Abdominal cocoon with imaging findings : Importance of radiology

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Abstract

Abdominal cocoon is a rare disease characterized by a thick fibrous membrane surrounding and compressing the small intestines completely or partially, which results in mechanical small bowel obstruction. The clinical findings of the disease include recurrent ileus and subileus episodes, colicky abdominal pain, weight loss, and abdominal distension. The etiology and pathogenesis of abdominal cocoon is not clearly defined. Detection of the disease is essential for accurate treatment. Imaging modalities come into prominence due to the nonspecific clinical findings of the disease. (Acta gastroenterol. belg., **2015**, 78, **346-347**).

Key words : abdominal cocoon, sclerosing peritonitis, ileus, intestinal obstruction, computed tomography, magnetic resonance imaging, ultrasonography.

To the Editor,

Abdominal cocoon, also known as sclerosing encapsulated peritonitis, is a rare disease that causes mechanical intestinal obstruction due to a fibrous membrane surrounding and compressing the small bowels similar to a cocoon (1). Fibrous tissue may cause acute, subacute or chronic intestinal obstruction and colicky abdominal pain due to adhesions (2). Conservative medical therapy is the first choice in patients with mild symptoms, but removal of the fibrous sac by surgery is the most effective treatment. But in advanced cases presented with

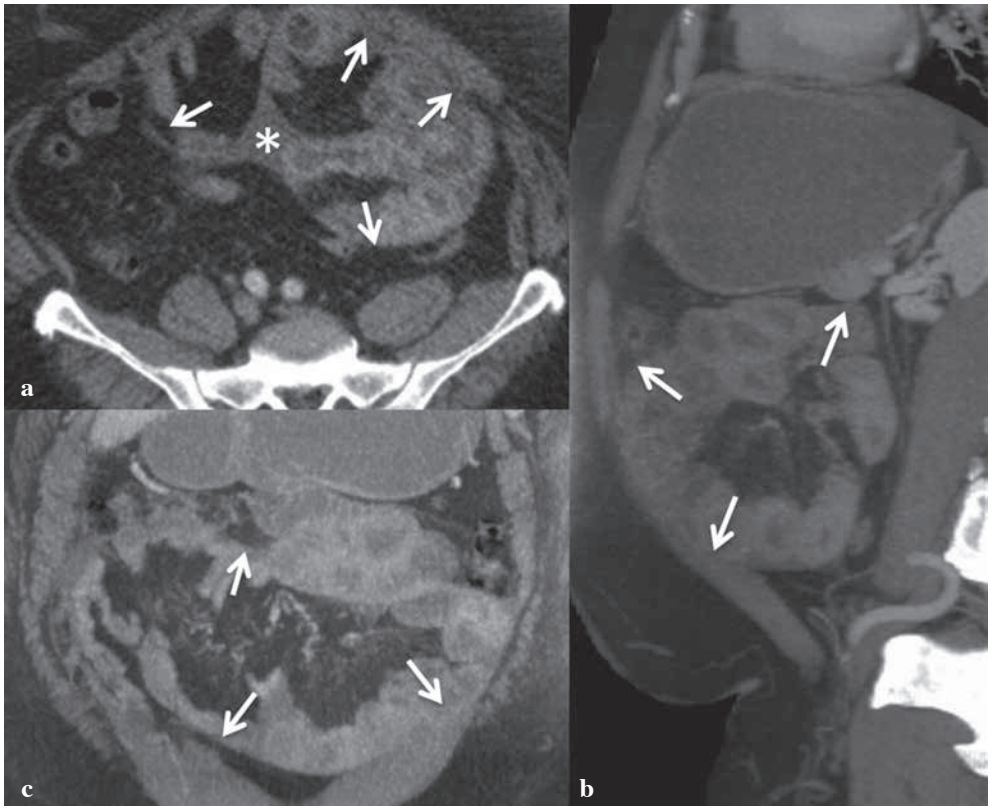

Fig. 1. — A fifty-five year old male was admitted to general surgery clinic with complaints of colicky abdominal pain, increased bowel sounds and intestinal motility, nausea, and vomiting. Axial (a), sagittal (b) and coronal (c) MIP reformatted intravenous contrast enhanced CT images showed that small bowel segments stuck in the fibrous sac (arrows), which was hardly seen. Free intraabdominal fluid was best seen on the axial image (asterisks).

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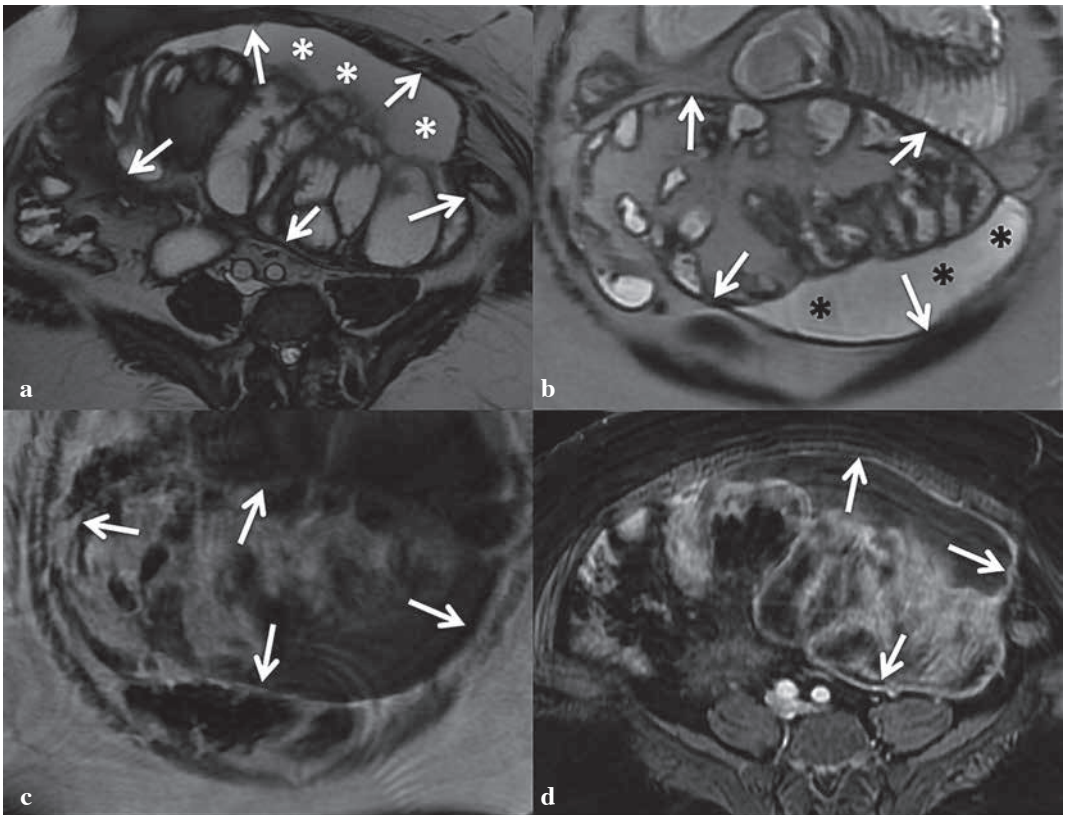

Fig. 2. — Axial FIESTA (a) and coronal (b) T2 weighted MRI of the same patient displayed the hypointense fibrous sac (arrows) and free intraabdominal fluid (asterisks) clearly. The fibrous sac (arrows) was hypointense on coronal T1 weighted MRI (c), enhanced after IV contrast agent administration on fat suppressed T1 weighted MRI (d).

acute ileus, it is usually diagnosed during the surgery (3). Thus morbidity and mortality may increase (4).

Appropriate radiological methods may allow an accurate diagnosis of the disease and decrease operative morbidity (4). Plain abdominal radiography is the first imaging method, but this has a low sensitivity in diagnosis and displays air-fluid levels in cases that develop ileus. A careful ultrasonographic [US] examination shows the dilated intestinal loops, free fluid and the fibrous thick membranous sac surrounding the intestinal loops. However, gas in the intestinal system, incorporated patients due to colicky abdominal pain, and operator dependency of the US may limit the utility of the method. On intravenous contrast enhanced abdominal computed tomography [CT] without oral contrast, a membranous sac-like structure containing the jammed intestinal loops could be detected (2) (Fig. 1). Nevertheless, it can be hard to see the fibrous sac on CT images if it is thin (5). The other CT findings are displacement or conglomerated intestinal loops, thickened and enhanced bowel walls and peritoneum, ascites, and peritoneal and mural calcifications (5). But these findings may mimic other intra-abdominal disease with similar clinical findings. As an advanced diagnostic method, magnetic resonance imaging (MRI) is important in terms of accurate diagnosis and determining the best surgical procedure because of better demonstration and extension of fibrous membranes (Fig. 2).

Diagnosis of abdominal cocoon in clinical practice is challenging and therefore radiologic imaging modalities come into prominence. Radiologic imaging methods, especially MRI, are important for making the diagnosis and for determining the treatment options and surgical procedures in patients suspected to have abdominal cocoon.

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