

Right Lower Quadrant Acute Abdominal Pain: Is it Appendicitis?

Dor Aguda no Quadrante Inferior Direito do Abdómen: É Apendicite?

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Case report

We report a case of a 58 years old male who was previously submitted to a cholecystectomy and presented to the emergency department with a 24 hours history of localized pain and tenderness in the right lower abdominal quadrant.

His physical examination revealed mild abdominal pain, absence of fever and his laboratory studies showed an isolated leukocytosis (17.050, 76% neutrophils) and normal levels of C reactive protein (0.19 mg/dL).

An abdominal computed tomography (CT) scan was performed which revealed a well-circumscribed, low-attenuation, blind-ending saccular structure, measuring 9.5 x 3.6 cm, distended by fluid and located in the right lower quadrant (Fig. 1A). It was not clearly demonstrated a contiguity with the bowel wall or the cecal base (Fig. 2). The hypothesis of an acute appendicitis/appendicular mucocele was initially considered but after a more detailed observation, particularly in multiplanar reformatted images (MPR), we were able to identify a normal diameter appendix, emerging from the cecum apex, posterior to the saccular structure (Fig. 3). There was a very discrete fat

stranding without fascial thickening, extraluminal fluid or regional nodal enlargement.

An abdominal ultrasound was also performed in order to better clarify the structure origin. The appendix could not be visualized and the hypothesis of an enteric diverticular structure was then considered (Fig. 1B).

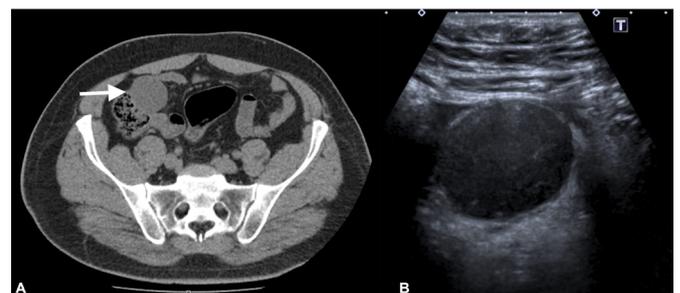


Figure 1. Axial CT (A) shows a blind-ending structure (arrow), consistent with a Meckel diverticulum. Right lower abdominal quadrant ultrasound (B) depicting a noncompressible blind-ending structure with regular inner mucosal margin, distended by fluid. The appendix is not visualized.

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Figure 2. Abdominal coronal CT image reveals a large blind-ending bowel loop (arrow) in the right lower quadrant, latter corresponding to a Meckel's diverticulum.



Figure 3. Abdominal coronal oblique reformatted CT image revealing a normal appendix (arrow).

We decided to operate the patient and intra-operative findings revealed a large mass near the ileocecal junction independent of the appendix itself. A laparoscopic segmental enterectomy with an ileo-ileal anastomosis was performed.

The post-operative period was uneventful.

The histopathological examination revealed a true ileal diverticulum with mucosal erosions, ulceration, hemorrhage and chronic inflammation consisting of all layers of intestinal wall – A Meckel's diverticulum (MD) diverticulitis.

MD is a congenital anomaly occurring in about 2%–3% of the population. It represents a true ileum diverticulum comprising all three bowel wall layers, lined by normal mucosa which sometimes may include heterotopic gastric or pancreatic mucosa. On the contrary, an acquired diverticula does not present a well-formed muscular wall, as it results from mucosa and submucosa herniation due to an increased intraluminal pressure and / or muscle abnormalities.¹

MD develops in the antimesenteric border of the distal ileum, when the omphalomesenteric duct fails to obliterate and it is typically located in the ileum within 100 cm of the ileocecal valve.²

In most patients, MD is asymptomatic and is incidentally discovered during imaging workup.

Its most frequent complications are bleeding from an ectopic gastric mucosa and eventually bowel obstruction due to intussusception, volvulus or adhesions. Other complications may be diverticulitis, ulceration and perforation but these are less frequent.

An acute Meckel diverticulitis is usually accompanied with abdominal pain, fever and vomiting, frequently mimicking an acute appendicitis. Its pathogenesis is identical to an appendicitis, usually related to an obstruction or narrowing of the diverticulum lumen (e.g. by an enterolith, fecalith or foreign body) but can also be related to an inflammation due to peptic ulceration.^{2,3}

Computed tomography is an invaluable imaging modality for the evaluation of patients with lower abdominal acute pain. The diagnosis of a Meckel diverticulitis relies on identification of a pouchlike structure lying in the right lower quadrant or periumbilical region showing surrounding inflammation, distinct from the normal appendix.⁴

The treatment of complicated MD frequently requires surgery, however it is still lacking a defined treatment recommendation for incidentally detected cases.

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