Unusual presentation of more common disease/injury

Uterine torsion in second trimester of pregnancy followed by a successful-term pregnancy

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Summary

Uterine torsion is defined as rotation of the uterus of more than 45° on its long axis. It is an unusual complication of pregnancy and for most obstetricians it probably represents a 'once-in-a-lifetime' diagnosis. Fetal mortality up to 12% and occasional maternal mortality are reported. A 22-year-old second gravida presented at 22+ weeks gestation with severe abdominal pain and shock. Laparotomy was done for suspected abruptio placenta, when torsion of the uterus to 180° was diagnosed. Posterior hysterotomy was performed. She conceived the next year and was delivered at term by caesarean section. Uterine torsion is a rare complication of pregnancy and obstetricians should have this complication in mind when performing a caesarean section for undiagnosed severe abdominal pain in pregnancy. Anatomical landmarks should be defined if possible, prior to uterine incision during a caesarean section, to avoid posterior hysterotomy

BACKGROUND

Torsion of the gravid uterus is rare.¹ Uterine torsion usually ranges from 45° to 180° but some cases of torsion of up to 720° have also been reported.² Until 1992, only 212 cases had been reported in the literature but there is reported incidence in the literature.³ Dextrorotation occurs in two-thirds of the cases and laevorotation is found in the other one-third.⁴ The clinical presentation of uterine torsion is very non-specific though abdominal pain is the most common symptom.³ Preoperative diagnoses have included peritonitis, obstructed labour, ectopic pregnancy, abdominal haemorrhage and placental abruption.⁵ We report a case of torsion of the pregnant uterus at 22 weeks mimicking abruption of the placenta.

CASE PRESENTATION

Soon after admission she started vomiting and within 30 min she deteriorated when her pulse rate increased from 100 to 120/min, with the blood pressure dropped over the same period of time from 91/56 to 80/40 and oxygen saturation was 83% in room air. Her consciousness level also deteriorated slowly as the intensity of the abdominal pain increased sharply. She was actively resuscitated with fluids and blood was cross matched for transfusion. The uterus was 26-week size initially with generalised tenderness but the size rapidly increased to 34-week size during resuscitation. As the intensity of the pain increased the uterus was tense, not relaxing in between and tender on palpation. Per vaginal exam revealed a long cervix, with high presenting part and no vaginal bleeding. Bedside scan showed a live fetus with a hyperechoic area behind the placenta suggesting abruption (intraoperative images not available). Auscultation of the chest was normal clinically.

INVESTIGATIONS

Blood results revealed haemoglobin of 5.9 g%, platelets were 333×10^9 and the white cell count was normal. A preoperative coagulation profile (prothrombin time 10.1 s, activated partial thromboplastin time 26.4 s and fibrinogen 4.2 g) was normal.

DIFFERENTIAL DIAGNOSIS

► Abruptio placenta.

TREATMENT

A laparotomy was performed through a Pfannenstiel incision. The uterus was bluish in colour with engorged veins mimicking couvelaire uterus. An inadvertent posterior lower segment hysterotomy was done. There was excess haemorrhage on incising the uterus but the liquor was clear. A male baby weighing 645 g was delivered which was stillborn. There was no evidence of abruption and the placenta looked normal for the gestation. After the baby was delivered the uterus was exteriorised and torsion of the uterus by 180° was noted. The inadvertent posterior incision was stitched in two layers. Plication of the round ligament was done at the end of the procedure. The uterus, ovaries and fallopian tubes were otherwise normal. The total estimated blood loss was (brisk bleeding on uterine incision) was about 5 litres and hence she was transfused with six units of matched red blood cells and other four units of platelets as they fell to 40×10^9 . She was observed in the intensive care unit in the post-operative period but recovered well and was discharged home in good condition after 5 days.

OUTCOME AND FOLLOW-UP

She conceived 6 months after this hysterotomy and had an elective caesarean section at term for breech presentation.

DISCUSSION

The exact mechanism and aetiology of uterine torsion is not known. The predisposing factors found in some of these cases are malpresentation of the fetus (especially transverse lie), myomas, uterine anomalies, pelvic adhesions, ovarian cysts, uterine suspension, abnormal pelvis and placenta previa.^{1–6} Recurrent torsion in successive pregnancies is reported in the literature.²

A study of MRI evaluation of patients following low-transverse caesarean section suggested that in rare instances poor isthmic healing may result in suboptimal restoration of normal cervical length in these cases.⁷ This results in an elongated cervix with structural weakness and angulation in the isthmic region leading to torsion. Uterine torsion resulting from abdominal trauma has also been reported.⁸ Recently, cases have been reported with no associated pelvic factors. There was no demonstrable pelvic pathology in our patient.

Symptomatic torsion occurs when the degree of twisting is sufficient to interfere with arterial or venous circulation. The clinical presentation is non-specific. The most common symptom is abdominal pain of varying intensity including shock as in this patient. According to Koh and Brandford⁹ the main differential diagnosis is abruption placenta.

In theory, the acute uterine positioning causes direct compression of the uterine veins and perhaps the ovarian veins, resulting in acute maternal symptoms. The torsion can also threaten fetal survival. As venous outflow is obstructed vascular pressure within the placental cotyledons is acutely increased. This is theorised to predispose to placental separation (abruptio placentae).¹⁰ Whether this mechanism is correct is speculative. Regardless of the exact pathophysiology, an association between abruption and episodes of torsion of gravid uterus are reported.^{11–12} The clinical findings and symptoms with an acute drop in haemoglobin were in favour of the diagnosis of abruption placenta in this patient though the coagulation profile and platelets were normal initially. A sudden increase in the uterine size possibly due to engorged veins following torsion also favoured the diagnosis of abruption. The other reported presenting symptoms are nausea, vomiting, diarrhoea, urinary symptoms and vaginal bleeding and failure of cervical dilatation in spite of strong uterine contractions.¹³ Eleven per cent patients are reported to be asymptomatic according to Jensen.³ To date only one case was diagnosed before labour.¹⁴ Another case diagnosed at the time of caesarean section was reported by Kim *et al.*¹⁵

Patients with acute abdominal pain or suspected torsion should have an early laparotomy. In early pregnancy untwisting of the uterus must be done and if any pathology found like myoma/ovarian cyst, that must be tackled (myomectomy and ovarian cystectomy). In patients with uterine necrosis due to prolonged torsion hysterectomy must be considered.¹⁶

Correction of the torsion in term pregnancy may not be possible. Many times it is difficult to recognise the torsion if the pregnancy is advanced or uterine size is bigger. In such patients a deliberate posterior incision in the uterus, either transverse lower segment or vertical can be done.¹⁶ Plication of the round ligament is recommended to avoid posterior uterine adhesion, future

dyspareunia and recurrent torsion in the immediate postpartum.^{17–18} Plication of the round ligament was done in this patient and minimal adhesions were found at the time of caesarean section in her next pregnancy at term.

One maternal death is reported in the literature.¹⁹ Fetal mortality of 18% was reported by Wilson *et al.*²⁰

Torsion is also reported in the non-pregnant state due to fibroid uterus.²¹

Clinical diagnosis of uterine torsion was difficult in this patient as the symptoms and signs mimicked abruption placenta. Her symptoms can be accounted for by the torsion and ischaemia due to engorged vessels, which also most probably accounted for a brisk blood loss at laparotomy. Timely laparotomy helped to save the patient with a good future obstetric outcome.

Learning points

- Uterine torsion must be one of the differential diagnoses in women presenting with acute pain abdomen in pregnancy.
- Early diagnosis and intervention will reduce fetal and maternal morbidity.
- Suspicion of uterine torsion may help to avoid posterior hysterotomy.

Competing interests None.

Patient consent Obtained.

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