An Unusual Presentation of Enterolithiasis

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A 48 year old lady presented to our department with a two week history of loose stools, vomiting and lower abdominal pain. Loss of appetite and a significant weight loss were noted over the past year. Past medical history of hypertension, atrial fibrillation, asthma, Sjogren’s syndrome were recorded. On admission, abdominal examination revealed localised guarding at the right iliac fossa. Initial investigations revealed a haemoglobin of 9.6 g/dl; CT scan of the abdomen (Fig. 1) revealed a central dense calcified mass within the mesentery with cicatrising strands extending to adjacent thickened small bowel (stellate or spoke wheel configuration). The diagnosis was presumed to be a localised mesenteric carcinoid tumour. At laparotomy loops of terminal ileum were found to be densely adherent to a mesenteric mass. Other intra-abdominal organs were normal. A right hemicolecctomy and small bowel resection was performed and histopathology of the resected specimen showed a stone 2.6 cm in diameter eroding into the wall of the terminal ileum without any evidence of a carcinoid tumour or a diverticulum (Fig. 2). The stone retrieved from the ileum was composed almost entirely of calcium phosphate which suggested that it was an enterolith formed by de novo synthesis within the distal small intestine [1].

In this patient, the enterolith formed in the distal small bowel was unable to pass the ileocaecal valve, eroded into the wall of the ileum triggering an inflammatory response within the mesentery leading to the appearance described on imaging. The abdominal CT finding of a central calcified mesenteric mass surrounded by radiating soft-tissue strands, associated with adjacent small bowel thickening has been described as “stellate/spoke wheel appearance of the mesentery”. This triad is characteristic of and highly specific for mesenteric carcinoid tumours [2, 3]. This appearance can occur without a mesenteric mass in conditions such as sclerosing mesenteritis; peritoneal carcinomatosis caused by breast, gastric, pancreatic or ovarian cancer; peritoneal tuberculosis and peritoneal lymphomatosis [3]. It is caused by an intense fibrotic proliferation in the mesenteric fat and adjacent mesenteric vessels [2, 3].

Enterolithiasis is an uncommon disorder. A diagnosis is usually made when a patient with prior predisposition to bowel stasis (such as with intestinal diverticula; small-bowel anastomosis; hypomotility due to medications, infection or metabolic causes; intestinal inflammation and intestinal strictures) presents with bowel obstruction or perforation and on roentographic imaging is found to have an hyperdense opacity within dilated loops of small bowel, in the absence of biliary stones.

Our case is very unusual with no such similar cases reported. Radiologists and surgeons must include it in their differential while recognizing spoke wheel appearances in imaging.

References