Case 7104

Granulomatous appendicitis: a unknown and unusual cause of appendicitis
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Authors: Silva AC, Venâncio J, Ribeiro MJ.
Patient: 33 years, female

Clinical History:

A 33 year old female was admitted with subacute abdominal pain more prominent in the right lower quadrant.

Imaging Findings:

A 33 year old woman presented with subacute abdominal pain localized in the RLQ, anorexia and low grade fever for the last 72 hours.
Physical examination revealed a tenderness in the right flank. Blood tests showed CRP of 24 mg/L and leukocytosis of 12000 mm$^3$. An abdominal and pelvic ultrasound was performed (Fig. 1, 2).

What is the diagnosis? Does the inflamed appendix has any particularly characteristics or does it look like an ordinary acute appendicitis? The ultrasound exam using a graded compression technique (1) shows a markedly distended, non-peristaltic, non-compressible blind-ending pouch with origin in the medial aspect of the cecum. Its maximal short diameter was of 23 mm and the appendicular wall measured approximately 7 mm. The diagnosis of acute appendicitis was made on the clinical and imaging findings.

However due to a rather atypical clinical presentation, the presence of marked thickened wall and pericecal adenopathy other diagnosis like appendicular carcinoma or granulomatous appendicitis was considered.
Abdominal computed tomography was therefore performed (Fig. 2, 3) showing a marked thickened appendix, with an endoluminal fecalith. Moderate fat stranding was present as well as pericecal and periappendicular lymphadenopathy.

An ileocolectomy was performed. Pathology revealed the presence of a chronic transmural inflammation with lymphoid aggregates and germinative centers (Fig 3, arrow). Epitheliod granulomas and multinucleate giant cells were seen (Fig 4, arrow). Microscopy of adjacent nodes revealed the presence of the same chronic granulomatous inflammatory process (Fig. 6). The final diagnosis of idiopathic granulomatous appendicitis was made.

Discussion:

Idiopathic granulomatous appendicitis is a distinct pathological entity unrelated to granulomatous ileocolitis with pathognomonic features in pathology [2].
It has a slight male predominance. It can present acutely, being indistinct from acute appendicitis, however it can also have a more indolent and subacute presentation [3] making its clinical diagnosis more difficult.
Although this is a rare condition occurring in 0.9% of all appendectomies it has characteristics features at CT that allow its recognition. Namely the presence of a markedly enlarged appendix, a marked thickened and poorly defined appendicular wall, (with loss of layer differentiation when intravenous contrast is administrated giving the appearance of a soft tissue mass), the presence of a disproportionately moderate fat stranding surrounding the appendix (less pronounced that one would expect if we were facing an acute inflammatory process) and finally the
presence of loco regional adenopathy. Although these findings are suggestive of granulomatous appendicitis they do not exclude other rare but more sinister diagnosis as appendicular lymphoma or appendicular adenocarcinoma. Therefore a confident pre-operative diagnosis is seldom done being the definitive diagnosis almost invariably done by pathology.  

**Differential Diagnosis List:** Idiopathic granulomatous appendicitis.

**Final Diagnosis:** Idiopathic granulomatous appendicitis.

**References:**


Figure 1

Description: Origin:
Figure 2

Description: Origin:
Figure 4

Description: Origin:
Figure 5

Description: Origin: