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# Case Report: Uterine Torsion – A Rare Cause of Right Lower Quadrant Pain

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## INTRODUCTION

Uterine torsions are very rare. In an article by Matsumoto et al published in 2021, only 25 cases have been documented on Pubmed in non-gravid females in the past 20 years<sup>3</sup>. Uterine torsion is defined as **rotation of the uterus greater than 45 degrees** in the long axis<sup>1</sup>. Rotation can occur anywhere between 45 degrees to 180 degrees. The torsion can be due to a congenital anomaly or an obstetrics emergency such as with an ovarian torsion. Uterine torsions presenting as an obstetrics emergency carries the potential for irreversible ischemic damage to the uterus<sup>2</sup>, and just as in ovarian torsion, is predisposed by a mass such as ovarian cyst, tumors, or fibroids. Uterine torsions are mostly found in gravid patients since the fetus is an impetus for rotation. Findings in non-gravid women are very rare and only a few cases have been documented<sup>3</sup>. One of the reasons why uterine torsions are so rare is that they present with very non-specific symptoms<sup>1</sup> or hardly any symptoms at all. Additionally, some cases are not diagnosed until laparoscopic surgery<sup>4</sup> or incidentally during pelvic surgery<sup>4</sup>. As a result, clinicians usually do not even consider uterine torsion in their differential for lower pelvic pain.

## CASE REPORT

We present the case of a 15-year-old female with past medical history of gastroschisis and malrotation, presented to the emergency department for right lower quadrant (RLQ) pain. The pain started two days ago, is located on right lower quadrant, and wraps around to the lower back. The pain worsened and she developed an episode of vomiting. She denies any urinary complaints or bowel changes. There was no fevers, chills, anorexia, or flank pain.

Ultrasound and CT scans with IV and oral contrast were ordered to rule out most-likely causes of RLQ pain. Radiologist called to inform that finding of uterine torsion was found on CT scan. The **uterus was located in the right pelvis, rotated approximately 90 degrees relative to its normal position**. According to the radiologist, it is a rare diagnosis in non-gravid patient but malpositioned uterus is consistent with a uterine torsion.



Due to emergent findings, patient was transferred to the nearby Children’s Hospital. While at the Children’s Hospital, further workup of the uterine torsion was pursued including a transabdominal ultrasound and doppler. Ultrasound reveals that there was **good blood flow to the uterine despite angulation of the uterus to the right hemipelvis**. CT scan was reviewed showing again, torted uterus in the right hemipelvis, however, the radiologist also commented on the appendix in the midline location and the cecum in the left lower quadrant. The findings were consistent with malrotation with no evidence of volvulus. It was also noted that patient’s right ovary was located high along the right anterior abdominal wall. Patient’s pain had resolved at presentation to the Children’s hospital. Because of normal blood flow findings to the uterus, no invasive surgical interventions were pursued.

## DISCUSSION

In reviewing our case report, this is likely a case of incidental congenital uterine torsion. No “whirl sign” was found on CT and there was absence of any findings of uterine infarct/ischemia. Because bloodflow was intact on doppler ultrasound, this was less likely an obstetric emergency but rather a case of incidental finding of congenital uterine torsion. Since we were unable to locate literature on the causes of congenital uterine torsion, we speculate that patient’s history of gastroschisis and malrotation may have played a role in the orientation of abdominal and pelvic organs. The distortion in bowel anatomy may have influenced the position of her uterus to the right hemipelvis. Although this was not determined to be an acute emergency after imaging and diagnosis at the Children’s Hospital, this finding may present as the source of patient’s right lower quadrant pain.

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