

# Spontaneous Intra-Partum Rupture of Uterine Vein – An Uncommon Cause of Intra-Abdominal Haemorrhage

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## Summary

A rare case of spontaneous rupture of a branch of the uterine vein in a primigravida is discussed. The patient with an uncomplicated pregnancy presented with signs and symptoms suggestive of abruptio placenta with foetal distress. Lower segment Caesarean section was performed. The cause of acute pain was identified to be intra-abdominal bleeding secondary to the rupture of a branch of the uterine vein. The pathophysiology of the problem is discussed.

**Key Word:** Spontaneous uterine vein rupture

## Introduction

Bleeding placenta praevia and abruptio are the common causes of haemorrhagic shock in late pregnancy and labour. Massive haemorrhage from ruptured uterine vein is a very rare condition. It is not described in standard text books because of its rarity. Diagnosis is difficult as there is most often no obvious precipitating factor. Indecision and tragic delay have resulted from unfamiliarity with the condition<sup>1</sup>. This case is reported to create an awareness among obstetricians of the existence of this condition which is associated with high maternal morbidity and mortality.

## Case Report

Mrs S B was a 23-year-old primigravida admitted with a history of continuous lower abdominal pain at 37 weeks gestation. Antenatally, she had an uncomplicated pregnancy. On admission, she was noted to be distressed and also complained of right shoulder tip pain on lying down. On examination, there was slight pallor, the pulse rate was 90/minute and the blood pressure was 110/80mm of Hg. Abdominal examination revealed the uterus to be soft and not tender. The uterine size corresponded to 38 weeks of gestation with a single foetus in cephalic presentation and longitudinal lie. The head was engaged.

Continuous cardiotocographic recording showed a reactive pattern with regular contractions every four minutes. Pelvic examination showed the cervix to be well effaced. The cervix was 3cm dilated and the membranes were intact. The presenting part was vertex at station -1. The pelvis was assessed to be adequate for vaginal delivery.

However, two hours later, the cardiotocograph showed regular late decelerations. The patient had become more pale, with a pulse rate of 120/minute. The blood pressure had come down to 80/60mm of Hg. The abdomen was guarded, tense and tender. A provisional diagnosis of abruptio

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placenta with acute foetal distress was made. An emergency lower segment Caesarean section was performed using a midline subumbilical vertical incision. A live female baby weighing 2.9kg with an Apgar score of 4 and 9 at one and five minutes respectively was delivered. The placenta was complete with no evidence of any retroplacental clots. However, the peritoneal cavity contained about 900ml of fresh blood and clots.

A thorough search of the abdominal cavity did not reveal any source of bleeding from the upper abdomen. However, there was a small venous rupture about two to 3mm diameter seen on the ascending branch of the right uterine vein near the cornual region in the right broad ligament. Active bleeding was noted from the small venous rupture. There was varicosity noted in both broad ligaments. The haemorrhage was arrested with vicryl sutures and the peritoneal cavity was cleaned. The abdomen was closed in layers. The patient had a total of two units of blood transfused intra-operatively. Her post-operative recovery was uneventful. At post-natal clinic six weeks later, she was well, the uterus had involuted and she already had her first menstrual period with normal flow.

### Discussion

Haemorrhagic shock during late pregnancy and labour is still a common problem in the developing world. Common causes are abruptio placenta and placenta praevia. However, intra-abdominal haemorrhage from a ruptured uterine vein is a very rare condition. Pre-operative diagnosis of the condition is often difficult as there are no specific symptoms pertaining to this condition. Besides, many a time the pregnancy is normal and the labour uncomplicated. The diagnosis is most often made intra-operatively as in our patient or at autopsy.

A review of the literature on spontaneous rupture of the uterine vein until 1988, showed that less than 100 cases have been reported<sup>1,2</sup>. In most of the cases the venous rupture was spontaneous with no known etiology, as seen in our patient. Varicosity of the uterine vein has been mentioned as an important finding at operations or at autopsy<sup>2</sup>. Sudden increase in venous pressure especially in labour has been implicated as a possible etiological factor. This coupled with an inherent vein-wall weakness appears to be an important factor predisposing to rupture<sup>3</sup>.

Sudden onset of severe lower abdominal pain with shock as seen in our patient should suggest a differential diagnosis of uterine vein rupture. Painful contractions may often obscure the diagnosis in labour. Failure to act immediately may result in maternal death. Maternal mortality rate among the 75 cases reviewed in 1950 was 49 per cent. Of these, 60 per cent were related to labour<sup>3</sup>, further highlighting the difficulty of diagnosing this condition in labour. However in present day obstetric practice with close monitoring of patients in labour, early resort to Caesarean section and better anaesthetic facilities, the mortality rate could be kept to a minimum. The obstetrician should have in mind the possibility of the spontaneous rupture of uterine vein as a cause of unexplained shock in pregnancy and labour, and early resort to treatment will avoid maternal morbidity and mortality.

### References

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