

**Case Report**

**Uterine Torsion Diagnosed During Cesarean Section in a 26-Year-Old Female at Bugando Medical Centre, A Case Report**

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**ABSTRACT**

Uterine torsion is considered rare conditions in human as compared to veterinary medicine. Despite being less commonly reported, it is associated with morbidities and mortalities to both fetal and maternal. When the rotation of the uterus is more than 45 degrees on its longitudinal axis is considered pathological.

We report a 26-year-old woman, prime gravid, at Gestational age of 40 weeks who stayed in labor for 8 hours with 6 centimeters cervical dilatation despite of adequate uterine contractions. She was delivered by caesarean section due to intrapartum fetal surveillance found to be bradycardic (fetal heart tones ranging from 108 to 110 beats per minutes) regardless of maternal changing position. A live baby boy with Apgar score of six at first and eight at firth minutes respectively birth weight 3.7 kilograms was delivered and Intraoperatively, uterine torsion of 180 degrees was diagnosed. We present this case as the rare diagnosis which is associated with significant morbidity and mortality of both maternal and neonates.

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**Case Presentation**

The patient reports to start labor pain simultaneously at home, she labored at home whereby two hours later was brought at Bugando Medical center (BMC) for motoring and delivery. The labor was not associated with vaginal leakage, not associated with vaginal bleeding and the fetal movement was normal. Eight hours later, artificial rupture of membrane was done and it was found to be grade 2 meconium-stained liquor, with reduced fetal heart rate.

Maternal systemic review, respiratory system showed that she had no chest pain, no difficulty breathing and no rapid breathing with no cough. The cardiovascular system was also remarkable with no awareness of heartbeat, no shortness of breath no difficulty in breathing on lying flat orthopnea, no 'air-hunger' at night, no lower limb, ankle swelling no facial puffiness. On genitourinary system there was no painful micturition, no hematuria, no waking to urinate at night (no Urgency; no overwhelming desire to maturate, no Incontinence; no inability to control urination), no reduced in urine output.

**History of index pregnancy and gynecological history**

She booked antenatal clinic when she was 20 weeks pregnancy, she had total four visits, she was normotensive through all 3 visits, she was tested for HIV syphilis and malaria she was found to be negative. Also, urinary tests were done in all visits and were unremarkable. She received all medications as per ministry of health guideline.

On gynecological history she commenced menarche at the age of 13 years, she has regular cycle of 32 days , each cycle consists of an average 6 days, she uses 2-3, socked pad/day, no history of pain during menses, no history of any contraceptive uses, no history of gynecological surgery no history of any abnormal vaginal discharges. She is married, no history of multiple sexual partners, and no history of pain during sexual intercourse, no post coitus bleeding.

The past medical history was remarkable with no history of chronic illness, like hypertension, no history of trauma or any...
surgical interventions, no history of blood transfusion, no allergies reported. She is married, living with her husband, she is self-employed, her husband is civil servant, and, no history of alcohol use neither cigarette smoking.

On physical examination, she was alert, a febrile, not dyspneic, not pale, not jaundiced, with no lower limb edema. The vitals were: Blood Pressure 110/60mmhg, Pulse Rate was 95beat/minute, Temperature 36.6c, Respiratory Rate: 16Breath/cycle; she was saturating 98% on room air.

**Systemic Examination**

**Respiratory System:** 18cycles/minutes, normal Rhythm regular/regular no Respiratory distress no nasal flaring, no mouth-breathing, no use of accessory muscles of respiration, no head-nodding normal Spine no kyphosis no scoliosis, normal Ribcage shaped, normal chest Movement, normal chest Expansion, symmetrical movement, normal Intercostal recessions, normal lower chest wall in-drawing.

On palpation: no Lymph node enlargement, no swelling no tenderness, normal Position of trachea, during chest expansion normal tactile vocal fremitus.

**On percussion:** normal Resonant note.

**On auscultation:** normal Breath sounds a, normal Intensity, vesicular breath sound, no wheezes, no crackles, no stridor, no pleural rub, no Vocal resonance.

**Cardiovascular System:** no Palma paleness, Warmth of extremities, normal Capillary refill.

**Per abdomen:** Gravid uterus, with linear nigra, no surgical mask, Fundal Height was 38cm; fetal heart rate 105beat/minutes, confirmed by bed side ultrasound, with 3 contractions each lasting for 30 seconds.

**Leopard Maneuvers:** Longitudinal lie, buttock was occupied at the fundal, cephalic presentation, the back at the left of the patient; the head was 1/5 palpable.

**Vaginal Examination:** Normal vulva, cervix was 6 cm dilated, fully effaced, head was at station 0, caput +1, no molding, with adequate pelvis.

Provisional diagnosis of: **None- Reassuring fetal status**

**PLAN:**
1. Intra uterine resuscitation with RL 1.5litres.
2. To prepare the patient for emergency cesarean section
   a) Patient was cancelled and agreed to sign consent form.
   b) Catheterization.
   c) Full blood picture, Blood grouping and cross match.
   d) Pre-operative (prophylaxis) antibiotics given.
   e) Theatre team was informed.

f) The patient was taken to theatre after 40 minutes.

Under spinal anesthesia, Abdomen was washed with spirit and povidone iodine, draped aseptically. On entering the abdominal cavity, uterovesical peritoneum was not well identified and severely edematous adnexa and some engorged vessels were found crossing over the lower uterine surface. We diagnosed the torsion, and tried to rotate the uterus but it was impossible.

An immediate transverse incision was made aiming in saving the baby because of fetal bradycardia. A live baby boy of 3.7 kg weight was delivered. Apgar scores were 6 at 1st -minute and 8 at 5th-minute respectively.

After the delivery, we confirmed the uterus was rotated to the left by 180 degree and the incision was performed on the posterior wall of the uterus. The posterior uterine wall was closed in two layers, homeostasis was achieved with difficulties and the patient bled about 1litr because of uterine atony, uterus was examined and there was no uterine anomaly detected. Upon easy reduction, the anterior uterine segment was found to be under-developed while the posterior uterine segment was well developed.

**Patient particulars**

Registration no: 201307.
Name: F.J.M
Age: 26 year old.
Resident: Mecco
Referral from Hindu hospital
Prime gravida
Last normal menstrual period: 17/05/2020.
Gestational age: 40 weeks.
Expected date of delivery: 24/02/2021
Date of admission was: 03/03/2021.
Date of discharge was: 05/03/2021

**Summary**

History of 26-year-old, prime gravid, at Gestational age, 40 weeks, who labored for eight hours was delivered by caesarean section a live baby boy Apgar score of six and eight at 1st and 5th minutes respectively, the indication was none- Reassuring fetal status with fetal bradycardia (Fetal heart tones ranging from 108 to 110 beats per minutes). Intraoperative uterine torsion of 180 degrees was diagnosed.

We present this case as the rare diagnosis which is associated with significant morbidity and mortality of both maternal and neonates.

**Chief Complaint- labor pain for one day**

Labor started simultaneously and she started to experience a labor pain at home, she labored at home for less than 4 hours, and went to hospital whereby she was admitted and monitored.

It was not associated with vaginal leakage, not associated with vaginal bleeding, and she had normal fetal movement. 8hours later, artificial rupture of membrane was done it was found to be grade
2 meconium, with reduced fetal heart rate, and hence decision of delivering her by emergency cesarean section was made.

**Review of Other System**

**Respiratory System:** There was no Chest pain, no Difficulty in breathing no rapid breathing, no Cough.

**Cardiovascular System:** no Awareness of heartbeat no Shortness of breath no Difficulty in breathing on lying flat, orthopnea, no 'Air-hunger' at night, no Lower limb, ankle swelling no facial puffiness.

**Genitourinary System:** no painful urination, No Blood in urine, no Waking up to urinate at night (no Urgency; no overwhelming desire to maturate, no Incontinence; no inability to control urination.), no reduced in urine output.

**History of Index Pregnancy**
She attended Antenatal clinic when she was 20 weeks pregnancy, she had total four visits, she was normotensive through all 3 visits, she was PMCT 2, VDRL negative, she was not diagnosed with malaria or urinary tract infection throughout, and she received other prescriptions as per RCH protocol.

**Gynecological History**
She attained her menarche at the age of 13 years, she has regular cycle of 32 days, each cycle consists of an average 6 days, she uses 2-3, soaked pad /day, no history of pain during menses, no history of any contraceptive uses, no history of gynecological surgery no history of any abnormal vaginal discharges.

**Sexual History:** She is married, no history of multiple sexual partners, and no history of pain during sexual intercourse, no post coitus bleeding.

**Past Medical History:** no history of chronic illness, like hypertension, no history of trauma or any surgical interventions, no history of blood transfusion, no allergies reported,

**Family and Social History**
She is married, living with her husband, she is self-employed, her husband is civil servant, and, no history of multiple sexual partners.

**Physical examination**

**General Examination**
She was alert, a febrile, not dyspneic, not pale, not jaundiced, with no lower limb edema.
Vitals: Blood Pressure 110/60mmhg, Pulse Rate was 95beat/minute, Temperature 36.6c, Respiratory Rate: 16 Breath/cycle; she was saturating 98% on room air.

**Systemic Examination**

**Respiratory System:** 16b/cycle, normal Rhythm regular/regular no Respiratory distress no nasal flaring, no mouth-breathing, no use of accessory muscles of respiration, no head-nodding normal Spine no kyphosis no scoliosis, normal Ribcage shaped, normal chest Movement, normal chest Expansion, symmetrical movement, normal Intercostal recessions, normal lower chest wall in-drawing. On palpation; no Lymph node enlargement, no swelling no tenderness, normal Position of trachea, during chest expansion normal tactile vocal fremitus.

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**Leopard Maneuvars:** Longitudinal lie, buttock was occupied at the fundal, cephalic presentation, the back at the left of the patient; the head was 1/5 palpable.

**Vaginal Examination:** Normal vulva, cervix was 6 cm dilated, fully effaced, head was at station 0, caput +1, no molding, with adequate pelvis.

Provisional diagnosis of: Featal distress.

**PLAN:**
1) Intra uterine resuscitation with RL I.5litres.
2) To prepare the patient for emergency cesarean section.
   a. Patient was cancelled and agreed to sign consent form.
   b. Catheterization.
   c. Full blood picture, Blood grouping and cross match.
   d. Pre-operative antibiotics intravenously given.
   e. Theatre team was informed.

The patient was taken to theatre after 40 minutes.

Under spinal anesthesia, Abdomen was washed with spirit and povidone iodine, draped aseptically.

On entering the abdominal cavity, uterovesical peritoneum was not well-identified and severely edematous adnexae and some engorged vessels were found crossing over the lower uterine surface.

We diagnosed the torsion, and tried to rotate the uterus but it was impossible.

An immediate transverse incision was made aiming in saving the baby because of fetal bradycardia. A live baby boy of 3.7 kg weight was delivered. Apgar scores were 6 at 1-minute and 8 at 5-minute.

After the delivery, we confirmed the uterus was rotated to the left by 180 degree and the incision was performed on the posterior wall of the uterus. The posterior uterine wall was closed in two layers, homeostasis was achieved with difficulties and the patient was...
bled about 1litr because of uterine atony, uterus was examined and there was no uterine anomaly detected. Upon easy reduction, the anterior uterine segment was found to be under-developed while the posterior uterine segment was well developed.

She was counseled on contraceptive and she agreed to use intrauterine device and she was also advised for elective caesarean on the coming pregnancies.

**Discussion**

Dextrorotation of the gravid uterus less than 45 degree is a common physiological finding. Rotation of the uterus beyond 45 degree is pathological uterine torsion and is extremely rare in pregnancy. It is considered as a “once in a lifetime diagnosis” for most obstetricians. It is only sporadically reported in medical literature until 1992; only 212 cases have been reported in literature [1].

Uterine torsion during pregnancy can be associated with significant morbidity and mortality of both the mother and fetus [2].

The mechanism of perinatal morbidity and mortality has been abruption secondary to venous engorgement and retro placenta pressure and torsion affecting blood flow through uterine arteries. In this case, report we documented the rare occurrence of 180-degree uterine torsion in a pregnant woman, which led to vascular insufficiency causing fetal bradycardia. As it has been reported by other cases, diagnosis before operation is difficulty because of its rarity and nonspecific clinical characteristics; we diagnosed our patient after extraction of the baby, during cesarean section because of unexplained cause of fetal bradycardia [2].

Most cases have non-specific associated symptoms, including fetal heart rate decelerations and maternal bradycardia, severe abdominal pain, hypotension, or vaginal bleeding. Approximately 11% are asymptomatic. Therefore, it typically is not identified until intra-operative evaluation in the setting of an emergent cesarean section [3].

Other symptoms may include failure to progress in labor, uterine atony, hemorrhagic shock, urinary and intestinal symptoms, placental abruption, fetal distress, or intrauterine fetal demise.1- 3 uterine torsion carries a significant fetal mortality rate estimated at 12% to 18%. The associated maternal mortality rate is dependent on the stage of pregnancy, with higher rates reported in the late second trimester and decreasing thereafter [3].

Different degrees and durations of torsion result in various symptoms in which, according to Jensen et al, include maternal shock, abdominal pain, obstructed labor, vaginal bleeding, intestinal or urinary complaints, and hypertonic uterus.

In our case, uterine torsion did not present with any of the mentioned symptoms and was in fact asymptomatic. There were no clinical signs or symptoms suggestive of torsion prior to the incision. The only clinical presentation was of fetal bradycardia and failure of labor to progress, which can be caused by any other causes.

Reported cases associate uterine torsion and asymmetry with uterine myomas or uterine developmental anomalies, and some authors have proposed that certain maternal body movements or

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**Post Operation and Follow Up**

Patient was taken to recovery room, after two hours she was taken to postnatal ward, high dependence unit for observation. There she stayed for 8 hours without any complication, ambulation and oral sips was then started and she was transferred to normal ward.

She was discharged on third day post operation and she came on 8 day post-delivery, for suture removal, the suture was removed, wound was dry and clean, and head to toe assessment was done and was normal, and the baby was doing fine. (Hence, the patient made an excellent post-operative recovery) She was asked to return on day 21, and she was advised to return if any complication.
posture and positions might trigger the rotation of the uterus in the presence of preexisting structural abnormalities [4]. However, we could not find any risk factors for uterine torsion in our patient.

Studies shows that, if the patient presents in early pregnancy, derotation followed by hysterotomy and removal of underlying pelvic pathology is the preferred modality of treatment; in cases with unsuccessful derotation, posterior hysterotomy can be performed. Near-term laparotomy followed by derotation of the uterus and caesarean section is the preferred treatment.

Defining anatomical landmarks prior to incision is important to prevent inadvertent injury to blood vessels and other organs [4]. However, the greater the degree of torsion increases the possibility for torsion of uterine arteries to result in ischemia and subsequent necrosis of the uterus, requiring a hysterectomy.

According to the literatures, a posterior low transverse incision would be needed to deliver the infant in such conditions, which is in turn accompanied by a risk of damage to the uterine vessels as well as the urethras. Some studies have recommended implementing vertical incision in the posterior upper segment as a safer approach [5].

The impact of a posterior uterine incision on future reproductive outcomes especially in the presence of anterior uterine incision is unknown. Laparoscopy and hysteroscopy following a posterior uterine incision has shown appropriate healing but the lack of substantive evidence supporting the safety of vaginal birth after posterior hysterotomy has prompted some authors to pursue contraception (tubal ligation) at the time of operation or recommend an elective caesarean section at early term gestation [4].

The impact on intra-abdominal adhesion formation and significance of symptoms of uterine rupture with posterior hysterotomy is unknown.

In our case, we made posterior lower segment incision and it was successfully repaired. Since bilateral tubal ligation could not be performed, the patient was advised on alternative contraception and for elective caesarean section on her next pregnancy.

In previous case reports, the prognosis of uterine torsion was found to depend upon pregnancy stage and rotation degree. The highest rates of maternal mortality happen during the 20th to 24th weeks of gestation (17%), the rates would however decrease as gestational age increases. Despite the rare cases of death (only 1 since 1960), uterine torsions of 180-360 degrees increase maternal and neonatal mortality rates to as high as 36% and 71%, respectively [5,6].

Luckily, in our case, the patient had no complications and the mother and her infant were both in good condition, and the operation made an excellent recovery.

**Conclusion**

Although uterine torsion is a rare obstetric event, it has nonspecific symptoms and may result in severe complications. Timely and accurate preoperative diagnosis of uterus torsion and immediate surgery are of utmost importance to save both the mother and the baby. Moreover, in order to avoid serious vascular injuries, the uterus needs to be assessed for rotations before making any incision during a cesarean section [5].

**References**