



## Rupture of uterus in the second trimester - an unusual cause

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### Introduction

Rupture of uterus during labor is not uncommon. Most of them occur following a previous cesarean section and involve dehiscence of lower segment. We present a case of a previous lower segment cesarean section (LSCS) who had rupture of upper segment in the 6th month in the subsequent pregnancy due to an unusual cause.

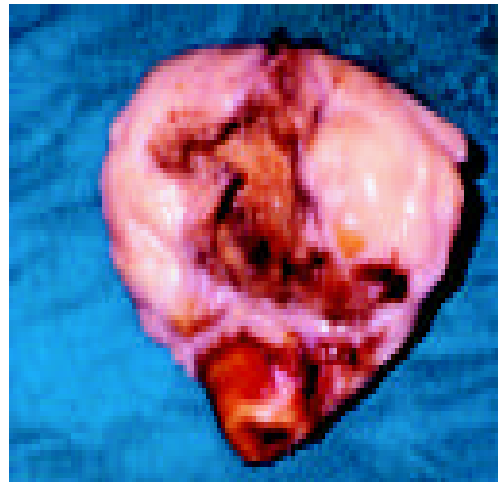
### Case report

A 25 year old lady, presented on 16th November, 2002 to the gynecological casualty at 24 weeks pregnancy with pain in abdomen, vaginal bleeding, and loss of fetal movements since 6 hours. Vaginal bleeding was quantified as about 100 mL. She was a second gravida with previous LSCS with no live issue.

On examination, she was in hemorrhagic shock with a low volume pulse of 110/minute, blood pressure of 70/50 mm Hg, and extreme pallor. Abdomen was distended, diffusely tender with superficial fetal parts, and free fluid. Uterine contour was absent. There was minimal vaginal bleeding and the os was closed.

With a diagnosis of ruptured uterus with hemoperitoneum, she was immediately resuscitated and taken up for laparotomy. There was one liter of hemoperitoneum with clots. The amniotic sac with fetus and the detached placenta were lying in the peritoneal cavity. The uterus revealed a large zigzag defect in the upper segment up to the fundus (Figure 1). The cervix, vagina and bladder were intact.

The fetus and placenta were extracted and emergency hysterectomy was performed. She was given four units of blood transfusion. Postoperative recovery was uneventful.



**Figure 1.** Hysterectomy specimen showing the zigzag tear in the anterior wall.

In the previous pregnancy she had presented at term with severe preeclamptic toxemia with placental abruption and intrauterine death. Attempts at induction of labor were not successful and hence a LSCS was performed. The uterus was couvelaire. A 2.6 kg dead fetus was extracted. There were about 1 kg of retroplacental blood clots. She developed atonic postpartum hemorrhage that did not respond to uterotonic drugs. Uterine artery ligation was performed followed by bilateral internal iliac artery ligation and ovarian artery ligation. In view of continued bleeding, myometrial stitches were taken in the anterior wall from side to side to arrest the bleeding sinuses (Figure 2). The bleeding was substantially controlled. She received multiple blood transfusion, fresh frozen plasma, and platelets. The coagulation profile confirmed disseminated intravascular coagulation. There was no extension of the lower segment cesarean incision. She had an uneventful recovery from surgery.

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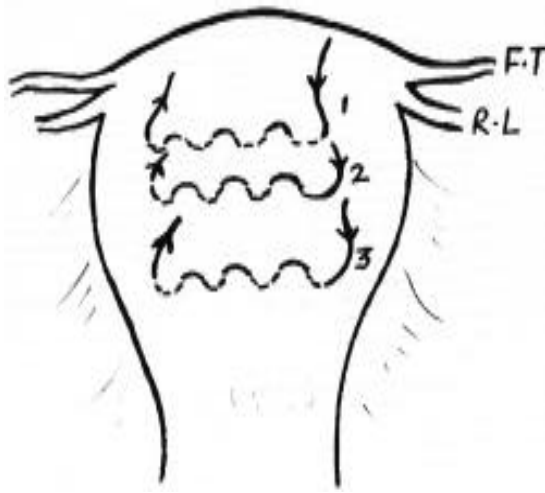
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**Figure 2.** Line diagram showing the modified brace sutures (1,2,3) on the anterior wall of the uterus during previous pregnancy.

### Discussion

Rupture uterus is not uncommon following LSCS. Most of these occur during labor. Surgeries involving upper segment like hysterotomy, classical cesarean section, myomectomy, previously repaired uterine rupture, metroplasty, and LSCS with upward or inverted T-shaped extension are more prone to uterine rupture early during pregnancy and at term even before labor ensues <sup>1,2</sup>.

In our case, there was rupture involving the upper segment at 24 weeks of pregnancy. The previous delivery was through a lower segment transverse incision that was not extended. There was no postoperative wound infection. There was no history of curettage, voluntary termination of pregnancy (MTP), or manual removal of placental.

The uterus showed a zigzag tear of the upper segment. The stitches taken through the myometrium of the anterior wall to arrest the bleeding sinuses during previous delivery might have weakened the wall or actually cut through part of the myometrium thereby weakening it and resulting in subsequent rupture.

B-Lynch introduced B-Lynch brace suture in 1992 to arrest bleeding following cesarean section <sup>3</sup>. The methodology of this stitch is different. Any modification of this stitch to suit the case might be a matter of serious concern as happened in our case. It is well known to have rupture following uterine perforation, curettage, cornual resection of interstitial oviduct, and rudimentary horn pregnancy <sup>2</sup>.

Rupture in early pregnancy following a previous modified brace suture of myometrium to arrest hemorrhage has not been reported earlier.

We recommend that one should follow the steps of B-Lynch strictly and discourage any modification of myometrial stitch to control atonic postpartum hemorrhage.

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