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Case Report

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A CASE REPORT OF ACUTE APPENDICITIS PRESENTING WITH DIARRHEA

Seyma Handan Akyon[1], Rabia Kipel[2], İrfan Şencan[1]

[1]University Of Health Sciences, Ankara City Hospital, Family Medicine Department, Ankara

[2]Ankara Yıldırım Beyazıt University, Faculty of Medicine, Ankara

Correspondence:

Seyma Handan Akyon (e-mail: seymahandan@hotmail.com)

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Ankara Yıldırım Beyazıt University Faculty of Medicine

Department of Family Medicine

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Abstract

A 26-year-old female patient presented to the family medicine outpatient clinic with complaints of diarrhea, widespread abdominal pain, nausea, and vomiting, which had been going on for five days. In the first physical examination findings of the patient, there was widespread sensitivity in the abdomen, but there were no findings of defense or rebound. The patient was re-evaluated with the results of conducted tests, her abdominal examination was repeated, and rebound positivity was detected in the right lower quadrant. The patient was referred to the Emergency Department, and she was taken into operation by the general surgery team with the diagnosis of acute appendicitis. The most important factor in delaying the diagnosis of acute appendicitis is the presence of gastroenteritis. Cases of acute appendicitis presenting with diarrhea have been reported in the medical literature. Since acute pathologies should always be kept in mind in the differential diagnosis of patients who present to primary care with abdominal pain and diarrhea, it is deemed appropriate to present the case with literature.

Keywords: Appendicitis, enteritis, diarrhea, abdominal pain, abdomen, acute, appendix.

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Introduction

Appendicitis is one of the most common causes of acute abdominal pain and one of the most common acute surgical conditions. Acute appendicitis is usually diagnosed based on clinical signs and symptoms. Right lower quadrant pain, abdominal rigidity, and periumbilical pain radiating to the right lower quadrant are confirmatory signs of acute appendicitis in adults.[1] There is no single sign, symptom, or diagnostic test that fully confirms the diagnosis.[2] The diagnostic accuracy of clinical evaluation for acute appendicitis is dependent on the experience of the examining Physician.[3] As an individual approach, laboratory tests such as the white blood cell (WBC) count and inflammatory biomarkers are useful. The recommended first-line approach consists of blood and urine tests for the etiology and ultrasonography in case of suspicion.[4] Diameter exceeding 6 mm in ultrasonography and loss of compression response of the appendix are diagnostically important.[1] There are various clinical scoring systems and the Alvarado scoring system is the most widely used one. It is particularly useful to rule out appendicitis and to select patients for further diagnostic investigations.[4]

In clinical practice, acute appendicitis can sometimes mimic acute gastroenteritis. Sometimes, diarrhea may be the first symptom, as enteric infections may cause appendicitis. [5] In this case study, a patient who presented to the Family Medicine outpatient clinic with complaints of abdominal pain and diarrhea and who was operated on with the diagnosis of acute appendicitis, will be presented. The patient in this manuscript has given verbal informed consent to the publication of their case details.

Case report

A 26-year-old female patient with a diagnosis of anxiety disorder, who is using sertraline 50 mg/day, presented to the family medicine outpatient clinic with complaints of diarrhea, diffuse abdominal pain, nausea, and vomiting, which had been going on for five days. The patient has no previous operation or accident history. She stated that she had been diagnosed with irritable bowel syndrome three years ago, but no treatment was started, and she has had no complaints for the past two years. In the patient's history, we see that she presented to an external center with the same complaints three days ago and that she was prescribed metronidazole 500 mg/day and metoclopramide 10 mg/day. The patient explained that her complaints did not regress despite the regular use of these medications. She stated that she had watery defecation every half hour and that there was no change in the color of her stool. She also stated that she had no appetite due to nausea, vomited the contents of her stomach after she ate, her stomach ache was widespread, she did not have a fever and did not have any problem with her urine. In the first physical examination findings of the patient, there was widespread sensitivity in the abdomen; there was no defense and no rebound, no costovertebral angle tenderness, the bowel sounds were hyperactive on auscultation, and skin turgor pressure was found to be normal.

Her body temperature was found to be 37.8 degrees, her blood pressure was 110/80 mmHg, and her pulse was 85/min. Other system examination findings were found to be normal. After the patient's blood, urine, stool tests, and blood results were seen, an abdominal X-ray was requested. Blood results showed WBC 9120/mm3, neutrophil rate 69.2%, C-reactive protein 0.0973 g/L (reference range: 0-0.005), and the total hCG to be negative. The microscopic analysis of the complete urinalysis was normal.

In the stool's microscopic examination, abundant leukocytes were seen in every area, but erythrocytes or parasite cysts and eggs were not seen. Giardia intestinalis rapid antigen test was negative, and there was no growth of Salmonella and Shigella spp in the stool culture. No acute pathology was detected in the standing abdominal X-ray of the patient. The patient's abdominal examination was repeated 3 hours after her first admission. The patient whose abdominal tenderness continued and who now developed rebound positivity in the right lower quadrant had a total Alvarado score that was calculated to be 6 points (Table 1). Her oral intake was stopped due to a possible operation, and she was referred to the Emergency Service.

Table 1. Alvarado Scoring System[4]

Feature	**Score**	**Case Score**
Migration of pain	1	0
Anorexia	1	1
Nausea	1	1
Tenderness in the right lower quadrant	2	2
Rebound Pain	1	1
Elevated temperature	1	1
Leukocytosis	2	0
The shift of white blood cell count to the left	1	0
Total	**10**	**6***

*Probable appendicitis, consider further imaging

Abdominal superficial tissue ultrasonography was performed, and "The Appendix diameter was measured as 6.2 mm, and the response to compression was lost. However, significant contamination or free fluid in the surrounding mesentery was not observed. The findings are suspicious for acute appendicitis," as stated in the report. The report for the abdominal and pelvis computerized tomography of the patient stated: "The appendix calibration was measured 7 mm in the right lower quadrant of the abdomen. There is no significant increase in density or fluid densities in the peri-appendicular fatty tissue around it. There was no significant free fluid or free air in the abdomen" (Figure 1). The patient was consulted by the General Surgery branch in the emergency department and was evaluated as having acute appendicitis with examination and findings, and the patient was taken to an emergency appendectomy operation. The pathology report of the appendectomy material after the

operation was compatible with acute appendicitis. Since the patient did not develop any additional pathologies in the postoperative period in the service, she was discharged with the necessary medical recommendations.

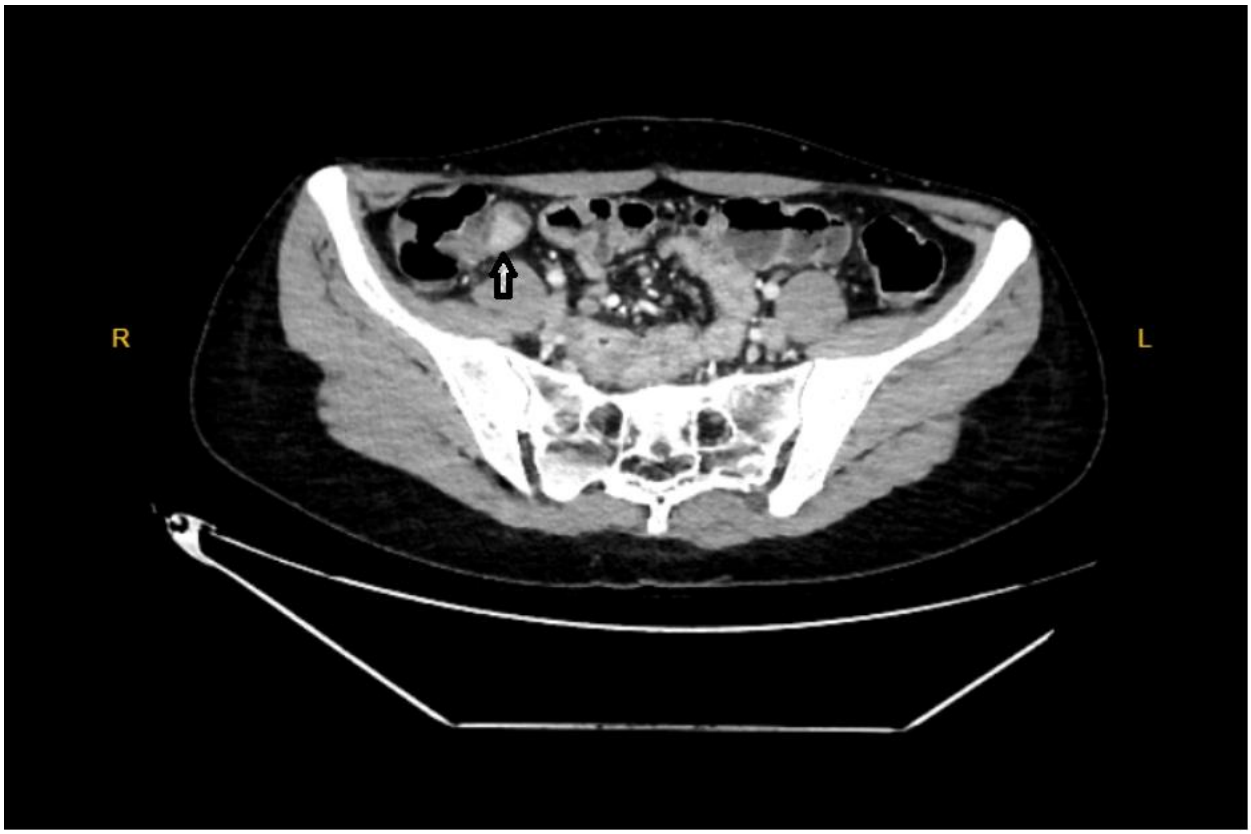

Figure 1. The image of the appendix section (arrow) on the abdominal and computerized pelvis tomography of the patient

Discussion

An accurate and efficient diagnosis of acute appendicitis can reduce morbidity and mortality from perforation and other complications.[6] There is no single sign, symptom, or diagnostic test that fully confirms the diagnosis of appendicitis.[2] Early symptoms and physical examination findings of appendicitis are often unclear. For these reasons, delay in the diagnosis of acute appendicitis is common but missed or delayed diagnosis of appendicitis can lead to serious complications such as perforation. Therefore, in the presence of suspected acute appendicitis, it is important to follow the patient and repeat the physical examination at regular intervals. Some limited evidence suggests that repeated laboratory evaluation may increase sensitivity in detecting appendicitis, especially in patients who present earlier.[3]

In clinical practice, acute appendicitis can sometimes mimic acute gastroenteritis, and diarrhea may be the first symptom, as sometimes enteric infections may cause appendicitis.[5] Differentiating acute appendicitis and acute gastroenteritis in the presence of diarrhea poses a challenge for clinicians at an early stage.[7] Cases of acute appendicitis presenting with diarrhea have been reported in the literature.[2,7–9] Although sometimes the laboratory findings are the same, careful analysis of the history and physical examination help distinguish acute appendicitis from enteritis. Peritoneal irritation findings such as increased sensitivity around the McBurney point, defense, and rebound are more common in acute appendicitis than enteritis.[7]

What is expected from the primary care physician is to carefully evaluate the patients who come with abdominal pain, to start the treatment of the patients who can be treated in primary care immediately, to refer the patient to a higher center under appropriate conditions without wasting time, even if a cause such as acute abdomen that requires further examination and treatment is considered. Patients whose diagnosis has not been clarified should be followed up and re-evaluated with a physical examination at regular intervals.[10] In our case study, although the patient's inflammatory abdominal pain was compatible with acute appendicitis, the fact that physical examination findings suggestive of acute appendicitis were absent in the first examination of the patient but became evident in the follow-up examination, which shows the importance of following up the patients whose diagnoses are not clear.

In conclusion, in the presence of diarrhea, the differential diagnosis of acute appendicitis from enteritis is difficult, and this delays timely intervention. In addition, the early signs of acute appendicitis are unclear, and close follow-up and repetition of physical examination at regular intervals in patients with suspected acute appendicitis are important in diagnosis.

Ethical Considerations: An informed consent taken from the patient.

Conflict of Interest: The authors declare no conflict of interest.

*This case was presented as a poster presentation at the Ankahed 10th Ankara Family Medicine Congress on 16-18 September 2022.

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