4 to 9%<sup>7</sup>.

The rate of rupture increases from 1.3 to 4.8% when the inter delivery interval is more than 24 months and less than 18 months respectively<sup>8</sup>.

Induction of labour with oxytocin and prostaglandins increase the risk of rupture compared to women labouring spontaneously. Additionally, Park et al. described a uterine rupture that manifested as hemoperitoneum at the sixth week of gestation<sup>9</sup>. Sun et al., described a multiparous lady who had a spontaneous uterine rupture at the 17th week of her pregnancy was taken to the hospital with hemorrhagic shock. Her laparotomy resulted in the removal of more than 2000 mL of hemoperitoneum<sup>10</sup>.

In our case report, however, the patient did not have the history about of the curettage of the uterus. So the cause of the rupture was not clear.

In this situation, hemoperitoneum can be regarded as non-obstetric cause or immediate management can be delayed, because spontaneous uterine rupture in early pregnancy having gestational sac is very uncommon<sup>11</sup>. With the increasing use of ultra sounds in obstetrics several studies have tried to correlate sonographic measurement of scar thickness in women with previous caesarean section with risk of rupture in subsequent labor. Different cutoff have been proposed for the prediction of an increased of rupture from 1.5 – 2.3mm<sup>12</sup>.

Uterine rupture is usually a serious and potentially catastrophic event because of massive uterine bleeding. Early surgical intervention is the key to successful treatment of uterine rupture<sup>13</sup>.

**CONCLUSION:**

Uterine rupture in the first trimester is an extremely rare. It is important to distinguish between other causes of acute abdominal pain and non-specific symptoms of uterine rupture during the first trimester of pregnancy. For a precise diagnosis and course of treatment, an emergency exploratory laparotomy is essential.

One crucial element in the management of such patients is the availability of blood and blood products. The current case demonstrates that, despite being unusual, having a previously scarred uterus increases the likelihood of spontaneous rupture of the uterus in the early stages of pregnancy.

Prevention includes identifying pregnant women at risk of uterine rupture. Proper selection of women for trial of labor after cesarian section and limited use of oxytocic agents appropriate inter delivery interval using contraceptives can reduce rupture of uterus. Therefore, due to the exponential increase in uterine procedures, every obstetrician must be aware of this uncommon but unfortunate and very deadly consequence.

**REFERENCES:**

1. Lakshmi Sheshadri Gita Arjun Uterine rupture Essentials of obstetrics 2nd Editon. Wolters Kluwer publishers(P) Ltd. Pvt. Ltd 2022 p.591.
2. VBAC, What Is a Uterine Rupture and How Often Does It Occur? Uterine Rupture. (In Press: Msdmanuals) January; 2016. Available from: <http://www.vbac.com/>

3. Park YJ, Ryu KY, Lee JI, Park MI. Uterine rupture in the first trimester tith missed fetus: A case report. J Cases Obstet Gynecol 2015;2:97-9.
4. Wang YL, Su TH. Obstetric utrine rupture of the unscarred uterus: a twenty-year clinical analysis. Gynecol Obstet Invest 2006;62(3):131-5.
5. Al-Zirqi I, Stray-pedersen B, Forsen L, Daltveit A, Vangen S. Uterine rupture: trends over 40 years. BJOG 2016;123:780-7.
6. ACOG practice bulletin no. 205: vaginal birth after cesarean delivery. Obstet Gynecol 2019;133(2):e110-27.
7. Fang YM, Zelop CM. Vaginal birth after cesarean: assessing maternal and perinatal risks—contemporary management. Clin Obstet Gynecol 2006;49(1):147-53.
8. Bujold E, Gauthier RJ. Risk of uterine rupture associated with an interdelivery between 18 and 24 months. Obstet Gynecol 2010;115(5):1003-6.
9. Park YJ, Ryu KY, Lee JI, Park MI. Spontaneous uterine rupture in the first trimester tith missed fetus: A case report. J Cases Obstet Gynecol 2015;2:97-9.
10. Sun HD, Su WH, Chang WH, Wen L, Huang BS, Wang PH. Rupture of a pregnant unscarred uterus in an early secondary trimester: A case report and brief reviet. J Obstet Gynaecol Res 2012;38:442-5.
11. Choi KD, Choi HK, Lee HS, Kim CB, Lee GN. A case of spontaneous rupture of the uterus with placenta increta in early pregnancy. Korean J Obstet Gynecol. 1996;39:1359-1364. [Google Scholar]
12. Bujold E, Jastrow N, Simoneau J, Brunet S, Gauthier Rj. Prediction of complete uterine rupture by sonographic evaluation of the lower uterine segment. Am J Obstet Gynaecol 2009;201(3):319-25.
13. Suner S, Jagminas L, Peipert JF, Linakis J. Fatal spontaneous rupture of a gravid uterus: Case report and literature review of uterine rupture. J Emerg Med. 1996;14:181-185. [PubMed] [Google Scholar]