Case 1113

Epiploic appendagitis
Published on 22.05.2001

DOI: 10.1594/EURORAD/CASE.1113
ISSN: 1563-4086
Section: Abdominal imaging
Imaging Technique: CT
Imaging Technique: CT
Imaging Technique: MR
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Case Type: Clinical Cases
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Patient: 45 years, male

Clinical History:

A 45-year-old male patient referred with a gradually increasing abdominal pain at the left lower quadrant over last 2 days, a low grade fever of around 38-38.5 degrees celcius. Serological studies revealed no abnormality, but a hematologic analysis showed a white blood count of 8500.

Imaging Findings:

A 45-year-old male patient referred with a gradually increasing abdominal pain at the left lower quadrant over last 2 days, a low grade fever of around 38-38.5 degrees celcius. Serological studies revealed no abnormality, but a hematologic analysis showed a white blood count of 8500. A sonographic examination was performed with no clear-cut defined abnormality. Then contrast enhanced computed tomography (CT) of the body was performed revealing the pathologic process. A conservative management was tried for the patient, and the control CT examination of patient showed regression of the findings on 7th day when the clinical findings also almost totally disappeared. An MRI study on the 10th day was totally normal.

Discussion:

Epiploic appendagitis (EA) is a rare benign self-limiting inflammatory process of the colonic epiploic appendices. EA causes acute localized abdominal pain thought to be the result of torsion or spontaneous vascular thrombosis of epiploic appendices. This is a non-surgical situation that clinically mimics other conditions requiring surgery such as acute diverticulitis or appendicitis. Epiploic appendices correspond to peritoneum covered fatty structures about 2 to 5 cm long. They are about 100 in number and distributed in two rows along the free tenia and tenia omentalis, from the cecum to the sigmoid colon. They are largest along the descending and sigmoid colon and smallest along the transverse colon. Their somewhat precarious blood supply from colic arterial branches and their pediculated nature and great mobility are factors increasing the susceptibility of torsion and infarction. Histopathologically they are characterized by acute infarction with fat necrosis, inflammation, thrombosed vessels with hemorrhagic suffusion. The patients clinically present with acute onset of localized abdominal pain, gradually resolving over 3-7 days, sometimes with fever and elevated white blood cell count. The involvement of sigmoid and cecal appendices are more frequent, probably because of their larger size. The true incidence of EA is unknown. However it is more frequently diagnosed now due to the wider use of imaging evaluation of patients presenting with acute abdominal pain. Ultrasonography (US) demonstrates a well-delineated, noncompressible, ovoid, hyperechoic mass lesion with peripheral hypoechoic rim adjacent to the colonic wall without any inflammatory changes in the adjacent colonic wall, and absence of vascular flow on color Doppler sonography. EA has a pathognomonic appearance on computerized tomography (CT). CT shows a pericolonic oval-shaped or rounded pedunculated fatty mass with fat
attenuation, but a slightly increased attenuation as compared to normal abdominal fat. The mass is surrounded by a high attenuation peripheral rim due to inflammation of the serosa and corresponds to the hypoechoic rim seen at US, and focal stranding of the fat. Thickening of the adjacent parietal and visceral peritoneal layers during the acute phase is present in most of the patients, but there is no thickening of the adjacent bowel wall. The lesion may have a central region of hyperdensity thought to represent a thrombosed vessel or hemorrhagic necrosis. Even though MRI is not needed for diagnosis, it is useful to better demonstrate the extent of peritoneal inflammatory changes. Laparoscopy has been shown to be useful in selected cases, especially when pain persists, and decreases morbidity and hospital stay of the patient. The appearance on follow-up imaging will vary based on the time delay since the initial examination. US and CT studies reveal progressive decrease of the size of the lesion and resolution of inflammatory changes and peritoneal thickening. Infarction may become organized with involution of the fatty tissue and fibrosis. Calcification and detachment can occur and may lead to a peritoneal loose body. The differential diagnosis for EA includes primary torsion or infarction of the greater omentum (which usually results in a larger mass and is typically right-sided), appendicitis, diverticulitis, secondary epiploic appendagitis (secondary to an underlying inflammatory bowel process, accompanied by bowel wall thickening, luminal narrowing, pericolic fluid collections and abscess or collections of gas bubbles contrary to primary epiploic appendagitis where the inflammatory process is limited to the pericolic region). Treatment is conservative with spontaneous resolution.

**Differential Diagnosis List:** Epiploic appendagitis

**Final Diagnosis:** Epiploic appendagitis

**References:**

Description: Figure 1. A cross-sectional diagram of the colon, showing the relationship between epiploic appendices (A), colic artery (B), straight artery (C), mesocolon (D).

Origin:
Description: Axial contrast enhanced CT image obtained on second day reveals a fatty lesion slightly denser than normal peritoneal fat just anterolateral to the descending colon with dense peripheral rim and thickening of the overlying visceral and parietal peritoneum (arrows). Origin:
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Figure 3

a

Description: Axial CT image on seventh day reveals almost total disappearance of the fatty lesion with mild residual infiltration just adjacent to the descending colon (arrows). Origin:

b

Description: Axial CT image on seventh day reveals almost total disappearance of the fatty lesion with mild residual infiltration just adjacent to the descending colon (arrows). Origin:
Description: Axial CT image on seventh day reveals almost total disappearance of the fatty lesion with mild residual infiltration just adjacent to the descending colon (arrows). Origin:
**Figure 4**

**a**

*Description:* Axial SE T1-weighted MR image shows totally resolved fatty lesion of the descending colon (arrows).

**Origin:**

**b**

*Description:* Axial SE T1-weighted MR image shows totally resolved fatty lesion of the descending colon (arrows).