

## Ascariasis-associated perforated appendicitis: Computed tomography findings

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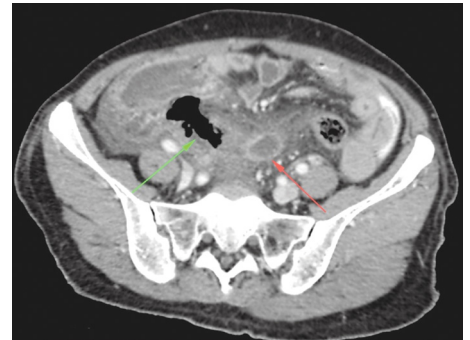
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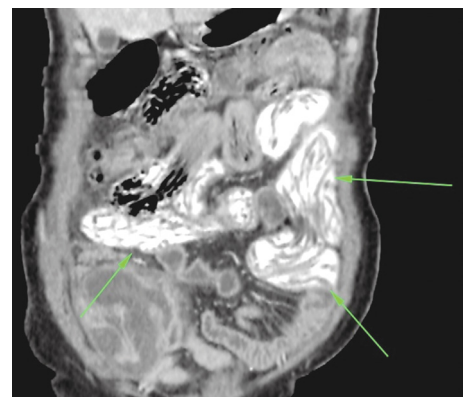
A 57-year-old woman was admitted to our emergency department with complaints of newly developed widespread abdominal pain and high fever. The patient's medical history was unremarkable except hypertension. Physical examination conducted revealed widespread sensitivity in the abdomen and rebound in the lower right quadrant. Blood test showed increased WBC (26500/ $\mu$ L). Eosinophil level was normal. Abdominal X-ray revealed the presence of a few air–fluid levels in the right lower quadrant. Computed tomography (CT) (Discovery CT750 HD, GE Healthcare) was performed with a preliminary diagnosis of perforated acute appendicitis in the patient. The CT examination revealed that the appendiceal diameter of 20 mm in the widest area and an incidence of appendicitis appearance in the proximal section. In the proximal segment, there was absence in the appendiceal wall and a 50×30 mm collection of air was observed in

the adjacent fatty tissue. In the distal segment, the appendiceal wall integrity was disturbed in some places and small perforated areas were observed (Fig. 1). Moreover, wall thickening in the cecal and ileal segments and thin band-like structures in the cecal and jejunal segments were present (Fig. 2). Considering these findings, a diagnosis of perforated appendicitis due to parasitic infection was considered. The patient underwent emergent surgery. It was observed that the appendix was perforated from the proximal segment and the cecum was completely filled with parasites. The diagnosis of perforated appendicitis due to ascariasis with surgical findings was confirmed.

Ascariasis is the most common parasitic infection worldwide. Ascariasis carriers are typically asymptomatic. Acute appendicitis may occur due to the occlusion of the appendiceal lumen by adult *Ascaris* worms or may result from the secondary infection of *Ascaris* eggs. Ultrasonography is the imaging



**FIGURE 1.** Axial CT image showing the proximal perforation area of the appendix (green arrow) and the small abscess formation (red arrow).



**FIGURE 2.** Coronal CT image showing the worms appearing in numerous thin band patterns in the cecal and jejunal segments (green arrows).



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method used for patients with acute appendicitis. Using this method, worms appear as moving echogenic tubular structures. Perforated appendicitis due to ascariasis is rare. However, ultrasonography may be inadequate in cases of perforated appendicitis. In such cases, CT as an imaging method is quite effective. The appearance of thin

band-like folded structures in bowel segments in CT could lead to a suspected diagnosis of ascariasis. Parasitic infections should be considered, particularly in endemic areas that encompass various causes of acute appendicitis. CT facilitates the identification of the cause of acute appendicitis and reveals whether it is perforated.