

## Case Study

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**Atypical Presentation of Acute Appendicitis: A 32-year-old Man with Gastroenteritis Symptoms; an Educational Case**

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**Abstract**

**Introduction:** Appendicitis is a common condition that almost always requires emergency surgery. The diagnosis is clear when the patient presents with classic symptoms. However, presentation may be variable due to variations in the position and length of the appendix.

**Case presentation:** Here, we report a 32-year-old man who presented with diarrhea and lower abdominal pain. Physical examination revealed a generalized abdominal tenderness, more prominent in the lower abdomen, including the right and left quadrants. Abdominal ultrasound failed to show any findings supportive of the diagnosis of appendicitis. Further investigation with abdominopelvic computed tomography (CT) with intravenous and oral contrast revealed retrocecal appendicitis. The patient was discharged home after a non-complicated appendectomy.

**Conclusion:** Emergency physicians should be aware that appendicitis may not always show up with a typical presentation and they should consider the possibility of appendicitis when evaluating an acute abdomen to prevent any delay in diagnosis of atypical presentations.

**Key words:** Abdominal pain; Anatomic variation; Appendicitis; Diagnosis; Diarrhea

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**INTRODUCTION**

The classic presentation of appendicitis includes anorexia, nausea, and vomiting; low grade fever, and abdominal pain that starts in the periumbilical region and migrates to the right lower quadrant (1). However, acute appendicitis can also have variable presentations. If the appendix is located in a retrocecal or retroiliac anatomic location, the pain may be blunted by the presence of the overlying bowel (2). Less typical symptoms such as increased urinary frequency and tenesmus can be seen in such cases. We should remember that diagnose of appendicitis is still a challenge and any delay in diagnosing can lead to higher morbidity and mortality (3). Here we report a case of atypical presentation of acute appendicitis as an example to discuss on this topic.

**CASE PRESENTATION**

A 32-year-old man presented to our emergency department (ED) with the chief complaint of non-bloody diarrhea, nausea, and a loss of appetite for the past 12 hours. He also had abdominal pain more prominent in the lower quadrants. The pain was colicky, 5/10 in intensity and non-radiating. There was no history of dysuria, urinary frequency, or hematuria. His medical history was

significant for episodes of gastroenteritis for the past two years. He had received intravenous (IV) fluids and ranitidine in a clinic without any improvement in symptoms so he was brought to the hospital. On arrival, the patient had a blood pressure of 110/65 mmHg, pulse rate of 94 beats/min, and oral temperature of 37.5°C. Upon physical examination he had dry mucosal membranes and generalized abdominal tenderness that was strongest in the lower abdomen. Hydration was started with IV fluids accompanied by bowel rest. Initial laboratory test results showed a white blood cell count of 17.6 cells/mm<sup>3</sup> with 83% segmented neutrophils. He had normal liver functional tests. Urine and stool analysis did not reveal any abnormalities. He also had elevated C-reactive protein (CRP) in his laboratory tests.

Due to his abdominal pain and tenderness an abdominal pelvic sonography was performed, which did not visualize the appendix or any inflammatory changes and found nothing suggestive of diverticulitis. Therefore, the patient underwent an abdominopelvic computed tomography (CT) scan with IV and oral contrast agents. The CT scan demonstrated severe



**Figure 1:** Axial views of abdominopelvic CT scans of the patient performed after instilling intravenous and oral contrast agent revealed retrocecal acute appendicitis

inflammation of the pericecal mesenteric fat, a small collection of pus, and a blind loop thickened appendix, which was diagnosed as retrocecal acute appendicitis (Figure 1). Surgery on the same day confirmed a gangrenous retrocecal appendicitis. The patient made a good recovery and was discharged home after a week.

#### DISCUSSION

Acute appendicitis is one of the most common conditions requiring emergency surgery. In the vast majority of cases, accurate history taking and physical examination alone without the need of diagnostic adjuncts is sufficient for the diagnosis. When the diagnosis is not clear from the history and examination, repeated physical examinations and monitoring of the patient's condition while using appropriate imaging will usually guide the clinician to the appropriate diagnosis.

When the appendix is in the retrocecal position, the signs and symptoms of acute appendicitis may be atypical and mimic pathology in the right flank and hypochondrium, such as acute cholecystitis, diverticulitis, acute gastroenteritis, ureter colic, and acute pyelonephritis (4). Therefore, in such cases, we have to think about appendicitis if our examination and laboratory tests are suspicious. The reported sensitivity and specificity of ultrasonography for acute appendicitis in most studies is reported to be 75–90% but CT has been

shown to be more sensitive, as high as 87–100% in this regard (5). In our case, acute appendicitis was not suspected after physical examination or after ultrasound, so we used an abdominal CT scan, which is very sensitive for evaluating the appendix.

#### CONCLUSIONS

We would like to highlight that emergency physicians should be aware that appendicitis may not always show up with a typical presentation. Ultimately, in many cases, it is only through clinical suspicion and appropriate imaging that a confident diagnosis can be made.

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#### AUTHORS' CONTRIBUTION

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#### CONFLICTS OF INTEREST

None declared.

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