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Case Report

Quirk of fate: a case report of complete uterine torsion in early third trimester

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ABSTRACT

Uterine torsion is an abnormal rotation of the uterus along its fixed longitudinal or vertical axis by an angle more than 45 degrees. Uterine torsion ranges from 60 to 720 degrees with 180 degrees being the most common. Here is a 30-year-old G3P1L1A1 with singleton pregnancy with 29 weeks 2 days gestation with previous LSCS admitted in our hospital with severe pain abdomen. The pain started 4 hours back. On examination patient was hemodynamically unstable. Abdominal examination revealed a tense, tender uterus with absent fetal cardiac activity. Clinical diagnosis of Placental abruption with intrauterine fetal demise was made. Emergency LSCS done in view of deteriorating haemodynamic status under GA. Dilated and torturous pelvic vessels with couvelaire uterus noted. After extraction, while exploring the posterior aspect of the uterus, uterine torsion of 360 degrees noted. On derotation of uterus, pelvic congestion relieved and uterus started to contract and retract.

Keywords: Uterine torsion, Couvelaire uterus, Intrauterine fetal demise

INTRODUCTION

Uterine torsion, a “once in a lifetime diagnosis” for an obstetrician is a serious life-threatening emergency. Uterine torsion is an abnormal rotation of the uterus along its fixed longitudinal or vertical axis by an angle more than 45 degrees.¹ Physiological uterine torsion occurs when sigmoid ring is located on the left side of peritoneal cavity during pregnancy and does not exceed 45 degrees.² Pivot Point is mostly at the junction of cervix and corpus.³ Uterine torsion ranges from 60 to 720 degrees with 180 degree being the most common.³ Torsion can occur in any trimester of pregnancy but most common is in third trimester 85%.⁴

The signs and symptoms of uterine torsion mimics other obstetric emergencies. Hence diagnosis is made mostly intra operatively. The outcome depends on the gestational age, severity of torsion and the time of intervention.⁵

CASE REPORT

The patient was a 30-year-old gravida 3 para 1 living 1 abortion 1 with singleton pregnancy with 29 weeks 2 days gestation with previous lower segment caesarean section admitted in our hospital early in the morning with severe pain abdomen. She had regular antenatal checkups. Blood investigations and ultrasound scan were all normal till last visit. Relevant triggers like trauma and sexual activity were ruled out. No significant medical and family history.

Her last visit to the hospital was a month ago. On the day of the event, the pain in the lower abdomen started around 1 am. Patient visited the hospital 4 hours later with a continuous, intractable pain in the entire abdomen with perspiration. Physical examination revealed severe pallor, tachycardia of 140 beats per minute, tachypnea of 35 per minute, Blood pressure of 110/80 mmHg. Abdominal examination revealed a tense tender uterus corresponding

to 30 to 32 weeks size noted, with scar tenderness. Auscultation with fetal Doppler couldn't detect fetal heart rate. Due to the severity of pain abdomen and absent fetal cardiac activity, clinical diagnosis of abruption was made and proceeded for emergency LSCS after arranging adequate blood and blood products.

The caesarean section was performed under general anaesthesia. Modified Pfannensteil incision is made and abdomen opened in layers. Dilated and torturous pelvic vessels noted. Kerr incision made in uterus. Blood clots and collected blood of around 1500 ml came out. A retroplacental clot of around 250 grams taken out. A single dead male fetus weighing 1300 grams was extracted. Two loops of cord around fetal neck noted. Cord clamped and cut in between Placenta with membranes removed in toto. A flabby atonic couvelaire uterus noted (Figure 1). Mechanical and medical methods for management of atonic postpartum haemorrhage including intramyometrial carboprost were tried. Despite all these measures uterus was flabby. On examining the posterior aspect of uterus, uterine torsion–dextrorotation of 360 degrees noted (Figure 2). Torsion noted at the junction of uterus and cervix. Manual uterine derotation done. After derotation 360 degrees, the incision was found to be on the anterior aspect of the uterus. Uterus started contracting and retracting. Uterus sutured in double layers. Pelvic congestion reduced. Abdomen closed in layers after achieving haemostasis.

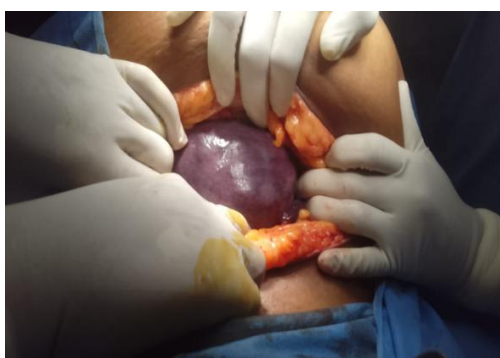


Figure 1: Couvelaire uterus.



Figure 2: Uterine torsion.

Intra operatively patient was transfused with 2 pints of packed red blood cells in view of Hemoglobin 8.4 gm/dl. Postoperative diagnosis of uterine torsion complicated by severe abruption with intrauterine fetal demise was made. Patient was under strict monitoring in the ICU. On first and second post-operative day patient was given two more pints of packed red blood cells owing to repeat hemoglobin of 5.4 gm/dl. Early ambulation done. Measures to prevent deep vein thrombosis were taken. Lactation suppression done. On 5th post-operative day patient was discharged. Adequate psychological support and contraceptive advice given. Chances of recurrent torsion explained.

DISCUSSION

The first case of uterine torsion was published by Labbe in 1876. Incidence is not cited because of few case reports.⁵ Uterine torsion is an abnormal rotation of the uterus along its fixed longitudinal or vertical axis by an angle more than 45 degrees.¹ Uterine torsion occurs in women irrespective of age, parity and gestational period.⁶ Dextrorotation of uterus occurs in two third of cases and levorotation in one third cases. Though uterine torsion occurs in any trimester of pregnancy, it is more common in the third trimester of pregnancy accounting for 85%.⁷ Uterine torsion ranges from 60 to 720 degrees with 180 degrees being the most common.^{3,8} Rare cases of uterine torsion occurring in postmenopausal women with big fibroid had been reported.⁹

The aetiopathogenesis is not clear. Although spontaneous torsion (20%) occurs in certain cases, other associated factors contributing to the torsion are uterine fibroids, mullerian anomalies, fetal malpresentation, pelvic adhesions and lax ligaments.^{7,4} Irregularly bodily movements, posture and positions of the patient, functional variation in the size, anatomy, position and mobility of the bladder and rectum, irregular contractions of the abdominal muscles along with the uterine contractions and fetal movements are other contributing factors.³ Robinson and Duvall named these as activating factors.³ The mechanism of torsion can be explained by an elongated cervix with structural weakness and angulation in the isthmic region leading to torsion. The structural weakness can be developmental or acquired.⁶

Torsion of the uterus leads to impaired uteroplacental perfusion and venous outflow leading to placental abruption, massive hemorrhage, couvelaire uterus and intrauterine fetal demise as in our case.¹⁰ Most of the patients are symptomatic at the time of presentation. Most common symptom is acute abdominal pain.⁷ Gastrointestinal symptoms include nausea and vomiting and some present with even urinary symptoms.⁷ The differential diagnosis includes placental abruption, uterine rupture, obstructed labour, pelvic mass torsion, acute appendicitis.¹¹ Due to the coincidence of symptoms of uterine torsion with other obstetric emergencies, difficulty lies in diagnosing the condition antenatally. In most of the cases it is an intraoperative diagnosis. Uterine pulsations

might be felt in the anterior or posterior fornix with twisted vagina and constriction ring in the cervix. Ultrasonography done in the antenatal period reveals transposition of the placental bed compared to the previous scan and Doppler showing ovarian vessels anterior to the uterus.¹² MRI demonstrates “X” configuration in upper vagina.¹² Other MRI findings include X-shaped vagina, Vaginal stretch sign and whirled cervix sign. In majority of the cases no time is left for diagnosing by ultrasonography or MRI and are generally taken up for emergency caesarean in view of abruption, fetal distress, obstructed labour, uterine rupture or pelvic tumour torsion.

The outcome depends mainly on the gestational age, severity of torsion and time of intervention.⁵ The period between 20 and 28 weeks of pregnancy carries the highest mortality rate of 17% and the rates decline with increasing gestational age.¹ There were no maternal deaths less than 20 weeks of gestation, 10% between 29 to 34 weeks and 9% at term.¹ The torsion of 180 to 360 degrees carries the case fatality rate of 36% and 71% fetal death rate.¹ The overall perinatal mortality rate ranges from 12 to 18% due to placental abruption, fetal distress and death.³ Severe uterine torsion causes major distortion of pelvic anatomy, making intraoperative orientation and safe uterine access difficult.¹⁰ In majority of cases, uterine detorsion is difficult before extraction, so a posterior lower segment incision is acceptable.¹³ In our case, as uterine torsion is diagnosed after extraction, the incision was found to be on the anterior surface after 360 degrees derotation. Vertical incision prevents extension into uterine vessels, haematoma formation and injury to ureters. Plication of lax utero-sacral and round ligaments were suggested by some authors to prevent retorsion.^{7,6}

CONCLUSION

Uterine torsion is a serious life-threatening emergency that leads to abruption, fetal demise and haemodynamic instability to the patient. It requires a good team work – obstetrician, anaesthetist, paediatrician, OT technicians and a good blood bank. Whenever uterus fails to contract in a case of antepartum haemorrhage always rule out torsion uterus.

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