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Case Report

# Acute appendicitis mimicking acute scrotum: a rare complication of a common abdominal inflammatory disease

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ABSTRACT

*Introduction:* Acute appendicitis is the most common surgical disease of the abdomen in clinical practice, affecting mainly young adults. It has a wide variety of clinical presentations, due to the anatomical variation of the cecal appendix. Its presentation as acute scrotum and scrotal abscess is quite rare and atypical, occurring mainly in young male patients with patent processus vaginalis.
*Case presentation:* An 18-years-old male patient attended the emergency unit complaining of diffuse abdominal pain, fever and hyporexia for four days followed by inflammatory signs in the scrotum. He was taken to the operation room after diagnosis of scrotal and abdominal sepsis. During scrotum exploration, pus was found inside the right hemiscrotum coming down from the groin and communicating with the abdominal cavity. The laparotomy found perforated appendicitis and peritonitis leading to the scrotal abscess. The abscess was drained, appendectomy was performed and the scrotal and abdominal cavity were washed with saline solution. Despite postoperative complications such as pneumonia and intra-abdominal abscess, the reported patient recovered and was discharged in the 44th postoperative day.
*Conclusion:* Acute appendicitis can mimic acute scrotum and surgeons must have a high index of suspicion of this complication for diagnosing. This unusual clinical presentation may be challenging and can delay the diagnosis leading to perforated peritonitis.
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## Apendicite aguda mimetizando escroto agudo: uma complicação rara de uma doença inflamatória abdominal comum

RESUMO

*Introdução:* A apendicite aguda é a doença cirúrgica mais comum do abdome na prática clínica, afetando principalmente adultos jovens. Tem uma grande variedade de apresentações clínicas, devido à variação anatômica do apêndice cecal. Sua apresentação como escroto agudo e abscesso escrotal é bastante rara e atípica, ocorrendo principalmente em pacientes jovens do sexo masculino com túnica vaginalis patente.

*Apresentação do caso:* um paciente do sexo masculino de 18 anos de idade compareceu à unidade de emergência queixando dor abdominal difusa, febre e hiporexia por quatro dias que se seguiram de sinais inflamatórios no escroto. Ele foi levado para centro cirúrgico após o diagnóstico de sepse de origem escrotal e abdominal. Durante a exploração da bolsa escrotal, secreção purulenta foi encontrada do lado direito oriunda do canal inguinal e comunicando-se com a cavidade abdominal. Durante a laparotomia observou-se sinais de apendicite aguda perfurada e peritonite levando ao abscesso escrotal. O abscesso foi drenado, a apendicectomia foi realizada e as cavidades escrotal e abdominal foram lavadas com solução salina. Apesar de complicações pós-operatórias como pneumonia e abscesso intra-abdominal, o paciente recuperou-se bem, recebendo alta hospitalar no 44° dia pós-operatório.

*Conclusão:* A apendicite aguda pode simular o escroto agudo e os cirurgiões devem ter um alto grau de suspeição dessa complicação para o diagnóstico. Esta apresentação clínica incomum pode ser desafiadora e retardar o diagnóstico levando à peritonite por perfuração.

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*Palavras-chave:*
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Abdomen agudo
Torção do cordão espermático
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## Introduction

Acute appendicitis is the most frequent cause of surgical acute abdomen and about 8% of the Western population will develop the disease anytime during life, with peak incidence between 10 and 30 years old.[1,2] Reginald Fitz, a professor from Harvard, described acute appendicitis in 1886 and was the first one to write about its pathophysiology hypothesis.[3]

In embryology, the appendix appears around the 8th week of pregnancy. Despite many theories related to the role of the appendix in the immune system and the presence of lymphoid follicles in its submucosa, the appendix still has unknown function in adults. Its length ranges from 2 to 20 cm, average of 9 cm, localized in the convergence of the taenias on the anterior face of the cecum. However, the tip of the appendix varies in its location, being pelvic in 30% of the population.[4]

The small diameter of the appendix in relation to its length facilitates luminal obstruction, which is believed to be the major cause of acute appendicitis. This obstruction may be caused either by fecal stasis and fecaliths, lymphoid hyperplasia, fruit seeds, parasites or neoplasia. The pathophysiology theory suggests that luminal obstruction causes bacterial overgrowth followed by secretion of mucus and intraluminal distention, leading to mucosal ischemia, which may progress to gangrene and perforation of the appendix.[5] Perforation usually happens after 48 h of inflammatory process and is quickly blocked by adjacent organs and tissues. When free perforation of the appendix occurs it lead to peritonitis, septic shock or multiple intraperitoneal abscesses.[1,5]

Acute appendicitis is a bacterial infection composed mainly by *Escherichia coli* (70%), *Streptococcus viridans* (43%), *Bacterioides* (80%) and *Pseudomonas* (18%) species often being isolated.[5]

Its initial clinical presentation may be very variable and the most common symptoms are diffuse abdominal pain followed by hyporexia and nausea. Commonly, vomiting may occur and the pain is later located in the lower right quadrant of the abdomen. Patients usually develop fever and leukocytosis. Although most patients manifest paralytic ileus, diarrhea may occasionally occur. Urinary symptoms may be associated when the appendix is in the retrocecal localization close to the ureter.[6]

The diagnosis can be confirmed by abdominal ultrasonography in the majority of cases, in which a thickened appendix (7 mm or more of diameter), non-compressible luminal structure with thickened walls (target lesion) is found. Computed tomography is more accurate in diagnosis and is frequently used in non-typical and elderly presentations.[7] But, sometimes, only surgical exploration and pathological analysis of the removed appendix can confirm the diagnosis. Elderly patients should be submitted to colonoscopy after the appendectomy (4 weeks), due to the risk of colon neoplasia, identified in approximately 5% of cases in old people.[8]

Appendectomy is still the standard treatment for acute appendicitis.[9] In the case of uncomplicated appendicitis, a single dose of preoperative antibiotic covering the colonic microbiota is sufficient. But in cases of perforation or gangrene, venous antibiotic therapy should be maintained postoperatively. Most patients with uncomplicated appendicitis are discharged within 24 h.[10,11]

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