

Case Report

Uterine Torsion Diagnosed at the Time of Laparotomy for a Planned Cesarean Section at Term

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Abstract: Background: Uterine torsion is defined as the rotation of the uterus more than 45 degrees around its long axis. The angle of rotation is usually 180 degrees, although, in the literature, there are reported cases of uterine torsion up to 720 degrees. This is a rare complication of pregnancy but associated with significant mortality and morbidity. Etiology still remains unclear and clinical diagnosis may be challenging. Symptoms can be absent or few and nonspecific as in chronic conditions or catastrophic such in case of acute presentation associated with acute abdomen. Final diagnosis is usually made at the time of laparotomy or even after delivery. In the literature, bilateral plication of round ligaments is proposed to prevent recurrences. However, there are no validated guidelines for the management of uterine torsion in pregnancy. Case: We present a 33-year-old, gravida 2 para 1. She had a previous vaginal delivery and no medical known conditions. She was admitted for a planned caesarian section at 39 weeks of gestation for breech presentation. After a difficult delivery of a healthy female neonate with normal Apgar scores and cord pH levels, a spontaneous derotation of the uterus of 180 degrees was observed. Giving the absence of pelvic anomalies, we chose to not perform any additional preventive surgical procedure. The patient was discharged on 3rd postoperative day. Finally, no complications were observed at the two-months postpartum visit. Conclusion: Uterine torsion in pregnancy is an uncommon pathology but potentially life threatening that obstetrician should be aware of. Occasionally, imaging can be helpful, but diagnosis is mostly made during surgery. In case of irreducible torsion, delivery can be made with a transverse incision in the lower posterior uterine segment. Bilateral plication of round ligaments, as previously described by other authors, may be evaluated as a tailored treatment in case of extreme uterine torsion and other pelvic anomalies, in order to prevent the recurrence of the torsion.

Keywords: Uterine Torsion, Cesarean Section, Pregnancy, Plication of Round Ligaments

1. Introduction

Uterine torsion is defined as the rotation of the uterus more than 45 degrees around its long axis. The angle of rotation is usually 180 degrees, although, in the literature, there are reported cases of uterine torsion ranging from 60 to 720 degrees [1].

This is a rare complication of pregnancy but the incidence is not exactly known, considering that most of the literature involves case reports alone. The identification can be challenging because in many patients symptoms are few and nonspecific and the torsion of the uterus is recognized during

surgery. Therefore, so far, there are no validated surgical procedures to prevent recurrence in future pregnancies.

We present a case report of uterine torsion of 180 degrees at 39 weeks of gestation during a planned cesarean section for breech presentation.

2. Case Presentation

A 33-year-old Caucasian woman, gravida 2 para 1, with a previous vaginal delivery, normal BMI (26 kg/m²), and no medical known conditions, was referred to our Department for a planned cesarean section because of fetal breech presentation at 39 weeks of gestation. The pregnancy was

uncomplicated with a normal estimated fetal weight.

On the day of admission, the clinical examination was unremarkable and the fetal well-being preserved. Breech presentation and normal amniotic fluid were confirmed by ultrasound scan.

At the time of laparotomy, right tube and ovary were felt to be lying anteriorly (figure 1). Bladder and broad ligament showed no peculiarities.

A classic incision on the lower uterine segment was performed and a live female baby of 3050 g in breech presentation was extracted with some difficulties. At birth the neonate had normal Apgar scores and normal cord pH levels. After delivery, torsion of the uterus was diagnosed observing its spontaneous 180 degrees derotation and, finally, the incision appeared to be on the posterior surface of the uterus (figure 2).

No pelvic adhesion or uterine malformations were found. Uterus was routinely stitched. The bleeding was minimal and no transfusion occurred (350 cc of total blood loss). The patient was discharged with her baby on 3rd postoperative day. At the two-months postpartum visit, no complications were observed.



Figure 1. Uterine torsion of 180 degrees after stitching the uterus.



Figure 2. Closure of incision site in the posterior face of the uterus.

3. Discussion

Axial torsion of pregnant uterus is considered to be a physiological condition if it does not exceed 45 degrees [1, 2]. In the literature, dextro-rotation is found in two thirds of reported cases, while levo-rotation occurs in only one third [3]. Abnormal presentation of the fetus, leiomyomas, uterine malformations, large ovarian cysts and pelvic adhesions are known factors associated with pregnant uterine torsion, although a well-defined etiology remains still unclear [4-6].

A study by Huang and colleagues [7], revealed that the occurrence of uterine torsion in the third trimester of pregnancy may be correlated with abnormal fetal position, older maternal age and uterine ligament relaxation.

Sometimes gynecologic digital examination can reveal a high cervix difficult to reach with a spiral vaginal mucosa [8], although presentation of uterine torsion during pregnancy may be variable and nonspecific. It can be asymptomatic or it can result in a severe acute abdomen that can be easily confused with others clinical situations [9].

Ultrasound imaging findings may include modification in the position of placenta or known uterine leiomyomas compared to previous scan and detection of ovarian vessels in the anterior face of the uterus [10].

The severity of the condition depends on the magnitude and duration of the torsion, and its manifestations may include dystocia, abdominal pain, abnormal fetal heart rate, vaginal bleeding associated with placental abruption up to intrauterine fetal death [11-14].

There are, indeed, some catastrophic cases reported in the literature, with a maternal mortality estimated around 10–20%, whereas the perinatal mortality is about 30% [15].

In our case, none of the above mentioned features was found during the routine obstetric examinations or at the time of admission. The patient merely reported vague abdominal discomfort a couple of months before the planned caesarian section, supporting the hypothesis of a chronic condition.

According to the literature, the majority of the cases are diagnosed during surgery [16]. Suspicion of uterine torsion is often raised because of an anterior position of the tube and the ipsilateral ovary, an abnormality of the uterovesical peritoneum or some extremely engorged vessels in the lower uterine surface. A difficult delivery of the baby is described in most of the reported cases, as confirmed by our experience.

There are no validated guidelines for the management of uterine torsion in pregnancy and the prevention of recurrence. However, in case of failure to derotate the uterus, there are three recommended types of incision on the uterus to avoid urinary injuries: vertical fundal, transverse posterior or high transverse anterior incision [17].

In the report of Mustafa et al., bilateral plication of round ligaments is suggested to prevent postpartum recurrence of uterine torsion, assuming that this procedure may help to maintain the uterine anteversion and to avoid the formation of posterior adhesions and, consequently, future dyspareunia [18]. However, this is not yet a validated technique and, in our opinion, it may be a tailored treatment to consider mainly in

case of major uterine torsion associated with other pelvic anomalies.

Our idea is supported by the fact that, in our case, giving the absence of any pelvic adhesion at the time of surgery, we chose to not perform any preventive procedures and that, consequently, we did not observe any complication at the two-months postpartum visit.

4. Conclusions

Uterine torsion can be a “once in a lifetime” diagnosis for a gynecologist, often made after the delivery of the baby. It can be asymptomatic or even lead to catastrophic events. Uterine torsion should be considered in the differential diagnosis in the case of placental abruption and labor dystocia. However, it is not always associated with acute abdominal pain.

Bilateral plication of round ligaments may be a surgical option that needs to be assessed case by case to prevent recurrence of uterine torsion in postpartum period.

Conflicting Interest

The authors declare that they have no competing interests.

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