Case Report

Adnexal and Concomitant Uterine Torsion in Children: A Rare Case Report

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Abstract

An 8-month-old girl underwent urgent laparoscopy, revealing the presence of adnexal and concomitant uterine torsion. Uterine torsion in pediatric patients is extremely rare but can lead to impaired fertility or loss of reproductive function, highlighting the importance of early diagnosis and rapid surgical intervention when ovarian torsion is suspected.

Keywords: *Adnexal torsion, children, diagnosis, management, uterine torsion*

Introduction

Adnexal torsion is a rare event in the pediatric population but represents a relatively common cause of abdominal pain in girls, especially in adolescence. Ovarian torsion alone is the most common presentation, sometimes accompanied by torsion of the ipsilateral fallopian tube. However, uterine torsion is a much rarer but serious gynecological condition, characterized by the uterus rotating more than 45° along its longitudinal axis. This condition is primarily seen in adults, especially during pregnancy; occurrences in nonpregnant women and in the pediatric population are rare, with limited reports on its diagnosis and management.[1-3]

The etiology of uterine torsion in pediatric patients remains unclear but is believed to be associated with structural anomalies, including uterine malformations, adnexal masses, or abnormalities involving the broad ligament.[3] Patients with uterine torsion often present with acute abdominal pain, nausea, and other nonspecific symptoms, which can make diagnosis difficult, particularly in prepubescent and adolescent patients in whom gynecological causes are less often considered.[4] Torsion severity can vary, with more extreme cases leading to restricted blood flow, ischemia, and potentially necrosis of the uterus. Early diagnosis and treatment are essential to prevent serious complications, including the risk of losing reproductive function.

Case Report

An 8-month-old girl presented to the emergency room with drowsiness and irritability due to inconsolable abdominal pain, along with vomiting and fever in the preceding days. At admission, the patient was afebrile and in relatively good clinical condition. Clinical examination revealed tenderness on palpation of the left flank. Initial ultrasound (US) scan of the abdomen was negative for intussusception and free abdominal fluid, but both the ovaries could not be visualized due to the presence of abundant feces in the rectum. Therefore, the patient was kept under clinical observation, and US was repeated after a productive enema. The patient remained clinically stable during this period. A subsequent US revealed the presence of a hyperechoic round-shaped mass located posteriorly to the bladder [Figure 1, Left] and an oval-shaped hyperechoic structure measuring

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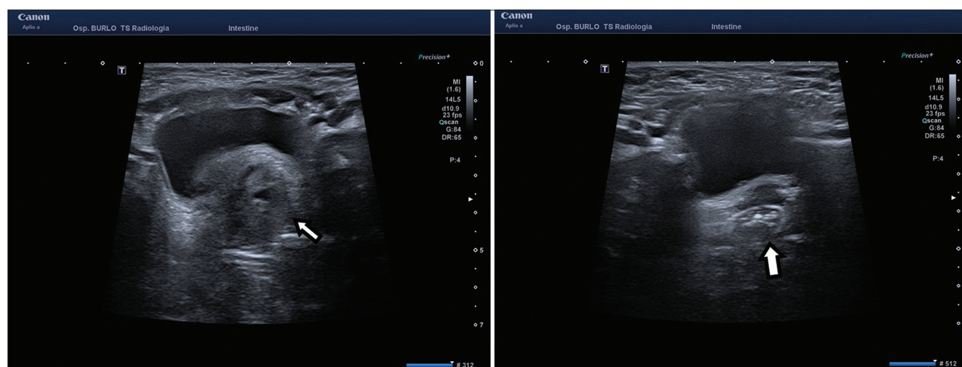

Figure 1: Ultrasound scans revealing the presence of a round hypoechoic mass located posterior to the bladder (left) and an oval-shaped hyperechoic structure located just on the left side of the bladder and showing no vascular supply (right)

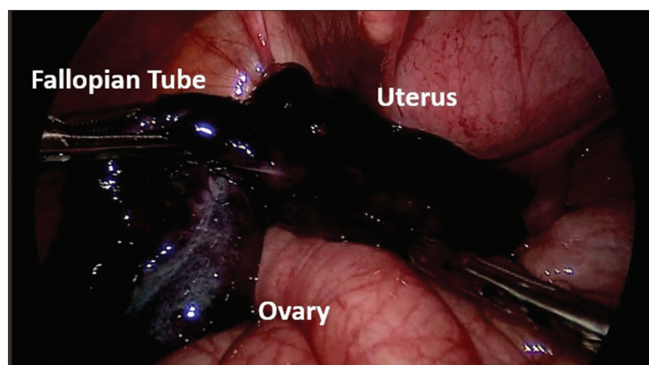

Figure 2: Intraoperative view showing the presence of a necrotic left ovary and Fallopian tube, with an associated uterine torsion along its major axis, leading to difficulties in blood supply

25 mm × 16 mm with some locular hypoechoic lesions on the left of the bladder and showing no vascular supply [Figure 1, Right]. Preoperative laboratory findings and tumor markers were within the normal range.

Ovarian torsion was suspected, and the patient underwent exploratory laparoscopy, which revealed a necrotic mass identified as the left ovary and fallopian tube. The uterus was also black–blue due to a 180° counterclockwise rotation along its major axis [Figure 2]. After detorsion of the ovary and the ipsilateral fallopian tube, the uterus was gently rotated clockwise, leading to a progressive recovery of vascularization. No recovery of vascularization was observed for the left ovary and tube, which maintained a necrotic appearance. Thus, the tube and the ovary were removed. The contralateral ovary was not fixed, considering the patient's age.

The postoperative course was uneventful, and the patient was discharged on the third postoperative day. Ligamentous anomalies were not investigated in the postoperative period. Such anomalies could be investigated in the future in case of recurrent symptoms. US at 2 months, 6 months, and 1 year after surgery showed the contralateral ovary and uterus found to be normal. The presence of a single ovary and a single fallopian tube may be considered a moderate risk factor for infertility. The parents were informed of the need for gynecological follow-up starting in the prepubertal period.

Discussion

Uterine torsion is a rare and potentially life-threatening condition. It is particularly unusual in pediatric patients, with around 10 cases reported in the literature.[2,3,5] To our knowledge, uterine torsion in infants under 1 year old has not been reported.

The etiology of uterine torsion in the pediatric population remains poorly understood, with most adolescent cases occurring in association with functional ovarian cysts or underlying anatomical anomalies.[3] In our patient, adnexal torsion may have contributed to uterine torsion through mechanical traction or disruption of normal uterine stabilization mechanisms. Similar mechanisms have been proposed in older patients, in whom uterine torsion has often been linked to adnexal masses, congenital uterine anomalies, or abnormalities of the broad ligament.[3]

Clinically, uterine torsion presents with nonspecific symptoms such as abdominal pain, irritability, and vomiting. These symptoms generally overlap with more common pediatric abdominal conditions.[4] This lack of specific clinical features, along with the rarity of the condition, often leads to delayed diagnosis.

The role of ultrasonography is critical but limited in such cases. Doppler US findings of absent or reduced blood flow may suggest torsion but are not definitive, especially in young children. Cross-sectional imaging, such as magnetic resonance imaging, can provide better diagnostic clarity, but it is not always feasible in an acute care setting.[4] In this case, the hyperechoic, avascular mass raised suspicion of torsion, but uterine involvement was recognized only intraoperatively.

This case reinforces the need for a high index of suspicion for gynecological causes of acute abdominal pain in female infants and children. While adnexal torsion is more commonly considered in the differential diagnosis, uterine torsion, though extremely rare, should not be excluded, especially when imaging is inconclusive or unclear and clinical symptoms persist. Early involvement of pediatric surgeons and gynecologists is crucial for timely diagnosis and treatment.

Uterine torsion is a diagnostic challenge in female children presenting with acute abdominal pain. Timely surgical intervention is crucial to preserve the uterus, reinforcing the need for early suspicion and management. Continued reporting of similar cases and further research are needed to improve understanding of its causes and to establish optimal treatment strategies for children.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Dasgupta R, Renaud E, Goldin AB, Baird R, Cameron DB, Arnold MA, *et al.* Ovarian torsion in pediatric and adolescent patients: A systematic review. J Pediatr Surg 2018;53:1387-91.
2. Matsumoto H, Aoyagi Y, Morita T, Nasu K. Uterine torsion in non-gravid women: A case report and review of cases reported in the last 20 years. SAGE Open Med Case Rep 2021;9:2050313X211066649.
3. Thever Ramasamy V, Sivapatham L, Grover SR, Shanmugam SS, Ganesalingam M. A challenge in diagnosis and management: Uterine torsion in childhood. J Pediatr Adolesc Gynecol 2021;34:61-4.
4. Franco PN, García-Baizán A, Aymerich M, Maino C, Frade-Santos S, Ippolito D, *et al*. Gynaecological causes of acute pelvic pain: Common and not-so-common imaging findings. Life (Basel) 2023;13:2025.
5. Dutra RA, Perez-Bóscollo AC, Ribeiro FC, Vietez NB. A laparoscopic approach to treating torsion of a nonpregnant uterus accompanied by a large ovarian cyst in a premenarchal girl. J Pediatr Surg 2008;43:E17-9.