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Case Report

Low transverse caesarean section through the posterior uterine wall in a pregnant patient with asymptomatic uterine torsion of 180°: A case report

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Abstract

Introduction: Excessive torsion of a pregnant uterus is a rare and potentially extremely dangerous pathology for both the mother and fetus. The diagnosis is most often made intraoperatively.

Aim: The main aim was to show that when it is impossible to detort the uterus, a low transverse caesarean section through the posterior uterine wall can be safely performed.

Case study: We report a case of a 41-year-old multiparous woman at G II P II 39/40 weeks' gestation, who presented to the Gynecology and Obstetrics Department for an elective caesarean section due to a breech presentation of the fetus. During the caesarean section, a uterine torsion of 180° was found. As the uterus could not be detorted to its normal position, a low transverse caesarean section was performed through the posterior uterine wall. At follow-up visits after 8 weeks and 12 months, normal healing of the uterine muscle was confirmed.

Results and discussion: The treatment of torsion of the pregnant uterus depends on gestational age and symptoms, in particular the presence of significant hemodynamic and ischemic lesions.

Conclusions: The procedure of choice in a full-term pregnancy should be an attempt to detort the uterus to its normal position and then perform a cesarean section through the anterior uterine wall. If detorsion of the uterus is not possible, a caesarean section through the posterior uterine wall should be performed. Based on the literature review and the case presented, it appears that this procedure is safe.

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1. INTRODUCTION

Uterine torsion is defined as a rotation along its long axis of more than 45°.[1] The first case of torsion of the pregnant uterus in a woman was described in 1876.[2] It is a very rare condition that may occur at any stage of pregnancy. Of note, during pregnancy there is a physiological torsion of the uterus to the right side, this is a consequence of the presence of a left-sided bowel loop. However, the physiological torsion of the pregnant uterus does not exceed 45°. The most pathological uterine torsions are between 60° and 180°, although in isolated cases, twists of up to or reaching 360° have been described in the literature, and in extreme situations even 720° have been described.[3] Symptoms of uterine torsion are non-specific, with patients most commonly reporting abdominal pain, bloating, nausea, vomiting, diarrhea, amenorrhea, or hematuria. Uterine torsion may lead to prelabor rupture of fetal membranes or prolonged labor. Torsion of the pregnant uterus can also be asymptomatic.[4] It is a complication that can be extremely dangerous for both the mother and the developing fetus. Severe acute uterine torsion can result in placental abruption, intrauterine fetal death, and maternal death.[5,6] Treatment and prognosis depend on the gestational age, the degree and duration of uterine torsion, and the degree of ischemia. In extreme situations, uterine torsion can lead to a complete stop of blood flow within the maternal-fetal unit, resulting in acute abdominal symptoms and the immediate need for surgical intervention. In cases of irreversible ischemia, the only therapeutic option is the removal of the uterus. Most frequently, the diagnosis of uterine torsion occurs incidentally during the delivery by caesarean section. By far the majority of cases involve a low degree of uterine torsion.[1,7] The procedure of choice is detorsion and subsequently a lower segment caesarean section through the anterior uterine wall. There are isolated case reports in the literature on performing a low posterior transverse hysterotomy.[8] These most often relate to situations in which a classical or transverse caesarean section was performed because of the presence of very large myomas on the anterior uterine wall, or when uterine detorsion was impossible.[9]

2. AIM

We present a rare case of a patient who was found to have a 180° uterine torsion during an elective caesarean section. The main aim was to show that when it is impossible to detort the uterus, a low transverse caesarean section through the posterior uterine wall can be safely performed.

3. CASE STUDY

A 41-year-old pregnant patient at G II P II 39/40 weeks of pregnancy was admitted to the Gynecology and Obstetrics Department for an elective caesarean section due to the breech presentation of the fetus. She gave the history of one vaginal birth 4 years before. The family history was unremarkable. She had received no surgical treatment so far. The patient's weight was 120 kg, height 164 cm, body mass index (BMI) before pregnancy 42.6 kg/m^2. The course of the current pregnancy was uncomplicated. The patient received obstetric care from 7 weeks of pregnancy and attended regularly scheduled follow-up appointments. During pregnancy, the patient did not report any complaints. She felt normal fetal movements. A prenatal ultrasound examination did not show any abnormalities. Due to her obesity, the patient received acetylsalicylic acid and low molecular weight heparin.

On admission to the ward, blood pressure values were 130/75 mmHg, pulse 90 bpm, temperature 36.8°C. An obstetric examination revealed a live fetus in a longitudinal lie with a breech presentation. Symphyseal-fundal height was 35 cm. The abdomen was soft without peritoneal manifestations, and the uterine tone was normal. On vaginal examination, the cervix was 2.5 cm long, the cervical canal was 1 finger dilated, clear vaginal discharge, there was no outflow of amniotic fluid, and the fetal buttocks were palpable. Ultrasound confirmed fetal pelvic position, fetal heart rate (FHR) approximately 150 bpm, fetal weight 3200 g, amniotic fluid index normal, vascular flow normal: umbilical artery (UA) pulsatility index (PI) 0.72, middle cerebral artery (MCA) PI 1.20, right uterine artery (RUtA) PI 0.6, left uterine artery (LUtA) PI 0.7, placenta on the anterior wall, except for the risk of prolapse. The patient was suitable for an elective caesarean section after preparation. In the operating room, several attempts by the anesthetic team at subarachnoid anesthesia on the patient failed due to her significant obesity. It was decided to perform a caesarean section under general anesthesia. The patient's abdominal cavity was opened in layers. After opening the peritoneal cavity, a right-sided uterine torsion of 180° was found. An attempt at uterine detorsion was unsuccessful. In this situation, the decision was made to perform a caesarean section through the posterior uterine wall. A low transverse incision of the uterine muscle was performed, and then the male neonate at full term was delivered by breech extraction. He was in general good condition with 10 APGAR points, and a birth weight of 3420 g. After the delivery of the placenta, the uterine muscle was sutured with a continuous, double-layered suture. Hemostasis monitoring revealed no bleeding. The uterus was then detorted to its normal position. Total blood loss during the operation was estimated at 500 mL. The subsequent hospitalization was uncomplicated. The patient and her child were discharged home on postoperative day 3.

The patient presented for a gynecological follow-up 8 weeks after delivery. An ultrasound examination confirmed normal healing of the uterine muscle (Figure 1). A follow-up examination after 12 months was also conducted, with no defect of a caesarean section scar to be found (Figure 2).

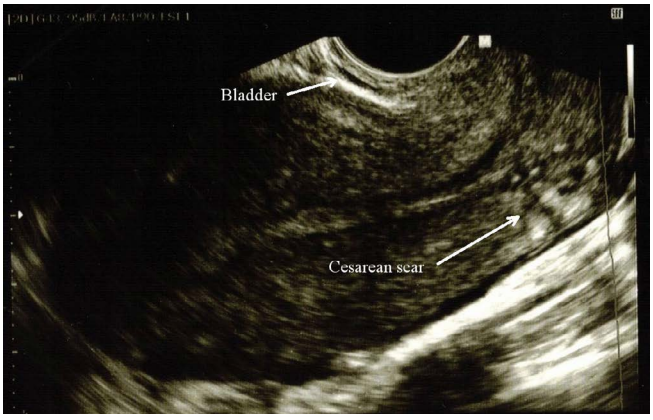

Figure 1. A follow-up ultrasound examination 8 weeks after delivery.

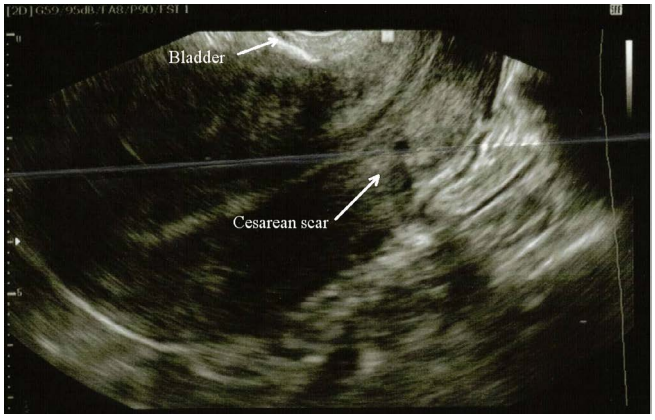

Figure 2. A follow-up ultrasound examination 12 months after delivery.

4. DISCUSSION

In 1956, Nesbitt and Corner evaluated 106 cases of uterine torsion during pregnancy. The authors concluded that the incidence of this complication was unrelated to age, fertility, and duration of pregnancy.[10] Wilson et al. in 2006 described a further 38 such cases.[1] To date, the mechanism responsible for the development of this complication remains unknown. Based on a review of the available literature, it appears that the most important factors that increase the risk of pathological uterine torsion are pelvic abnormalities, such as intraperitoneal adhesions, ovarian tumors, myomas, uterine malformations as well as the presence of polycephaly, transverse fetal lie and multiple pregnancy.[11–14] In the case described above, none of the above pathologies was found. Non-specific symptoms and the lack of clear non-invasive diagnostic methods make the diagnosis of uterine torsion prior to abdominal opening very difficult. Interestingly, pathological torsion of the pregnant uterus can also be asymptomatic. On internal examination, tight uterine collateral ligaments and a distorted vagina or cervix may be apparent.[15] Ultrasonography is a valuable diagnostic tool in the diagnosis of myoma-like or ovarian lesions; however, the assessment of the abnormal torsion of the pregnant uterus is extremely difficult. In some cases, Doppler examination can demonstrate accompanying perfusion abnormalities within the uterine vessels. The use of magnetic resonance imaging (MRI) can be helpful in preoperative diagnosis.[16] In the case presented here, the patient did not report any complaints. Neither internal examination nor ultrasound revealed any features indicative of possible uterine torsion. However, it is to be noted that the patient was severely obese, which additionally made obstetric examination difficult.

Treatment of pregnant uterine torsion depends on the presence and severity of symptoms, gestational age, and the degree and duration of uterine torsion. In cases where hemodynamically significant ischemia is not confirmed, the treatment depends on gestational age. Management may include repositioning of the uterus at laparotomy to the normal position with subsequent plication of the round ligaments to reduce the risk of retorsion. In advanced pregnancy, a caesarean section through the anterior wall should be considered immediately after uterine repositioning. In cases where uterine repositioning is not possible, a caesarean section through the posterior uterine wall should be performed. In the available literature, isolated cases of a caesarean section through the posterior uterine wall are described.[17] In 2018, Phulpagar et al. described a case of a transverse section through the posterior uterine wall in a patient with a 180° uterine torsion. After the opening of the abdominal cavity, it was not possible to detort the pregnant uterus. The authors sutured the uterine muscle bilaterally. The subsequent hospitalization was uneventful.[18] In 2021, Makwe et al. described a case of a patient who underwent a classical caesarean section through the posterior uterine wall due to a uterine torsion of 120° and the presence of a large myoma on the anterior uterine wall measuring 40 × 40 cm. The uterine muscle was sutured in layers. The postoperative course was uncomplicated.[9] In the case described, because of the patient's significant obesity, it was not possible to detort the pregnant uterus, so a low transverse caesarean section was performed through the posterior uterine wall. In the available literature, there are both isolated descriptions of a classical (vertical) opening of the posterior uterine wall and a transverse opening. A transverse incision seems to be associated with a low probability of uterine rupture. Currently, there are no data on the safety of attempted vaginal delivery after posterior uterine wall transection. The authors reported normal healing of the posterior uterine wall muscle following a caesarean section, confirmed by a subsequent laparoscopic as well as hysteroscopic examination. Nevertheless, it seems that due to the lack of existing literature, elective caesarean section is the treatment of choice for subsequent delivery.[19,20] In the case described, ultrasound examination confirmed normal healing of the uterine muscle, 8 weeks and 12 months after the caesarean section.

5. CONCLUSIONS

(1) Uterine torsion is a very rare and potentially extremely dangerous complication. It may be characterized by the presence of non-specific symptoms or remain asymptomatic.

(2) If uterine torsion is found during a caesarean section, the uterus should be detorted to its normal position and then a caesarean section should be performed through the anterior uterine wall.
(3) When it is impossible to detort the uterus, a caesarean section should be performed through the posterior uterine wall. There are isolated case reports in the literature that support the safety of this procedure.
(4) Due to the thickness of the uterine muscle, layered suturing seems to be the best procedure.

Conflict of interest
The authors report no conflict of interest.

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Ethics
All procedures performed in studies involving human participants were in accordance to the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed patient consent was obtained.

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