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Acute Appendicitis Presented with Testicular Pain Only

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Abstract

Acute appendicitis is an acute inflammation of the vermiform appendix. Despite being one of the most common surgical emergencies worldwide, delays in establishing a diagnosis still occur, primarily attributed to the potential presentation of atypical symptoms. This particular case involves a 17-year-old male who presented with acute onset of testicular pain. Following his initial presentation, the patient was discharged based on normal laboratory results and a testicular ultrasound, which revealed no abnormalities except for a hydrocele. Six hours post-discharge, the patient developed abdominal pain and showed positive rebound tenderness. Surgical intervention (appendectomy) was done and resulted in the complete resolution of symptoms without complications. This case report aims to show the paramount importance of recognizing the emergence of atypical symptoms associated with acute appendicitis, which in itself is a crucial step in preventing further complications.

Keywords: appendicitis, testicular pain, appendectomy, rebound tenderness.

Introduction

Acute appendicitis is usually caused by an obstruction of the appendiceal lumen. It is the most common cause of acute abdomen requiring emergent surgical intervention, with the peak incidence being 10-19 years of age **[1,2]**. The etiologies differ based on the age groups, lymphoid tissue hyperplasia seen in children and adolescents, appendiceal fecalith in adults, and neoplasm in patients older than 50 years **[3]**.

Appendicitis typically presents with acute abdominal pain that begins in the periumbilical region and moves to the right lower quadrant, along with nausea, anorexia, fever, rebound tenderness, and abdominal guarding **[4]**. Atypical presentations are common but association with testicular pain is an extreme rarity. In other words, testicular pain can have a variety of differential diagnoses, including testicular torsion and infections, meanwhile, appendicitis is nowhere near the top **[4,5]**. In this case, however, we are presenting a case of appendicitis with testicular pain as the chief complaint.

Generally speaking, the anatomical locations of appendicitis contribute to its clinical presentation. Furthermore, its existence in atypical sites may justify its atypical presentations as not uncommon. The appendix is usually found in the right lower quadrant in a retrocecal position. In addition to that, it may be found in the upper left quadrant, left anterior paramedline, pelvic position, subcecal, subhepatic, postileal, preileal, and thorax **[6]**.

The diagnosis of appendicitis is usually made clinically, however, in such cases, a high index of suspicion, with the aid of a CT scan or US, which may show dilation of the appendix for more than 6 mm in diameter, is warranted for the diagnosis **[2]**.

Appendectomy has been the standard of treatment since the nineteenth century. Moreover, in recent years, Laparoscopic Appendectomies have shown evidence to be a more effective treatment compared to Open Appendectomies due to less wound infection, lower post-surgery morbidity, shorter recovery time, and higher quality of life scores. It is worth mentioning that non-operative management is gaining popularity in the pediatric population with uncomplicated appendicitis as it may resolve with noninvasive conservative measures **[7]**.

Case Presentation

A 17-year-old male was admitted to the emergency department complaining of acute onset testicular pain which he described as severe, with no warmth, erythema, or other signs of inflammation. Testicular elevation resulted in no relief of his symptoms.

He had no past medical or surgical histories except for simple hydrocele. He denied any history of trauma or any previous similar condition, there is no fever or any other symptoms and he is currently taking no medications.

Initial labs (CBC, CRP, urine analysis) were normal. A testicular ultrasound was done which showed only hydrocele, so because of normal labs and exclusion of other serious causes (torsion), the patient was discharged home.

After 6 hours of the discharge, he came back with a worsening condition of new-onset abdominal pain. Physical examination revealed an ill man with the following vital signs: blood pressure 120/70 mmHg, pulse rate

80 beats per minute, oxygen saturation 98 percent, and temperature 36.5°C. The abdomen was soft, and symmetric with no signs of distention or guarding, with positive rebound tenderness.

Abdominal and pelvic ultrasonography revealed that the appendix measures 9 mm, noncompressible, surrounded by echogenic fat, likely representing acute appendicitis. So the patient was admitted as a case of acute appendicitis with a rare presentation for operation.

Open appendectomy was done and in the operation, we found the appendix retrocecal, and phlegmous, its tip was inflamed and the base was healthy. This resulted in the complete resolution of symptoms without any complications.

Histopathological examination showed an appendix that measured 9*1*1 cm, it was inflamed with its surroundings, and the diagnosis was confirmed as acute suppurative appendicitis with peri appendicitis.

Discussion

Variations in the location of the vermiform appendix and its sharing of the same nerve supply with other organs may be the cause of acute appendicitis, which has many unusual presentations **[5]**. It's crucial to recognize that the patient has appendicitis early because of the risk of sepsis, subsequent complications of peritonitis, and death **[5]**.

Various external hernia sacs are home to 0.13% of all acute appendicitis cases. These include de Garengeot's hernia and Amyand's hernia. Between 0.08% and 1% of acute appendicitis cases in Amyand's hernia take place in the right inguinal canal **[5]**.

In case of scrotal pain, ultrasound, and physical examination should be used first to rule out testicular and appendicular urological emergencies **[8]**. Cremasteric reflex testing is a crucial procedure. When the testicle retracts after gentle ipsilateral inner thigh stroking, the test is positive or normal. Since the testis is already elevated, it is often absent in testicular torsion but typically present in epididymitis **[9]**.

The preferred method for diagnosis is Doppler ultrasonography. The whirlpool sign (twisting of the spermatic cord) or lack of testicular blood flow is the telltale sign of testicular torsion. For testicular torsion, ultrasonography has a sensitivity of 85% to 100% and a specificity of 75% to 100% **[10]**.

Furthermore, epididymitis and epididymal-orchitis should be evaluated. Positive Leukocyte esterase on the first voiding, or more than two WBC per oil immersion field in gram stain of urethral secretion, and more than 10 WBC per high power field in sedimentation of the first voiding microscopic examination are all indicators of acute epididymitis. Moreover, an increase in epididymal blood flow in color-Doppler ultrasonography demonstrates epididymitis diagnosis **[8]**.

Also, a search of the literature uncovered articles on transferred pain-induced pseudo appendicitis after a vasectomy or appendicitis that presented as testicular pain. Purulent appendicitis discharge that enters the Patent processus vaginalis and causes pain in the testicles is possible **[11]**. Scrotal abscesses are occasionally present in these individuals **[12]**.

In our case, a 17-year-old male patient presented to the hospital complaining of testicular pain only, on scrotal ultrasound the patient had normal size, shape, and echotexture of both testicles which excluded testicular and testicular appendage torsion. After 6 hours he started complaining of abdominal pain. On examination, the patient had positive rebound signs, but no guarding or rigidity was noticed. On scrotal ultrasound, the patient has normal size, shape, and echotexture of both testicles which exclude testicular and testicular appendage torsion, there was only mild hydrocele on the right testis and dilated peri-testicular veins bilaterally.

After an abdomen and pelvis ultrasound, the patient was found to have a non-compressible appendix with a diameter of 9mm surrounded by echogenic fat. Then the patient was treated with antibiotics and appendectomy which revealed an inflamed tip and healthy appendix base.

An inspection of the fully exposed abdomen, groin, penis, and scrotum is important for the physical examination. It's essential to take notice of any palpable pain, swelling, rashes, improper scrotal asymmetry, or horizontal position of a testicle. To examine the testis sizes with one another and find any evident intratesticular masses like hernias, the scrotal contents should be palpated **[13]**. We should also check to see if the urethra is discharging. The traditional sign of acute testicular torsion is a "high-riding" asymmetrical testicle with an irregular lie and lack of the ipsilateral cremasteric reflex. Lifting the affected testicle may relieve the pain, which suggests epididymitis **[13]**. Finally, the practitioner needs to check both sides of the patient for a cremasteric reflex, to assess for potential prostatitis, a digital rectal examination should be carried out **[14]**.

This article's major goal is to draw attention to the fact that not all testicular symptoms are torsions and that referred pain needs to be considered to accurately diagnose and treat acute appendicitis on time **[9]**. It takes the collaboration of urologists, radiology, and general surgery experts with a high index of suspicion to make the best diagnosis and avoid repeat procedures in such circumstances **[8]**.

Conclusion

Based on the information provided in this case report, it becomes evident that acute appendicitis can manifest with atypical symptoms. In our case, the patient's sole presentation was testicular pain. This could be due to the appendicitis discharge that enters the vaginal canal thus causing testicular pain. An abdominal exam and thorough full body exam should be done in case of urological complaints, as shown in our case where the patient experienced testicular pain. This case report serves as a reminder that not all testicular symptoms are a result of torsion and that a multidisciplinary approach is essential for optimal patient care in such a complex presentation.

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