Gastrointestinal stromal tumor of the small bowel mimicking a gas-fluid collection

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A 74-year-old alert woman presented to the Emergency Department for abdominal pain, vomit, diarrhea and low grade fever. She had a blood pressure of 120/60 mmHg, a pulse rate of 106 bpm and O_2 saturation of 100%. Physical examination showed abdominal distension, diffuse tenderness but without rebound tenderness. Routine blood tests showed elevation of white cell blood count (18.4×10^9/L), increase of serum C-reactive protein (45.4 mg/dL) and procalcitonin (17.95 mg/dL). In the suspicion of an intestinal occlusion a radiographic study of the abdomen was performed; the radiography in erect view showed a huge gas-fluid collection with an irregular superior aspect and a gas-fluid level; entrapped gas bubbles were also evident below the gas-fluid niveau (Figure 1). A chest plain film was normal. A contrast-enhanced computed tomography (CT) of the abdomen, immediately performed, detected a mass with a thin rim enhancement, gas and fluid-like content on scans (Figure 2). A communication with the bowel was supposed but not definitively demonstrated. Provisional differential diagnosis included a giant inflammatory diverticulum and perforation of a duplication intestinal cyst. The patient was thereafter operated on a laparotomy; surgical exploration revealed a 24 cm exophytic cavitated mass fistulized to the small bowel, which were resected. Histology in a solid area showed a proliferation of bland spindle cells (Figure 3), positive for CD117 and DOG-1 at immunohistochemistry. The final diagnosis was exophytic gastrointestinal stromal tumor (GIST) of the small bowel with extensive cystic changes due to coagulative necrosis, with low mitotic activity, high risk.[1] Large GISTs show often cystic change at presentation; approximately 50% of them are fistulized to the gastrointestinal tract at the diagnosis.[2] Cystic appearance with a thin contrast-enhanced rim on CT scans is rare and usually found in rapidly growing GISTs.[3] Differential diagnosis of an abdominal cavitated lesion includes more common causes like abscess, large diverticulum, duplication intestinal cyst or pancreatic pseudocyst perforated in the bowel. Nevertheless a GIST with cystic changes and gastrointestinal fistulization should be also considered in the preoperative diagnosis. Detection of the Torricelli-Bernoulli sign[2] (*i.e.* presence of a nondependent intratumoral gas collection directed towards the necrotic orifice on axial imaging), can suggest the correct diagnosis.

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Figure 1. A huge gas-fluid collection at the left flank is evident on plain radiography of the abdomen (erect view); several gas bubbles are appreciable below the gas-fluid level.

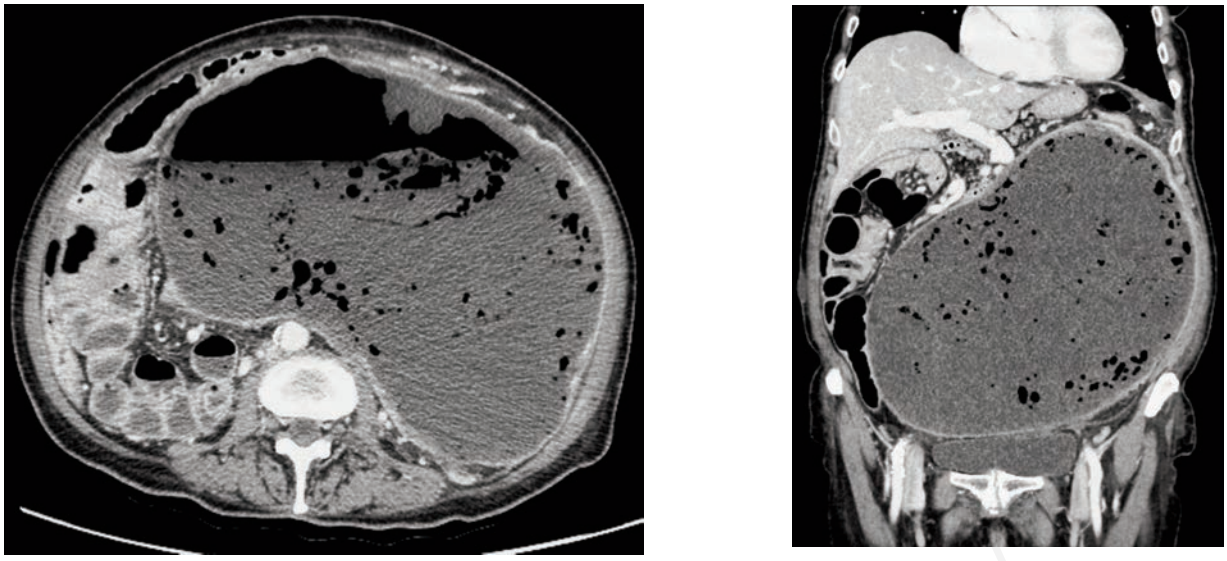

Figure 2. Contrast-enhanced CT. (A) The gas-fluid collection shows a thin peripheral rim; (B) Coronal reformation. CT scans did not demonstrated an intraperitoneal fluid collection (not shown).

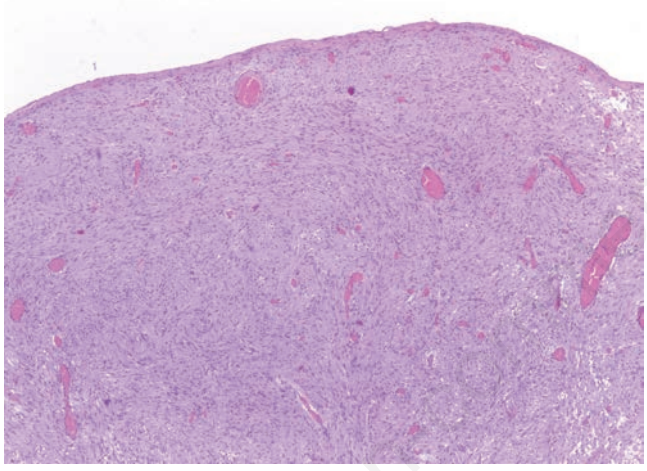

Figure 3. Histology shows showing a proliferation of bland spindle cells with low mitotic activity.

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