CASE REPORT

Complete axial torsion of pregnant uterus with leiomyoma

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SUMMARY

Uterine torsion is defined as a rotation of the uterus of more than 45° along its long axis. It is a rare complication during pregnancy; a common cause of torsion can be uterine myoma. Here we describe the case of a 27-year-old G2P1+0 woman at 15 weeks 3 day pregnancy, who presented to our outpatient department as a case of acute abdomen, in a state of shock. Clinical findings did not correlate with investigation. On laparotomy she was diagnosed as a case of complete axial torsion of pregnant uterus with fundal myoma with massive abruption. Early diagnosis and timely intervention would help in improving both maternal and fetal outcome.

BACKGROUND

Torsion of a pregnant uterus is defined as a more than 45° rotation of the uterus along its long axis. Uterine torsion is an uncommon phenomenon¹ that usually presents in the reproductive age group in all parity women and at any trimester of pregnancy. Separate case reports describe torsion from 60° to 720°.² Although exact aetiology is not known, various uterine factors have been found to be associated with torsion. The most common causes include myoma uterus (mainly fundal), abnormal fetal presentations and uterine malformation.³ Uterine torsion most commonly presents as abdominal pain, obstructed labour or, in a few cases, shock with or without urinary and bowel symptoms. Treatment depends on period of gestation at which torsion has occurred. In earlier months, pregnancy treatment includes immediate laparotomy and detorsioning of the uterus and, if possible, adjunct surgery to remove the aetiological factors. Near term caesarean section is advocated.

CASE PRESENTATION

A 27-year-old G2P1+0 woman at 15 weeks 3 day pregnancy presented to our outpatient department with severe lower abdominal pain for the past 6 h. The pain was sudden in onset, colicky in character and not associated with bleeding per vaginum and without bowel or bladder symptoms. Her obstetrical history revealed one previous girl child, delivered by lower segment caesarean section 2 years earlier. On examination, the patient was haemodynamically unstable but afebrile. Her general condition was low, blood pressure was 80/60 mm Hg, pulse rate was 132/pm and severe pallor (4+) was present. Respiratory and cardiovascular system examination was normal. On per abdominal examination a previous longitudinal healthy caesarean

scar healed by primary intension with no scar tenderness was present. Uterine fundal height corresponded to 30 weeks of gravid uterus size. Symphysio fundal height was 30 cm. Uterus was tense, tender and hard on palpation. No fetal parts were felt and exact uterine contour was not appreciable. On per speculum examination thick, curdy white vaginal discharge was present. On per vaginal examination cervical os was closed, cervix was soft, posterior and uneffaced. Immediate resuscitative measures were undertaken. Transabdominal ultrasonography revealed a single non-viable fetus of 17 weeks gestation in transverse lie. The contour of the uterus was clearly seen in inferolateral relation to the fetus; a large haematoma was observed all around the fetus extending almost up to the subcostal region with no definite corresponding uterine wall. No intraperitoneal collection was seen. Clinical findings of the patient did not correlate with ultrasonography findings and thus the differential diagnosis included abruptio placentae, secondary abdominal pregnancy or pregnancy with uterine torsion.

Hence, for a definite diagnosis and in view of her poor general condition, the patient was taken up for emergency laparotomy under general anaesthesia. Per operatively complete 360° torsion of uterus at the cervicouterine junction was present (figure 1). Grossly, couvelaire uterus with huge fundal fibroid (9 cm×10 cm size) and bilateral congested bluish gangrenous ovaries were seen (figures 2 and 3) and cervical length was increased. Detorsion attempted intra-abdominally was unsuccessful. Hence, the uterus was delivered out of the abdominal cavity after extending the abdominal incision, and then successful detorsion was done. After a few minutes the patient's vitals and colour of the ovaries started improving. This was followed by a hysterotomy, with delivery of an about 16 week size fetus. Around 1 L of clots were removed from the uterine cavity (figure 4). The uterus went into atonicity. Uterotonics were given intraoperatively but uterine tone could not be regained. The patient developed postpartum haemorrhage due to presence of fundal fibroid and her vitals started deteriorating. Finally, bilateral uterine artery ligation was performed to control PPH. In the postoperative period the patient was shifted to the ventilatory unit for critical care support as she was unable to maintain oxygen saturation. She was kept on ventilator and 10 units of fresh frozen plasma and eight units packed red blood cells were transfused in view of diagnosis of disseminated intravascular coagulation in the postoperative period. Her vitals stabilised and

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Figure 1 Complete torsion of uterus.

ventilatory support was removed on the second postoperative day. The patient was shifted to a high-dependency unit on the fifth postoperative day. Total stitch removal was carried out on the seventh postoperative day and the patient was discharged in fair condition on the ninth postoperative day.

INVESTIGATIONS

Haemoglobin 8 gm/dL, liver function test and kidney function test within normal limit. Coagulation profile was deranged. Transabdominal ultrasonography revealed a single non-viable fetus of 17 weeks in transverse lie. The contour of the uterus was clearly seen in inferolateral relation to the fetus; a large haematoma was seen all around the fetus, extending almost up to the subcostal region with no definite corresponding uterine wall. No intraperitoneal collection was seen.

DIFFERENTIAL DIAGNOSIS

- ▶ Abruptio placentae.
- ▶ Secondary abdominal pregnancy.
- ▶ Pregnancy with uterine torsion.

Figure 2 Gangrenous ovaries due to venous stasis caused by torsion of uterus.

Figure 3 Fundal leiomyoma, the most probable cause of torsion in this case.

OUTCOME AND FOLLOW-UP

The patient is in good condition and under follow-up.

DISCUSSION

Uterine torsion in pregnancy is an unusual condition that has been referred to as 'once in a lifetime diagnosis'.¹ Most commonly, torsion is associated with uterine distorsion and asymmetry caused by uterine myomas or uterine developmental anomalies, as seen in our case. Some authors have proposed that certain maternal body movements or posture and positions might trigger the rotation of the uterus in the presence of pre-existing structural abnormalities.⁴ In cases where no underlying abnormal pelvic factors were present, previous caesarean section was found to be a risk factor. In our case three important risk factors were identified. These were the presence of uterine leiomyoma, history of previous caesarean section and increased cervical length. One author reported that poor isthmic healing results in suboptimal restoration of normal cervical length.⁵ This results in an elongated and structurally weak cervix with angulation in the isthmic region, which leads to torsion. External cephalic version as a cause of uterine torsion has also been reported.⁶ Uterine torsion usually presents with non-

Figure 4 Fetus with placenta and abruptio.

specific signs and symptoms. The most common symptom is abdominal pain of varying severity from mild discomfort to acute abdomen. Other signs and symptoms may include uterine tenderness, per vaginal bleeding, twisted vaginal canal, urethral displacement, shock, bowel or bladder symptoms, but in our case the patient presented with sudden onset of severe abdominal pain with associated uterine tenderness and shock. This severe abdominal pain was probably due to uterine torsion and uterine tenderness might have been because of abruption. In our case intramural fundal fibroid with distortion of the endometrial cavity could be responsible for the abruption. In patients with non-dilation of cervix, in spite of good uterine contractions, and fetal distress, diagnosis of uterine torsion should be kept in mind. In cases of uterine torsion, venous obstruction causes increased pressure in placental cotyledons leading to abruption and fetal distress. When it progresses to uterine artery obstruction, placental perfusion reduces and can lead to fetal demise; a similar pathophysiology might have been present in our case. Uterine leiomyoma complicates 1.4% of pregnancies.⁷ Diagnosis can be made by ultrasound or MRI. Ultrasound might show change in placental localisation;⁸ in such cases MRI shows X-shaped configuration of upper vagina.⁹ If changes in position of the fibroid¹ are noticed in comparison to previous scans or if an abnormal position of ovarian vessels across the uterus is reported in ultrasonography, diagnosis of torsion should be kept in mind. On the contrary, in our case ultrasound findings were inconclusive and diagnosis was made intraoperatively. Management in most cases includes immediate laparotomy as the patient usually presents with acute abdomen with or without shock. If the patient presents in early pregnancy, derotation followed by hysterotomy and removal of underlying pelvic pathology is the preferred modality of treatment; similar management was carried out in our case without removal of the uterine myoma, as the patient was in a state of shock. In cases with unsuccessful derotation, posterior hysterotomy can be performed. Near-term laparotomy followed by derotation of the uterus and caesarean section is the preferred treatment. Defining anatomical landmarks prior to incision is important to prevent inadvertent injury to blood vessels and other organs. For recurrent torsion plication of uterosacral ligaments has been advocated by some authors.^{10–11} Uterine torsion, though rarely associated with maternal mortality (13%), has significant risk of perinatal mortality (12%).³ Perinatal and maternal mortality is directly proportional to gestational age, duration and degree of

torsion. In spite of availability of advanced diagnostic modalities, in most cases diagnosis is made on laparotomy. Hence the differential diagnosis of uterine torsion should be kept in mind in cases with presence of the aforementioned risks.

Learning points

- ▶ In cases of acute abdominal pain during pregnancy, uterine torsion should be kept in mind especially in presence of uterine pathology.
- ▶ Early diagnosis and timely intervention would help in improving both maternal and fetal outcome.
- ▶ Patients with complete uterine torsion usually present with shock, so immediate laparotomy and ventilation are required.

Competing interests None.

Patient consent Obtained.

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