Case 9486

Right colon diverticulitis
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Section: Abdominal imaging
Area of Interest: Abdomen Colon
Imaging Technique: Ultrasound
Imaging Technique: CT
Special Focus: Diverticula Inflammation Case Type:
Clinical Cases
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Patient: 43 years, female

Clinical History:
A 43-year-old woman, presented to the Emergency Department with a right lower quadrant pain with 24 hours of duration. She was subfebrile and had right lower abdominal tenderness. Laboratory values showed a mildly elevated white blood cell count of 16200 and an elevated C-reactive protein of 6, 8 mg/dl.

Imaging Findings:
Abdominal ultrasound revealed two diverticular images in the ascending colon wall, associated with increased echogenicity of adjacent fat tissue and probe tenderness in the right iliac fossa. The appendix was not recognisable. Under suspicion of a right colon acute diverticulitis, an abdominal CT was performed. CT of the abdomen and pelvis without endovenous contrast demonstrated thickened diverticules in the ascending colon filled with faeces-like material and surrounded by poorly circumscribed inflammatory fat stranding. The appendix was normal in calibre. There was no abscess, pneumoperitoneum or ascites. Antibiotic and analgesic medical treatment was preferred to surgery.

There was clinical improvement of the symptoms and a one week follow up abdominal CT, showed resolution of the inflammatory process.

Discussion:
Diverticula are outpouchings of the intestinal wall. Diverticulosis is extremely common and it is estimated that half of the population older than 50 years old, have several colonic diverticula. They can appear everywhere in the colon, except the rectum and are most frequent in the sigmoid colon, usually associated to low fibre intake.

An inflammation in the diverticula wall is called diverticulitis. In Western elderly patients, acute diverticulitis typically affects the left side of the colon. However, in Asians, right-sided disease is three times more common than left-sided diverticulitis. The demographic distribution of the disease and the incidence at young age, suggest genetics as factor of influence.

Ascending colon diverticula are classified as true or false. True diverticula are usually solitary, contain all three gut layers and are thought to be congenital in origin. In contrast, false diverticula are multiple, most often associated with left-sided diverticulosis and consists of thin walled mucosal herniations through gaps in muscular layers.

Ascending diverticulitis is a relatively rare entity and its aetiology is still unclear. The differential diagnosis is extensive and includes appendicitis, malignant lesion of the right colon, Crohn's disease, tubo-ovarian disease, mesenteric adenitis, omental infarction or epiploic appendagitis.

Acute diverticulitis is usually characterised by local abdominal pain, fever, tenderness and leucocytosis. Recently,
owing to increasing requests of sonography and CT in patients with abdominal pain, right-sided colonic diverticulitis has been diagnosed more frequently. Conventional CT findings of acute diverticulitis are diverticula, focal thickening and enhancement of the colonic wall, thickening of the adjacent fascia and increased attenuation of pericolic fat. Small bubbles of extra-luminal gas might also be present and are usually correlated with diverticula microperforation. Normal calibre appendix can be achieved. Sometimes acute diverticulitis is indistinguishable from carcinoma on CT. Complications might occur, like loco-regional collections, abscesses, fistulas, peritonitis or stenosis and in this cases, surgery is indicated. In contrast, the main treatment for acute uncomplicated diverticulitis includes conservative therapeutic measures such as antibiotics, analgesics and bowel rest.

**Differential Diagnosis List:** Right colon diverticulitis, Appendicitis, Malignant ulcerated lesion of the right colon, Inflammatory bowel disease, Mesenteric adenitis, Epiploic appendagitis

**Final Diagnosis:** Right colon diverticulitis

**References:**

Wegener OH (1992) Whole Body Computed Tomography. 336-338
Patricia B, Christine H (2005) Diverticular Disease. 2-5
**Figure 1**

**a**

**Description:** Diverticular image in the ascending colon wall with increased echogenicity of adjacent fat tissue. **Origin:** Department of Radiology, Hospital Garcia de Orta, Almada, Portugal, 2011

**b**

**Description:** Diverticular image in the ascending colon wall with increased echogenicity of adjacent fat tissue. **Origin:** Department of Radiology, Hospital Garcia de Orta, Almada, Portugal, 2011
Figure 2

Description: Thickened diverticules in the ascending colon, surrounded by poorly circumscribed fat stranding. **Origin:** Department of Radiology, Hospital Garcia de Orta, Almada, Portugal, 2011
**Figure 3**

a

Description: An abdominal CT, one week after conservative treatment, showed resolution of the inflammatory process. **Origin:** Department of Radiology, Hospital Garcia de Orta, Almada, Portugal, 2011

b

Description: An abdominal CT, one week after conservative treatment, showed resolution of the inflammatory process. **Origin:** Department of Radiology, Hospital Garcia de Orta, Almada, Portugal, 2011