Case report

Caesarean delivery through deliberate posterior hysterotomy in irreducible uterine torsion: case report

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Abstract. Gravid uterus rotation is a normal finding in the third trimester of pregnancy. However, a rotation greater than 45° around the longitudinal axis of the uterus – uterine torsion – is a rare pathological condition in the obstetrical practice. We reporte the case of 180° torsion of a myomatous uterus at preterm in which the foetus, in breech presentation, was delivered through a deliberate posterior hysterotomy. An emergency caesarean section was arranged after prolonged foetal bradycardia. Uterine torsion treatment depends on when the torsion occurs during the pregnancy. However, laparotomy is imperative in all cases. When derotation of the uterus is not possible, a transverse incision in the lower posterior uterine segment, if feasible, is a safe choice. (www.actabiomedica.it)

Key words: Caesarean; posterior hysterotomy; myoma; preterm; foetal growth restriction; breech presentation

Introduction

Gravid uterus rotation is a normal finding in the third trimester of pregnancy. However, a rotation greater than 45° around the longitudinal axis of the uterus – uterine torsion – is a rare pathological condition in the obstetrical practice. When a uterine torsion occurs during pregnancy, foetal mortality rate is reported to range from 12% to 18% (1, 2). Since 1960, two women died due to uterine torsion. The torsion always occurs on the transition between the cervix and corpus uteri. The most frequent uterine rotation is 180° (1). Rotation to the right was found in two thirds of cases, while rotation to the left was found in one third of them. Maternal age, parity, and month of gestation seem to play no role in causing uterine torsion. The majority of torsions at term occur during the first stage of labour. The development of extreme torsion late in pregnancy may cause pain, nausea, vomiting, and shock, and may also interfere with uterine circulation leading to severe foetal heart rate deceleration (3). Four pathognomonic signs are present in uterine torsion: spiral running urethra and rectum, twisted vagina and uterine artery pulsation in the anterior or posterior fornix. However, it is very difficult to make a preoperative diagnosis of uterine torsion. Wilson et al described only one case of uterine torsion diagnosed before labour through magnetic resonance imaging (MRI) (2). Usually it cannot be diagnosed before delivery, and the final diagnosis is made only at the time of laparotomy.

Treatment at term consists in an immediate laparotomy, derotation of the uterus to its anatomical position, delivery of the foetus and, if practical, surgical correction of any associated pelvic pathology.

A case of a 180° torsion of a myomatous uterus at preterm in which the foetus, in breech presentation, was delivered through a deliberate posterior hysterotomy is reported and described as follows.

Case history

A 30-year-old black woman was transferred to the Department of Obstetrics and Gynaecology, University Hospital of Parma, for the current pregnancy at 29 weeks of gestation. Her clinical history included three surgical operations for voluntary interruption of pregnancy and a previous vaginal delivery at term 12 years before. Her menstrual history was normal. Physical examination revealed a pre-pregnancy body mass index (BMI) > 35 kg/m^2 and an abnormal pendulous abdomen with no skeletal abnormalities. During her current pregnancy she underwent a first gynaecological evaluation at 21 weeks when she began to complain of abdominal pain. A gestational hypertension and foetal growth restriction (FGR) was diagnosed by ultrasonographic examination. Doppler ultrasonography and amniotic fluid volume were normal.

The patient was asymptomatic when she was admitted to the hospital. The ultrasonographic evaluation detected an antero-lateral 12 cm myoma on the right uterine wall, an anterior location of placenta and a breech presentation of the foetus. The therapeutic plan included prophylaxis for respiratory distress syndrome (RDS), dalteparin sodium injections, nifedipine and methyldopa tablets. An iron supplementation was prescribed for chronic anemia.

The onset of symptomatic headache, blood pressure 170/110, despite labetolol infusion, and prolonged foetal bradycardia of less than 100 beats per minute for more than 2 minutes, made an emergency caesarean section necessary at 35 weeks + 2 days after the patient had consented to the procedure.

Under epidural anaesthesia, the abdomen was opened by means of a Pfannenstiel incision. The lower uterine segment was exposed and huge engorged vessels, especially in the broad ligaments, were observed. Uterine malposition was evident and a 180° laevorotation of the uterine corpus around the lower uterine segment was diagnosed. A gentle manual derotation of the gravid uterus was attempted but failed because it was so enlarged. A tender posterolateral uterine myoma, larger than that revealed by ultrasonographic diagnosis, could be felt and occupied the whole right quadrant of the abdomen. The posterior side of the lower segment was clear. Delivery through a deliberate lower segment posterior hysterotomy was inevitable. A healthy baby was delivered in breech presentation without difficulty. The placenta and membranes were completely manually removed. We were unable to exteriorize the uterus. The posterior uterine incision was closed with a double layer of stitches in situ and complete haemostasis was secured. The contracted uterus was derotated back into its correct anatomical position. A close examination of the pelvis revealed no abnormalities except for the presence of a large anterolateral myoma extending from the left upper segment to the lower segment and a smaller one on the posterior uterine wall. Myomectomy was excluded because of the inevitable blood loss due to the dimension of the myoma and the persistence of anemia. Two retro-uterine drains were inserted.

An ultrasonographic evaluation confirmed the anatomical position of the uterus, the presence of a 17 cm anterolateral myoma on the left wall of the uterus and a smaller one on the posterior wall. The two retrouterine drains were removed on the fourth postoperative day.

The patient was discharged on the twelfth postoperative day because of surgical complications (abdominal pain and fever which lasted two days) and social problems. The woman prolonged her antihypertensive, antibiotic and iron therapy in a nursing home. The postoperative examination, 1 month later, confirmed the left position of the uterine myoma and the mother's uneventful postnatal course.

The apgar scores of the newborn male were 3 at one minute and 9 at nine minutes. His neurologic evaluation was normal. Details of the operation were explained to the patient and she was informed about the lack of data in medical literature regarding the safety of labour following a posterior lower segment uterine incision.

Discussion

In our case it is possible that body mass and abdominal pendulous shape together with the presence of a large myoma led to excessively lax abdominal muscles and pelvic uterine ligaments allowing uterine torsion to occur. Moreover, foetal malpresentation is a

common occurrence and has been postulated as a potential cause or consequence of a pre-existing torsion. Our team also reported severe foetal heart rate deceleration although there are no cases in medical literature which report an association between extreme uterine torsion and maternal blood pressure during gestational hypertension or foetal growth restriction (FGR). Uterine torsion treatment depends on when the torsion occurs in pregnancy. However, laparotomy is imperative in all cases. We performed a medline research and found four reports of a deliberate transverse posterior hysterotomy performed for foetal delivery in cases of uterine torsion (4-7). In all cases no significant maternal morbidity was described.

In our patient the posterior side of the lower uterine segment was clear and accessible. Since a further vertical cutaneous incision and another attempt at derotation puts the foetus at risk in an emergency procedure, and can also lead to postoperative complications especially in obese patients, had we not been able to correct the rotation an incision in the posterior segment would have been safer. Myomectomy, hazardous during a caesarean section because of uncontrollable haemorrhage (6), and bilateral plication of the round ligaments (8) to prevent immediate postpartum recurrence of the torsion were postponed until the patient had undergone a thorough consultation and her anaemia had been corrected.

The possibility of uterine torsion should always be considered as part of a differential diagnosis of complications in the third trimester of pregnancy. The recommended approach to uterine torsion generally depends on the degree of rotation, the possibility to derotate the uterus and the condition of the foetus. A transverse incision of the lower posterior uterine segment is a safe alternative to a longitudinal posterior section only when the lower posterior segment is clear and accessible.

The utility and feasibility of a surgical correction of any anatomical abnormality, (such as myomas, ovarian neoplasm, or bilateral plication of round ligaments to guarantee correction) depend on the surgeon's ability, the nature of the procedure, an emergency or programmed caesarean section, and the general condition of the patient. While the risk of uterine rupture with a previous posterior incision compared with the risk following an anterior incision remains unknown, we recommend that the mode of delivery in the presence of this rare obstetric complication be decided as each single case arises.

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