Intrauterine Fetal Death in a Torted Gravid Uterus

Nada Abdulaal, MBBCH* Sally Aldeeb, Saudi and Arab Board**
Samina Anwar, FRCOG***

It is normal to find a gravid uterus rotated by the third trimester; however, rotation beyond 45 degrees is rarely seen and is considered pathological.

A thirty-six-year-old, gravida 8, para 5, abortion 2, with a singleton pregnancy, at 36 weeks of gestation, was admitted to the antenatal ward with uterine cramping and absent fetal movements. The patient had four uncomplicated term vaginal deliveries and one C-section. The lie of the fetus was oblique, and the patient had a spontaneous vaginal leak. An emergency Cesarean section was performed. At the time of C-section, the diagnosis of uterine torsion was made, and uterus was detorted. A macerated fetus was delivered. The patient had peritonitis most probably because of spontaneous rupture of membranes. She recovered with treatment and was discharged home on the tenth postoperative day.

Uterine torsion is a rare, potentially dangerous complication that mainly occurs in the third trimester of pregnancy, putting the mother and fetus at a serious risk

Bahrain Med Bull 2018; 40(2): 121 - 123

Uterine torsion is defined as the rotation of the uterus on its long axis greater than 45 degrees. Uterine torsion usually ranges from 45 degrees to 180 degrees, but up to 720 degrees have been reported[1]. Only 212 cases were reported in the literature until 1992[2]. In two-thirds of cases, the uterus was dextrorotated and the other one-third it was levorotared[3]. The degree of torsion described varied from 60-720 degrees.

Torsion of a gravid uterus is a "once in a lifetime diagnosis" that is mainly diagnosed during cesarean section[4,5]. It is an unexpected, rare complication of pregnancy. It is potentially serious and considered an obstetric emergency.

The exact etiology and mechanism of torsion are unknown. Although in most cases, uterine anomalies and myomas causing uterine distortion and asymmetry were found, as well as mal-presentations, ovarian tumors and intra-abdominal adhesions.

The aim of this presentation is to report a case of uterine torsion at 36 weeks and five days of gestation in a singleton pregnancy, which was asymptomatic and did not have uterine myomas.

THE CASE

The patient was a thirty-six-year-old G8P5A2 with previous four uneventful spontaneous deliveries and one cesarean section due to transverse lie in 2015. She was not known to have any medical illness. The patient was referred because the fetus was found to be non-viable on ultrasound scan.

The patient was asymptomatic during the examination. She gave a history of sudden severe right flank pain radiating to the right thigh and knee 10 days before presentation. According to the patient, flank pain regressed within two days without taking any medications or seeking any medical advice, but the knee pain was severe and she was given an intra-articular injection at home two days before presentation.

The patient was vitally stable and afebrile. The abdomen was soft, non-tender and fundal height was at term. The abdominal wall was thick and edematous. There was a previous Pfannenstiel scar of C-section with no tenderness.

Ultrasound revealed a single fetus with no cardiac activity, which was confirmed with color Doppler. The lie was transverse, and biparietal diameter (BPD) was corresponding to 36+5 weeks of gestation and estimated fetal weight was 3,583 grams. Significant edema was seen around the head, no ascites or pleural effusion was found. The placenta was anterior and edematous, liquor was adequate and clear, and there were no gross anomalies.

The patient had spontaneous rupture of membranes, and there were no uterine contractions or cervical dilatation. Antibiotic Clindamycin was initiated. The patient was counseled regarding the mode of delivery, and she opted for C-section. The abdominal wall was opened by Pfannenstiel incision. There were moderate anterior abdominal wall adhesions. Intra-abdominally, the anatomy appeared distorted; the urinary bladder or uterovesical peritoneum was not visualized and the tubes and ovaries were lying anteriorly. The suspicion of torsion was made. To locate the urinary bladder, saline was injected to fill the bladder which was found to be posterior to the uterus. Both ovaries and fallopian tubes were seen anterior; this increased the suspicion, see figure 1 (A and B).

* Senior House Resident
** Senior Registrar
*** Consultant
Department of Obstetrics and Gynecology
King Hamad University Hospital
Kingdom of Bahrain
E-mail: nada.abdulfattah@khuh.org.bh

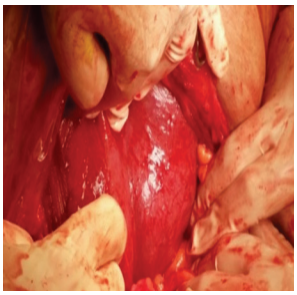

Figure 1 (A)

Figure 1 (B)

Figure 1 (A and B): Posterior Surface of Term Twisted Uterus with No Bladder or Uterovesical Fold Visible

The whole uterus was rotated, the posterior wall was facing anterior and vice versa. Left tube, left ovary and broad ligament were seen on the right side with engorged varicose, see figure 2.

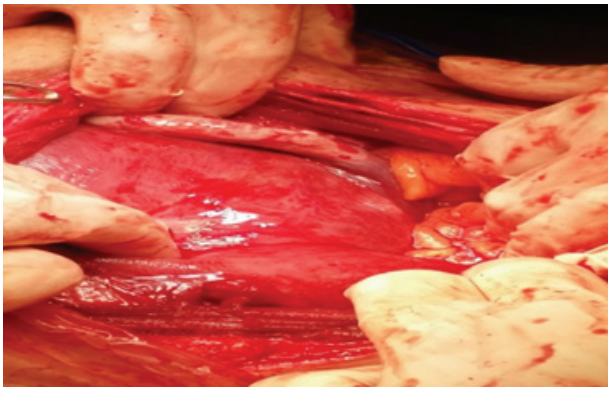

Figure 2: Posterior Surface of Uterus Showing Tubes and Ovaries

A counterclockwise detorsion of the uterus was performed, see figure 3. The previous scar was high up between upper and lower uterine segment which was opened transversely after dissecting the urinary bladder. A macerated baby was delivered by breech extraction with no apparent congenital anomalies, and minimal liquor around the baby.

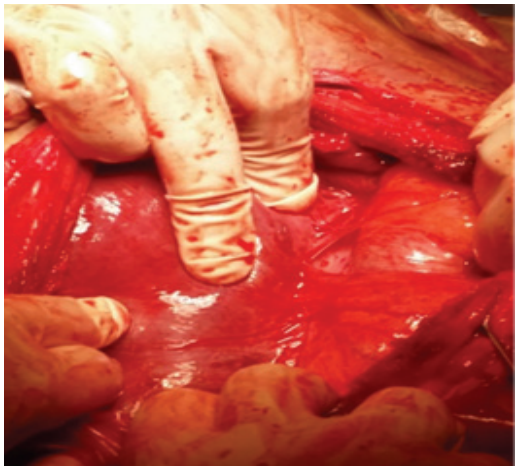

Figure 3: Detorted Uterus Anteriorly Showing Bladder and Uterovesical Peritoneum

The placenta was delivered and the histopathology was normal. The uterine wall had very thick muscular layers, but no pathology was seen. There were no myomas or uterine malformations. The uterus was closed by a standard two-layer suture with good hemostasis.

The estimated loss of blood was 500 milliliters. The patient was started on Clexane, analgesia and continued on Clindamycin.

Postoperatively, the patient remained stable for 48 hours, after which she developed a spike of fever, vomiting and loose motions. Placental swabs from maternal and fetal sites revealed Methicillin resistance Staphylococcus aureus sensitive to Vancomycin and Imipenem; therefore, Clindamycin was replaced with Vancomycin.

The patient was depressed. Therefore, a psychological consultation was arranged, and the patient was given antidepressive medications and psychological support.

Urine culture was positive for E. coli (ESBL) sensitive to Nitrofurantoin, Tigecycline and Linezolid; Chest X-ray revealed diffused basal infiltrations possibly due to aspiration pneumonia; abdominal ultrasound showed dilated loops of small intestine. The swabs were negative.

The patient was reviewed by gastroenterology, nephrology, pulmonology and endocrine teams. She was started on sliding scale, diagnosed with acute kidney injury as well and antibiotics were changed to Linezolid and Imipenem. The patient made a good recovery and was discharged in a stable condition on the 10th postoperative day.

DISCUSSION

Robinson and Duvall found intrinsic pelvic or uterine structural pathologies in 66% of cases; the trigger of uterine torsion was maternal body movements or posture[6].

The diagnosis of uterine torsion is difficult as the clinical presentation is non-specific. Eleven percent of cases are asymptomatic, and those who present with symptoms usually present with abdominal pain that varies from mild discomfort to severe abdominal pain and even shock[7].

Rotation of the uterus along its longitudinal axis causes vascular obstruction of the veins then the arteries. According to the degree of altered blood supply, the adverse effects vary from subacute/acute abdominal pain up to abruptio placentae causing fetal distress or even intrauterine fetal death (IUFD)[7].

No cohort study of uterine torsion found in the literature. Only single cases were reported, and the majority had uterine leiomyomas[7].

Uterine torsion is an obstetric emergency that was associated with maternal and fetal mortality in the past; however, it is a rare pregnancy complication. Only one case was reported since 1960. Although a clear etiology is unknown and the majority of cases are unexplained. Some risk factors play a role in uterine torsions, such as uterine abnormalities, leiomyomas, pelvic adhesions, fetal malpresentation, maternal spinal and

pelvic abnormalities as well as external cephalic version and trauma[8,9]. However, in our case, the only risk factor was the transverse lie of the fetus.

An anatomical landmark should always be defined before uterine incision. In our case, the bladder was filled to identify the anterior and posterior surface of the uterus and to evaluate the adnexa to avoid posterior wall incision, which was similar to another study[10].

The mechanism of uterine torsion is unknown; however, it might be explained by an elongated cervix with its isthmus structurally weak and angulated leading to torsion.

The clinical presentation is non-specific; however, the most common symptom of abdominal pain varies from non-specific mild abdominal discomfort to symptoms of acute abdomen and shock[11].

Some patients present with abnormal fetal heart rate or failure to progress in labor[12]. It is difficult to establish the clinical diagnosis of torsion before labor or cesarean section. However, one can suspect torsion by a change in the location of the placenta from the previous scan. MRI can be helpful in the diagnosis.

If uterine torsion is suspected, the investigation of choice is MRI; US is not conclusive[12]. If the torsion can be corrected, anterior uterine incision should be performed. However, if it is irreducible, posterior lower cesarean section is preferred followed by correction of torsion after delivery.

Postpartum recurrence of uterine torsion is possible, thus, performing a bilateral plication of round ligaments will prevent immediate postpartum recurrence[13]. This may keep the uterus in anteversion and reduce posterior uterine adhesions and future dyspareunia. Mustafa et al described bilateral plication of uterosacral ligaments, which may provide resistance to torsion and prevent long-term recurrence of uterine torsion[14]. Patients with an incision on the posterior wall of the uterus should have a repeat cesarean section in future pregnancy because of the risk of rupture.

CONCLUSION

Although uterine torsion is a rare condition, it should be considered as one of the differential diagnoses of acute abdomen during pregnancy. As many of the reported cases were asymptomatic, uterine torsion should be ruled out during cesarean sections especially in the presence acute pain, delay in dilatation of cervix with good contractions, abruption and fetal distress and risk factors, such as leiomyomas, malpresentation and unexplained IUFD.

Author Contribution: All the authors share equal effort contribution towards (1) substantial contribution to conception and design, acquisition analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content (3) final approval of manuscript version to be published. Yes.

Potential Conflict of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 24 April 2018.

Ethical Approval: Approved by the Research and Ethics Committee, King Hamad University Hospital, Bahrain.

REFERENCES

1. Corr JE. Axial Torsion of the Gravid Uterus in Two Successive Pregnancies. Am J Obstet Gynecol 1943; 46: 749-751.
2. Jenson JG. Uterine Torsion in Pregnancy. Acta Obstet Gynecol Scand1992; 71: 260-265.
3. Barber HRK, Graber EA. Uterine Torsion during Pregnancy. In: Surgical Disease in Pregnancy. Philadelphia: WB Saunders Co Ltd, 1974: 387-388.
4. Zanoio L, Eliana B, Gabrio Z, et al. Ginecologia e Ostetricia con Tavole di F.H. Netter. Milano, Italy: Elsevier Masson, 2007.
5. Kremer JAM, van Dongen PWJ. Torsion of the Pregnant Uterus with a Change in Placental Localization on Ultrasound; A Case Report. Eur J Obstet Gynecol Reprod Biol 1989; 31: 273-275.
6. Robinson AL, Duvall HM. Torsion of the Pregnant Uterus. J Obstet Gynaec Br Commonw 1931; 38: 55-84.
7. Jenson JG. Uterine Torsion in Pregnancy. Acta Obstet Gynecol Scand 1992; 71: 260-265.
8. Deshpande G, Kaul R, Manjuladevi P. A Case of Torsion of Gravid Uterus Caused by Leiomyoma. Reports in Obstetrics and Gynecology 2011; 206418: 11.
9. Wilson D, Mahalingham A, Ross S. Third Trimester Uterine Torsion: Case Report. Journal of Obstetrics and Gynaecology Canada 2006; 28(6): 531–535.
10. Dua A, Fishwick L, Deverashetty B. Uterine Torsion in Pregnancy: A Review. The Internet Journal of Gynecology and Obstetrics 2005; 6(1).
11. Jenson JG. Uterine Torsion in Pregnancy. Acta Obstet Gynecol Scand 1992; 71: 260-265.
12. Jensen JG. Uterine Torsion in Pregnancy. Acta Obstet Gynecol Scand 1992; 71(4):260-5.
13. Pelosi MA, Pelosi MA. Managing Extreme Uterine Torsion at Term: A Case Report. J Reprod Med 1998; 43: 153-157.
14. Mustafa MS, Shakeel F, Sporrong B. Extreme Torsion of the Pregnant Uterus. Aust NZ J Obstet Gynaecol 1999; 39: 360-363.