

Torsion of term gravid uterus in a pregnancy obtained by intrauterine insemination. A case report

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Abstract

The rotation of the gravid uterus is a normal finding in the third trimester of pregnancy. However, it is considered to be a pathological condition at greater than 45 degrees rotation along the long axis and is rarely seen in obstetrical practice. A 31-year-old primigravida primiparous at 39 weeks' gestation with a singleton pregnancy obtained by intrauterine insemination underwent cesarean section for transverse fetal presentation. During laparotomy, uterine torsion of 100 degrees and an abnormal implantation of the uterine adnexa was diagnosed. Torsion was partly corrected intraoperatively and a transverse anterior corporeal incision was performed. The patient recovered and was discharged home with her baby on the third postoperative day. Uterine torsion, although an infrequently reported condition, it is a potentially dangerous complication of pregnancy. Prompt recognition and management of this pathology is necessary for better maternal and foetal outcome.

Keywords: pregnancy, uterine torsion, cesarean, insemination

Introduction

Rotation of the gravid uterus of less than 45 degrees is a normal finding in late trimester of pregnancy⁽¹⁾. Pathologic uterine torsion, defined as a rotation greater than 45 degrees around the long axis, is a rare obstetric complication that is almost always identified perioperatively⁽²⁾. It was first described in literature by Virchow in 1863⁽³⁾ and its nonspecific symptoms (such as abdominal pain, vaginal bleeding and urinary and intestinal symptoms) result in an elusive diagnosis. Outcome of the cases ranges from spontaneous abortion, stillbirth to live birth, thus an early antepartum diagnosis would reduce the foetal mortality in a suspected case of uterine torsion⁽⁴⁾.

Case report

The patient was a 31-year-old gravida 1 para 1 at 39 weeks' gestation with a singleton pregnancy obtained by intrauterine insemination after ovarian stimulation protocole with clomiphene citrate, follicular monitoring with vaginal ultrasound and ovulation induction with choriogonadotropin alfa. The pregnancy was obtained on the 3rd cycle of treatment. Medical tests performed during couples' infertility investigation revealed abnormal spermogram (teratozoospermia). Both hormonal levels and hysterosalpingography were normal. Her medical history includes Hashimoto's thyroiditis (i.e. chronic lymphocytic thyroiditis) which was diagnosed in 2012 for which the patient received 50 µg/day levothyroxine augmented to 100 µg/day during pregnancy. Her surgical history was uneventful. The current pregnancy had been uncomplicated until the day of presentation. The patient's pregnancy body mass index (BMI) was normal and her general health had been excellent throughout pregnancy. Her blood investigations revealed anemia for which she received iron therapy throughout the pregnancy. All ultrasound

examinations showed normal foetal development and no uterine abnormal images. The ultrasound examination performed at 37 weeks' gestation showed a transverse foetal presentation, reason for which cesarean section was decided together with the patient.

On the day of admission, at 39 weeks' gestation, both maternal and foetal state were excellent. On abdominal examination the uterus height was corresponding to the gestational age. The foetus was found to be in a transverse lie. The uterus was cramping irregularly and there was no vaginal blood or fluid loss. Electronic foetal monitoring was instituted and a reassuring foetal heart rate was noted. The patient signed an informed consent regarding both operation and anaesthesia. Caesarean section was performed under spinal anaesthesia. Initially, the abdomen was opened by a Pfannenstiel incision and a 100 degrees dextrorotation of the uterus was observed, as the left fallopian tube, ovary and engorged pampiniform plexus were noted to be overlying the uterus diagonally (Figure 1). With all attempts at detorsion failing, a longitudinal infraumbilical was performed to gain a better visualization of the surgical field. It was then observed that the anterior aspect of the uterus had an abnormal implantation of the uterine adnexa which was morphologically identical to the normal posterior aspect of the uterus (Figure 2). At examination of the exposed uterine surface, the lower segment was poorly formed. Thus, an anterior transverse corporeal incision was performed. The foetus was manipulated internally and delivered cephalic. The placenta was delivered manually without incident, normally appearing and weighing 550 grams. The baby was a male weighing 3400 grams, measuring 51 cm, with Apgar score 7.

The uterine incision was closed with a double layer of delayed-absorbable suture (polyglycolic acid suture number 2). Close examination of the uterus and adnexa confirmed

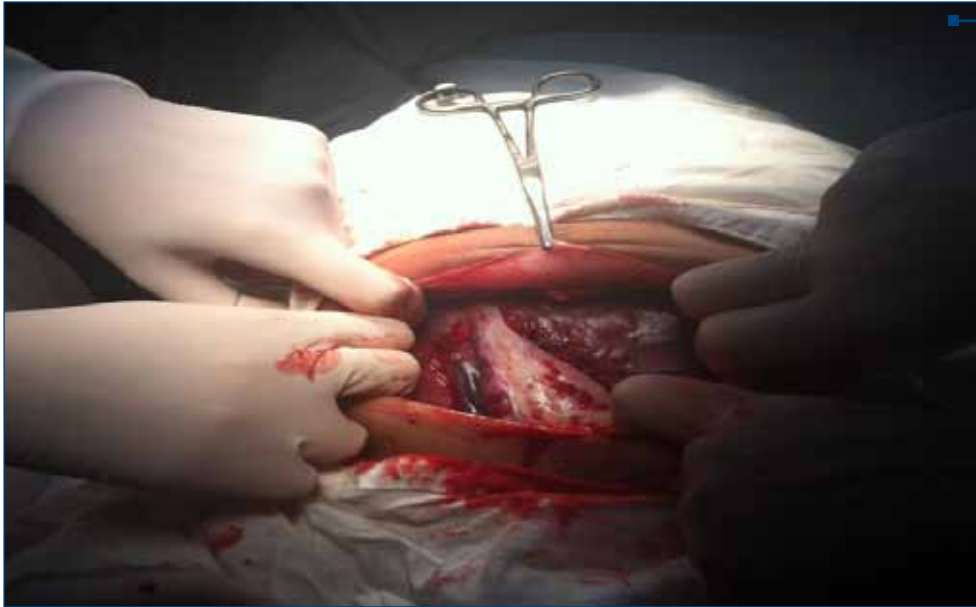


Figure 1. Intraoperative aspect at abdominal opening



Figure 2. Posterior aspect of the derotated uterus

the abnormal appearance of the implantation of the uterine adnexa (Figure 3).

The patient made an uneventful recovery and was discharged home on third postoperative day. The patient was advised to undergo cesarean section for any subsequent deliveries, as we are in the present lacking enough information regarding the safety of labour following a cesarean operation with uterine torsion.

Discussion

Torsion of the gravid uterus is an unusual complication of pregnancy and it is reported only as case studies. Some degree of uterine rotation is regarded as being normal in

term pregnancies, but rotation greater than 45 degrees is considered pathological⁽⁵⁾. Such cases reported in literature describe torsion between 60 to 720 degrees with variable outcomes ranging from live, well mother and baby to peripartum hysterectomy and foetal demise and maternal death. There is dextrorotation in two-third and levorotation in one-third of cases⁽⁶⁾.

The exact etiology is yet unknown. Jensen and contributors reported that this condition can occur in all age groups, all parity and all stages of pregnancy⁽⁷⁾. It was originally theorised that torsion only occurred in the presence of uterine tumours (‘no tumour, no torsion’)⁽⁸⁾. Over the time, entities reportedly associated with torsion

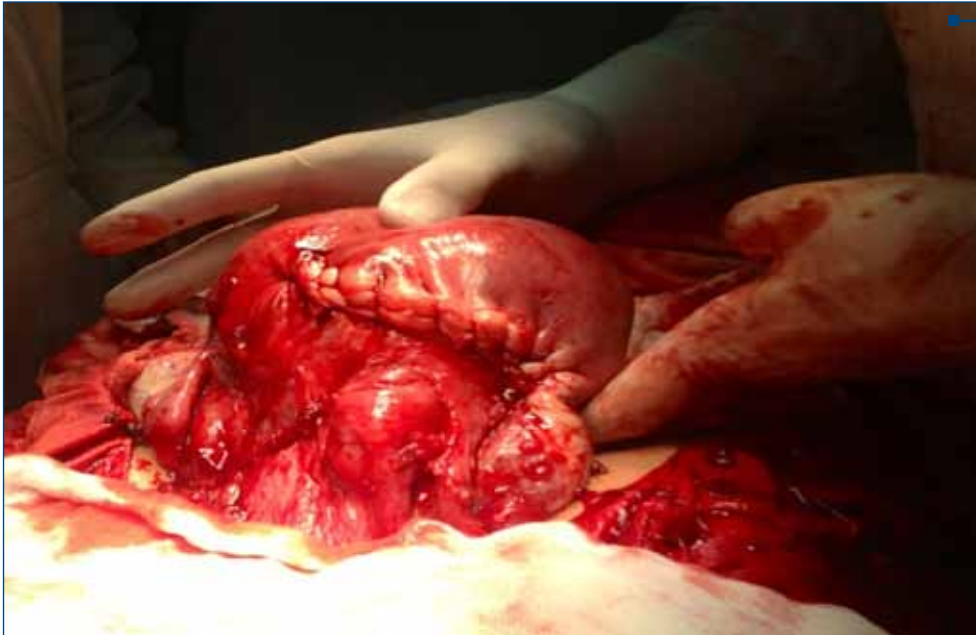


Figure 3. Anterior aspect of the uterus after suture.

included also abnormal fetal presentation (i.e. transverse lie), distorted uterine shape (i.e. leiomyoma), Mullerian anomalies, pelvis adhesions, large ovarian tumours, hydramnios, multiple gestations, hyperactive foetus, interstitial pregnancy, congenital or acquired weakness at the junction of the cervix and uterine corpus⁽⁹⁾ and maternal trauma^(1,10). In the present case, the fetal malposition and probably a congenital cervical weakness were two of the predisposing factors for uterine torsion.

The clinical presentation of uterine torsion is quite nonspecific, the most common symptom being abdominal pain varying from mild discomfort to symptoms of acute abdomen with shock⁽¹¹⁾. Obstructed labour, intestinal or urinary complaints, uterine hypertonia, vaginal bleeding have also been reported⁽⁷⁾. The patient presented in this case was totally asymptomatic and the uterine torsion was incidentally discovered. As far as imaging is concerned, ultrasound scanning appears insufficient in diagnosing an uterine torsion. Magnetic resonance imaging is the investigation of choice if uterine torsion is suspected⁽⁵⁾. Nicholson and contributors reported an X-shaped configuration of the upper vagina instead of the H-shaped (plane should be at level of the vagina)⁽¹²⁾. Some authors suggested that change of placental position may be an ultrasound sign of torsion⁽¹³⁾.

Management of uterine torsion requires laparotomy with derotation and lower segment cesarean section. If this is not possible, a posterior low transverse incision should be employed⁽¹⁴⁾. Pulmonary embolism has been described as a possible complication occurring after uterine detorsion^(2,3).

Some studies were unable to provide evidence-based recommendations for women who have had a uterine torsion and who wish to have future pregnancies⁽⁵⁾. Taking into account that the risk of uterine rupture following a posterior lower segment incision compared with the risk with a prior ante-

rior lower segment incision remains unknown, the general recommendations tend to be in favour of cesarean section^(1,5). In the light of the above, the patient presented in this case was advised to deliver by cesarean in case of a future pregnancy. Furthermore, regarding the abnormal uterine adnexa implantation, a hysteroscopy could be a useful investigation to be performed once the puerperium is over.

Conclusions

Although a rare and very unpredictable obstetric event, uterine torsion is a potentially serious pregnancy-related complication. If correctly diagnosed and promptly managed, good maternal and foetal outcome can be achieved. ■

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