

Spontaneous Vertical Broad Ligament Tear in Unscarred Uterus: a Case Report

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- **Introduction:**

Broad ligament tear is a rare and serious complication in pregnancy. Dozens of cases have been reported in antenatal, intrapartum, or postnatal periods. Here we report a case of spontaneous large longitudinal broad ligament tear which was identified at the time of an emergency caesarean section.

- **Case History:**

Background and Latent Phase of 1st Stage of Labour:

A 38 years old low risk G1P0 lady attended midwifery led unit at 40+1 weeks gestation after 11 hours of latent phase of labour. She was normally fit and well, except for a history of surgically excised malignant melanoma which was treated and not recurred. She did not report gynaecological condition in the past, and did not take regular medication. She had an uncomplicated midwifery-led antenatal period with normal serial symphysial fundal height measurements. She ruptured the membrane spontaneously at fully effaced 2cm dilatation four hours after presenting to us. Liquor was clear. She progressed quickly to 9cm in next three hours. Due to audible fetal heart decelerations on intermittent auscultation, she was transferred to the consultant-led unit for continuous electronic fetal heart monitoring. She had 4 in 10 strong and regular contractions with good resting tone.

Active 1st Stage of Labour

On labour ward, the CTG was initially normal with baseline of 145 bpm. The midwife thought she was fully dilated at first and commenced pushing for one hour as patient felt the urge to push.

Further examination by registrar confirmed 9cm dilatation and epidural was administered at patient's request. Two hours later, CTG was classified as pathological because there were concerning variable decelerations more than 50% of contractions for more than 30 minutes. The baseline also went up to 160 bpm. She developed mild maternal tachycardia 100bpm. The rest of observations were completely normal. In addition, she appeared pale and complained of left shoulder tip pain. Repeat vaginal examination revealed 9cm dilatation of cervix. Vertex at +1 station, asynclitic ROT, with caput and no moulding. Therefore, grade 2 emergency Caesarean section was decided in view of pathological CTG and suspected delayed 1st stage.

Emergency C section and postpartum

She had epidural top up for anaesthesia. Pfannanstiel incision was made. A large haemoperitoneum was found on entry (at least 1 litre). There was no rotation of the uterus. A lower segment transverse incision was made and a baby boy was delivered in good condition with cord gas pH of 7.12 and 7.17 and base excess of -11.1 and -11.2. Birth weight was 3370gm. There was no extension of incision at both uterine angles. On the left side, separate to the uterine incision, large longitudinal broad ligament tear was identified, and this was the cause of haemoperitoneum. The tear was extending from just below the left round ligament down to the pelvic floor (**figure1**). Left ureter was traced and confirmed intact. The bleeding points were controlled with haemostatic sutures, but the broad ligament was too friable to be repaired. Bleeding was managed with haemostatic sutures, tranexamic acid and Surgicel. Uterus remained good tone. She lost 2.4L blood in total and received 4u red blood cell and 4u FFP. A pelvic drain was inserted, and this was removed on day 3 after draining total of 1.5L serosanguinous fluid. She developed mild paralytic ileus for a day, which settled after conservative managements. Patient otherwise made a good recovery postoperatively and was discharged on day 4.

- **Discussion:**

Broad ligament haematomas following spontaneous labours have been reported but broad ligament tear in an unscarred uterus is rare.

Cases have been reported following non Obstetric trauma such as road traffic accidents or with connective tissue disorders. There was one case reported following equestrian injury possibly due to sudden stops and starts. Due to the rarity of broad ligament tears, the risk factors, pathogenesis, manifestations, and managements were not well documented. In this case, we were unable to suture the tear completely as the tissues were extremely friable. The patient was fully informed the risk of bowel herniation and possibility of repeat surgery.

Frequent use of epidural anaesthesia has made the diagnosis of internal bleeding more challenging. Good epidural could mask the abdominal pain as in our case. Therefore, a careful assessment of other symptoms and signs such as skin pallor, shoulder pain, maternal or fetal tachycardia, etc is crucial. In Addition to the primary diagnosis of abruption, uterine rupture and broad ligament tears also should be considered as differential diagnoses. Early intervention and management will improve the maternal and fetal outcomes.

Figure 1

