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Pararenally Located Ascending Retrocecal Appendicitis Presenting with Upper Abdominal Pain: Demonstration with Computed Tomography

Sağ Üst Kadran Ağrısı ile Prezente Olan Pararenal Yerleşimli Retroçekal Apandisit: Bilgisayarlı Tomografi ile Demonstrasyonu

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Özet
Akut apandisit, erken cerrahi müdahale ile tedavi edilen, düşük mortalite ve morbiditeye sahip, sık görülen cerrahi bir durumdur. Ancak, bazı hastalarda tanıda gecikmelere ve artmış komplikasyonlara neden olan atipik semptomlar ve fiziksel bulgular bulunabilir. Atipik prezantasyon, apendiksin atipik yerleşimi ile ilgili olabilir. Sağ üst kadran ağrısı ile prezente olan asendan retroçekal apandisit, klinik olarak akut safra kesesi, karaciğer, safra yolları, sağ böbrek ve sağ üriner sistem yollarına ait akut patolojilerle karışabilir. Biz, ilk etapta klinik tanısı sağ üreter taşı olan akut sağ üst kadran ağrısı ile prezante olan retroçekal apandisit olgusunu sunuyoruz. Ultrason ve bilgisayarlı tomografi incelemeleri sonrası, pararenal yerleşimli retroçekal apandisit ve retroperitonda inflamasyon tanısı konuldu. Cerrahi bulgular apandisitin varlığını ve retroperitoneal uzanımını doğruladı.
Anahtar kelime: Bilgisayarlı tomografi, retroçekal apandisit, üst kadran ağrısı

Abstract
Acute appendicitis is a common surgical condition that is usually managed with early surgery, and is associated with low morbidity and mortality. However, some patients may have atypical symptoms and physical findings that may lead to a delay in diagnosis and increased complications. Atypical presentation may be related to the position of the appendix. Ascending retrocecal appendicitis presenting with right upper abdominal pain may be clinically indistinguishable from acute pathologies in the gallbladder, liver, biliary tree, right kidney and right urinary tract. We here report a case of retrocecal appendicitis presented with acute right upper abdominal pain of which the clinical diagnosis at presentation was right ureteric colic. After the application of ultrasound and computed tomography examinations, pararenal located retrocecal appendicitis and inflammation in the retroperitoneum was diagnosed. Surgical findings confirmed the presence of appendicitis and its retroperitoneal extensions.
Key words: Computed tomography, retrocecal appendicitis, upper abdominal pain

Introduction

The vermiform appendix may occupy several positions in relation to the cecum. The most common positions are descending intraperitoneal (31%-74%) and retrocecal (26%-65%).[1,2] The location and spread of inflammation from acute appendicitis depends on the location of the appendix. If the appendix is located retrocecally, it may give rise to an abscess in the pararenal space and spread to the bare area of the liver.[3] More than half of the patients with ascending retrocecal appendicitis may have an atypical clinical presentation.[4] We present here a case of ascending retrocecal appendicitis with atypical clinical presentation, and the utility of computed tomography (CT) in diagnosing the condition.

Case Report

A 32 year old woman was admitted to emergency service with a history of right lomber pain and fever for the last 4 days. She was normotensive and there was no lomber trauma; there was right lower lomber pain, disuria and bowel disturbance. She was ill-looking and vomiting. Her body temperature was 400C. In physical examination, abdominal palpation was normal but she had markedly right renal angle tenderness. Laboratory data indicated leukocytosis with predominant neutrophils. Urine examination showed 8-10 pus cells. Kidney, ureter, bladder (KUB) x-ray, ultrasonography (US) and computed

tomography (CT) examinations were performed as radiological evaluation. KUB graphy was normal. There was no evidence of any urinary stones. In order to evaluate the right kidney, intrarenal collecting systems and upper and lower part of the right ureter, US was performed. There was no pathology in the right kidney, right intrarenal collecting systems and upper and lower pars of the right ureter in US. But at middle-lower part of the pararenal region there was a tubular structure 11.9 mm in diameter (Figure 1). There was no compressibility of this structure and the patient had sensitivity on this localization. This structure was compatible with inflamed acute retrocecal appendicitis.

The patient was referred to CT examination with these findings. In pre-post contrast CT examinations, there was a tubular structure, extending from retrocecal region to the right pararenal region. This finding was compatible with the US findings. Additionally, there were striations in the mesenteric fatty tissue at this region. The wall of tubular structure was thickened and enhanced after contrast administration (Figure 2). These findings were evaluated as pararenal retrocecal appendicitis, the patients was referred to surgical administration.

Discussion

Acute appendicitis is the most common abdominal emergency worldwide.[5] It may be diagnosed easily and treated in children and adults if there is a classical history with typical clinical signs.[5] 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, acute pyelonephritis, colon cancer and irritable bowel syndrome.[6]

CT is very sensitive for evaluating the appendix and a thickened appendix, inflamed periappendiceal fat, collections and presence of free gas in ruptured appendix are detected readily by CT. The inflammatory changes that result from an acutely inflamed ascending retrocecal appendix may extend to the perirenal, adrenal and subhepatic regions and on rare occasions, inferior extension along the psoas muscle into the thigh has been reported.[7,8] The inflammatory changes are seen most commonly in the retrocolic space (88%), followed by paracolic gutter (30%), pararenal space (27%), mesentery (24%), perirenal space (18%), and less often, in the subhepatic space (3%).[6] Our case illustrated uncommon clinical and radiological manifestations of ascending retrocecal appendicitis. This emphasizes the importance of considering the possibility of ascending retrocecal appendicitis in cases in which the signs and symptoms are referred to areas along the possible location of a retrocecal appendix, especially when initial investigations like US do not support other diagnoses, such as cholecystitis, or hepatobiliary or urinary tract pathologies. CT is helpful to establish rapidly the correct diagnosis, as delays in appendectomy for over 24-36 hours have been shown to increase the complication rates.[9,10]

In summary, CT is useful for the evaluation of patients with atypical right upper abdominal pain and nonspecific clinical findings, to rule out the possibility of retrocecal appendicitis.

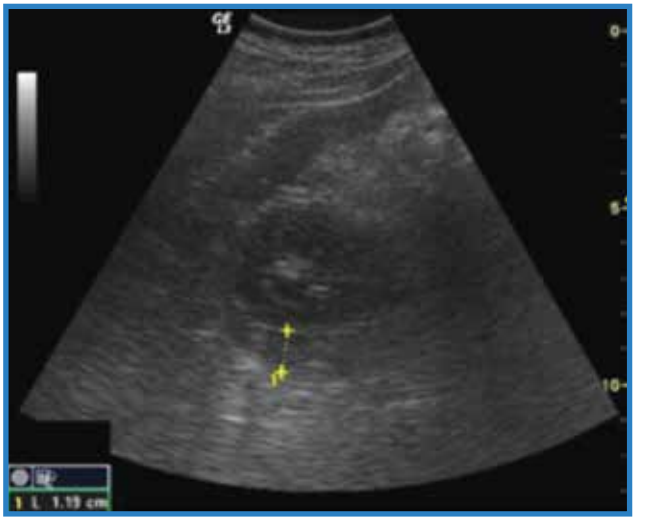

Figure 1. The tubular structure 11.9 mm in diameter at middle-lower part of the pararenal region in US examination.

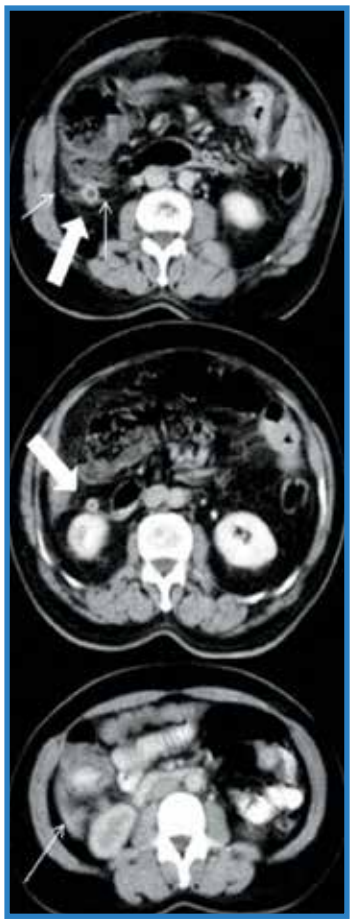

Figure 2. The tubular structure, extending from retrocecal region to the right pararenal region in post-contrast CT examination (Thick arrow) and striations in the mesenteric fatty tissue at this region (Thin arrows). The thickened and enhanced wall of the tubular structure was after contrast administration.

References

1. Collins DC. Acute retrocecal appendicitis: based on seven hundred and fifty-one instances. Arch Surg. 1938;36(5):729–743.
2. Wakeley CP. The Position of the Vermiform Appendix as Ascertained by an Analysis of 10,000 Cases. J Anat. 1933;67(2):277–283.
3. Meyers MA, Oliphant M. Ascending retrocecal appendicitis. Radiology. 1974;110(2):295–299.
4. Lee SL, Ho HS. Acute appendicitis: is there a difference between children and adults? Am Surg. 2006;72(5):409–413.
5. El-Masry NS, Theodorou NA. Retroperitoneal proliferation of the appendix presenting as right thigh abscess. Int Surg 2002;87(2):61-64.
6. Kim S, Lim HK, Lee JY, Lee J, Kim MJ, Lee AS. Ascending retrocecal appendicitis: clinical and computed tomographic findings. J Comput Assist Tomogr. 2006;30(5):772–776.
7. Dimofte G, Dubei L, Lozneanu LG, Ursulescu C, Grigora Scedil M. Right adrenal abscess -- an unusual complication of acute apendicitis. Rom J Gastroenterol. 2004;13(3):241–244.
8. Hsieh CH, Wang YC, Yang HR, Chung PK, Jeng LB, Chen RJ. Extensive retroperitoneal and right thigh abscess in a patient with ruptured retrocecal appendicitis: an extremely fulminant form of a common disease. World J Gastroenterol. 2006;12(3):496–499.
9. Omundsen M, Dennett E. Delay to appendicectomy and associated morbidity: a retrospective review. ANZ J Surg. 2006;76(3):153–155.
10. Bickell NA, Aufses AH Jr, Rojas M, Bodian C. How time affects the risk of rupture in appendicitis. J Am Coll Surg. 2006;202(3):401–406.

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