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CASE REPORTS

ACUTE ABDOMINAL PAIN IN A 13-YEAR-OLD FEMALE ADOLESCENT

DOR ABDOMINAL AGUDA EM ADOLESCENTE DE 13 ANOS

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ABSTRACT

Introduction: Ovarian torsion can occur at any pediatric age, mainly between the ages of 9 and 14 years. Diagnosis is challenging, as symptoms are nonspecific, misleading to other more common diagnoses, as genitourinary and gastrointestinal disorders. In children, ovarian lesions leading to torsion are typically benign and cystic. Surgical approach is safe, as most cases of early torsed ovary untwisting exhibit later normal ovarian function.

Case report: A 13-year-old female adolescent was referred to the Emergency Department for vomiting, left low back pain, and diffuse abdominal pain with irradiation to the hypogastric area, associated with urinary symptoms. Abdomen was tender in the right iliac fossa and hypogastric area. Analytical study revealed increased inflammatory parameters, urinary test strip was negative, and pelvic computed tomography showed a cystic lesion of ovarian origin. Due to suspicion of cyst torsion, laparoscopic surgery was performed, revealing a necrotic adnexal torsion requiring adnexectomy.

Discussion: Although often suspected, adnexal torsion is rarely confirmed. Although ovarian torsion accounts for a small number of all gynecological emergencies, it represents a common diagnostic challenge in the emergency setting.

Conclusion: As ovary viability depends on early diagnosis, a high index of suspicion is required. This clinical case raises awareness of this entity in the differential diagnosis of lower abdominal pain in female children and adolescents.

Keywords: abdominal pain; adolescent; ovarian cyst

RESUMO

Introdução: A torção do ovário pode ocorrer em qualquer idade pediátrica, com um pico entre os 9 e os 14 anos. O diagnóstico é desafiante, devido à presença de sintomas inespecíficos identificados também noutras patologias mais comuns, como distúrbios geniturinários e gastrointestinais. Em crianças, as lesões do ovário que levam à sua torção são tipicamente benignas e císticas. O tratamento cirúrgico é uma abordagem segura, uma vez que a destorção precoce do ovário geralmente apresenta posterior função ovárica normal.

Relato do caso: Uma adolescente do sexo feminino de 13 anos recorreu ao Serviço de Urgência por vómitos alimentares, lombalgia à esquerda e dor abdominal difusa com irradiação para o hipogastro, associados a sintomas urinários. O abdómen era doloroso com defesa na palpação da fossa ilíaca direita e área hipogástrica. O estudo analítico revelou parâmetros inflamatórios aumentados, a tira-teste urinária foi negativa e a tomografia computarizada pélvica identificou uma lesão quística de origem ovárica. Mediante suspeita de torsão do quisto, foi realizada uma cirurgia laparoscópica, que identificou a torsão anexial necrosada, com necessidade de anexectomia.

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Discussão: Embora frequentemente suspeita, a torção anexial é raramente confirmada. Esta condição é responsável por um pequeno número de todas as emergências ginecológicas, mas representa um desafio diagnóstico comum no Serviço de Urgência.

Conclusão: Nesta condição clínica, a viabilidade do ovário depende do diagnóstico precoce, pelo que deverá existir um elevado índice de suspeição. O presente caso clínico serve para relembrar esta entidade no diagnóstico diferencial de dor abdominal inferior em crianças e adolescentes do sexo feminino.

Palavras-chave: adolescente; dor abdominal; quisto ovárico

INTRODUCTION

Acute abdominal pain is one of the most frequent complaints in childhood in the Emergency Department. Often self-limiting and benign, acute abdominal pain requires meticulous and repeated physical examination to determine the underlying cause and identify surgical cases. Accurate and timely diagnosis is key for preventing significant morbidity and mortality.[1] Identifying abdominal pain etiology in young girls is challenging, since physical examination is often limited and abdominal pain may be caused by a variety of conditions.

In females, pelvic pain can have a gynecological etiology, as enlarged ovary due to ovarian torsion.[2] This condition mainly occurs between the ages of 9 and 14 years, but may be present at any pediatric age.[3] Ovarian torsion diagnosis is often difficult, as symptoms are nonspecific, misleading to other more common children diagnoses, as genitourinary and gastrointestinal disorders.[4]

CLINICAL CASE

An otherwise healthy 13-year-old female adolescent, three years post-menarche, was taken to the Emergency Department (ED) with low back pain without irradiation to the legs, aggravated by movement and walk and relieved by rest. She also presented diffuse abdominal pain and repeated vomiting for three days. The girl denied past surgical interventions and had her last menstrual period one week before. On physical examination, abdomen was soft and with notable tenderness to palpation, especially over the left quadrants, with no peritoneal signs. Tenderness was also noted over the ipsilateral lumbar paravertebral muscle. Blood test revealed white blood cells within normal range and negative C-reactive-protein (CRP), and urinary test strip was negative. In emergency setting, patient's complaints gradually improved after rectal sodium citrate and intravenous antiemetic (ondansetron). The girl was evaluated by a general surgeon who ruled out an underlying surgical condition and was discharged from the ED when asymptomatic and with oral tolerance.

Two days after discharge, the girl returned to the ED due to worsening back pain radiating to hypogastrium associated with urinary complaints, as dysuria and pollakiuria. On physical examination, abdomen was tender in the right iliac fossa and hypogastric area, with positive renal murphy sign. Blood tests revealed leucocytosis and CRP of 75 mg/L; urinary sediment and urine culture were negative. In abdomino-pelvic ultrasound (US), a simple cystic formation was identified in the middle line immediately behind the uterus. Since left ovary was not visible, cyst was hypothesized to be in its dependence. Abdomen and pelvis computerized tomography (CT) scan was performed, disclosing a 7.6x6.3x5.7 cm cystic lesion of (**Figure 1**). At that time, the patient was admitted, receiving nonsteroidal anti-inflammatory drug and intravenous hydration. Due to suspicion of ovarian cyst torsion, the patient underwent laparoscopic surgery, which confirmed adnexal torsion. A cystectomy was required, followed by left ovary distortion. However, due to absence of ovary vascularization recovery following distortion, left adnexectomy was required.

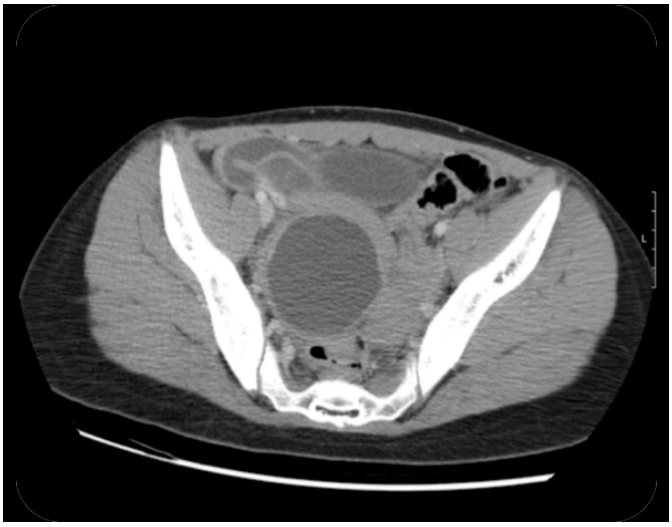

Figure 1 - Pelvic computed tomography (axial plane) with cystic formation, with slightly thick walls, suggestive of cystic lesion of ovarian origin

DISCUSSION/CONCLUSIONS

Abdominal pain is a common complaint in the emergency setting and ovarian torsion is far less common than other causes, such as appendicitis. Ovarian torsion diagnosis relies on a combination of clinical history and physical examination, which may be limited in young girls.[5] US findings are not particularly predictive, although evidence of large ovarian cysts (five centimetres) has been associated with torsion.[5] Nonspecific symptoms, as nausea and vomiting, are also common presenting features, affecting up to 85% of girls with ovarian torsion.[5] Routine blood workup evaluates presence of infection and inflammation. As ischemic ovary insult occurs in torsion setting, markers of ischemia or ischemia-reperfusion injury may often be raised in serum.[5] CRP, an acute phase protein, is commonly elevated in presence of inflammation and white cell count may be raised in up to 50% of cases.[5] Unfortunately, neither of these markers is useful in torsion diagnosis, due to low sensitivity and specificity.[5]

Unilateral ovary enlargement in US findings in the setting of acute pelvic pain in girls should raise clinical suspicion of ovarian torsion.[4] Adnexal torsion is frequently suspected in women with acute pelvic pain, but rarely confirmed.[5] Ovarian lesions causing torsion in children are typically benign and cystic.[4] Torsion mechanism in girls with benign ovarian masses is likely associated with increased size and weight of the involved ovary, as it is acknowledged that adnexal torsion risk increases with cysts with five or more centimetres in diameter.[4,6] Prompt laparoscopic intervention should be performed whenever possible, with untwisting of the torsed ovary representing the treatment of choice in prepubescent girls and women of reproductive age, as it has been associated with later normal ovarian function.[5] Torsion of the ovary, tube, or both is estimated to account for only a small number of all gynecological emergencies, but it is a common diagnostic challenge in the emergency setting, with ovary viability relying on early diagnosis.[5] Therefore, clinicians should maintain a high index of suspicion in cases of abdominal pain in female patients to enable prompt diagnosis.[5]

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