



A rare case of a heavily calcified gastrointestinal stromal tumors with an intraluminal growth pattern

To the Editor,

Gastrointestinal stromal tumors (GISTs) are unique neoplasms that occur throughout the gastrointestinal tract, mesentery, omentum, and retroperitoneum. Because most GISTs arise within the muscularis propria of the stomach or intestinal wall, GISTs most commonly have an exophytic growth pattern; intramural and intraluminal masses are less common manifestations. Calcification is an unusual feature of untreated GISTs (1,2). Herein we describe a rare case of a heavily calcified GIST with an intraluminal growth pattern.

A 74-year-old woman without a significant medical history was evaluated in our hospital for epigastric distending pain. She began to experience intermittent epigastralgia one year ago and lost 5 kg in two months. A non-enhanced computed tomography (CT) revealed a well-circumscribed lesion located in the fundus of the stomach. Extensive calcifications occupied the major portion of the lesion (Figure 1). According to the location, shape, and density, the lesion was initially considered to be a gastrolith.

However, a subsequent upper gastrointestinal barium study revealed an intraluminal filling defect in the stomach, the position of which did not change with a change in body posture (Figure 2). This feature was not in agreement with the character of a gastrolith. Hence, the lesion was suspected to be a neoplasm arising from the gastric wall. Endoscopic ultrasonography (EUS) indicated that the tumor originated from the submucosa and muscularis propria (Figure 3). Thus, the mass was completely resected via laparoscopy. The diagnosis of the tumor was established to be a low-risk GIST with marked calcifications (Figure 4).

On CT, GISTs typically appear as solid masses with varying attenuation based on size, and enhance with

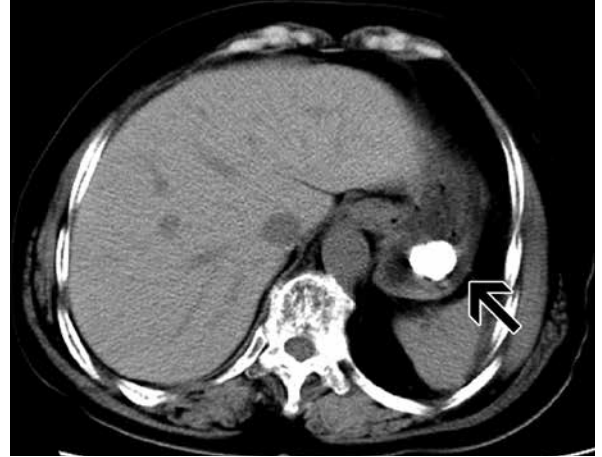


Figure 1. Non-enhanced CT revealed a heavily calcified lesion located in the fundus of the stomach.

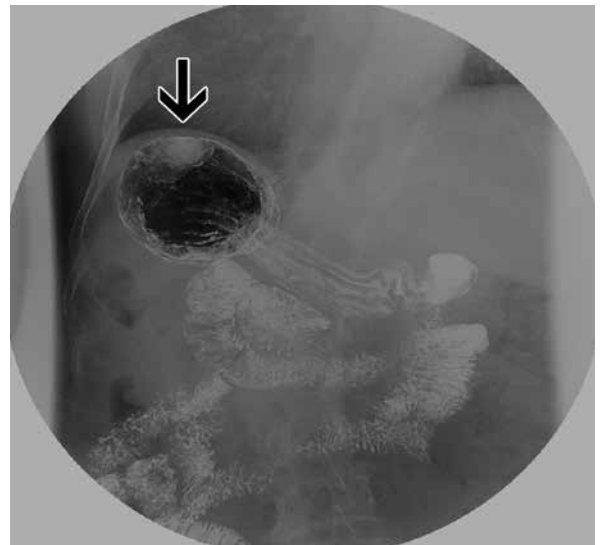


Figure 2. An upper gastrointestinal barium study revealed an intraluminal filling defect in the stomach.

IV contrast medium. Extensive calcifications comprising the majority of GISTs are extremely rare. Although four heavily calcified GISTs are reported in the stomach (2-5), most are extraluminal masses. Thus far, we found

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no cases of a stomach GIST with an intraluminal growth pattern mimicking a gastrolith on CT.

Several reports have suggested that the putative cause of primary calcified GISTs is dystrophic calcification, wherein calcium salts are deposited in degenerating tissues, especially at sites of scarring, hemorrhage, and necrosis. Although degeneration is most commonly noted in large tumors that present with a more aggressive behavior, no CT feature (including calcification) other than size has been shown to predict malignant GISTs (4).

In conclusion, we present the first case of a stomach GIST with an intraluminal growth pattern mimicking a gastrolith on CT. When encountering calcified nodules in the gastrointestinal tract, it would be worthwhile to consider the possibility of GIST.

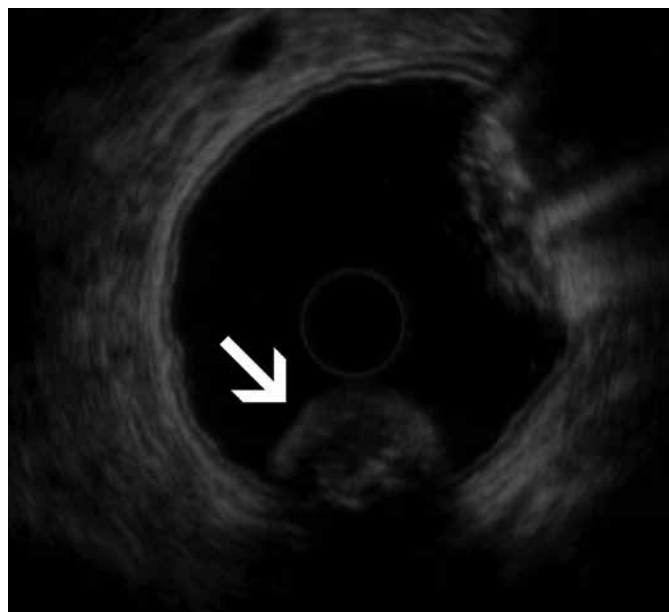


Figure 3. EUS indicated that the tumor originated from the submucosa and muscularis propria.

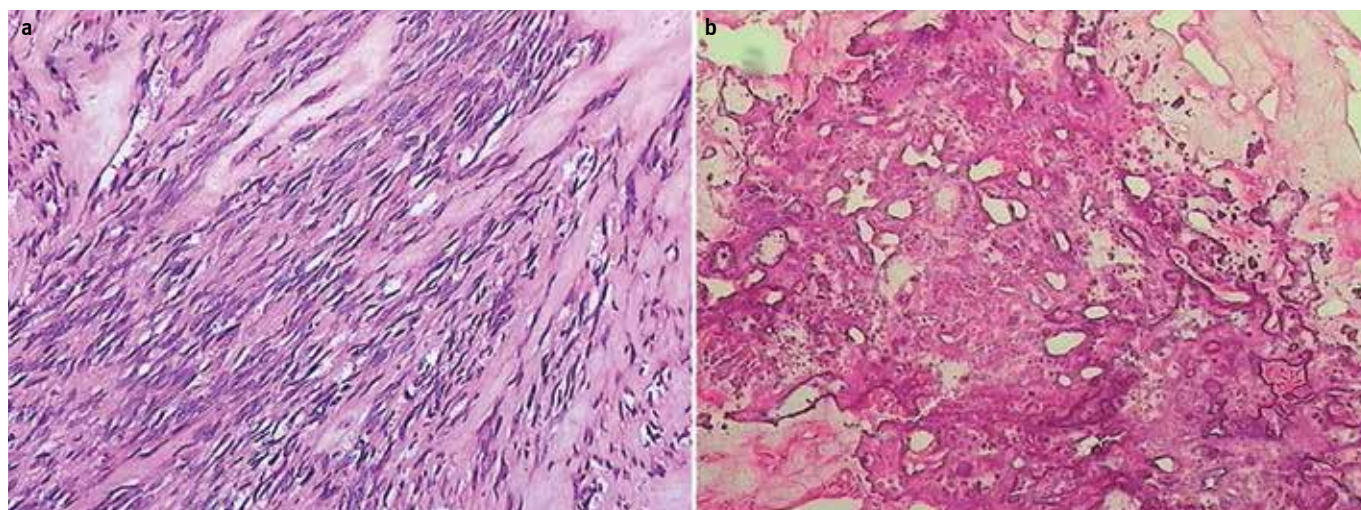


Figure 4. a,b. Pathology confirmed GIST with spindle cells (a) and calcification (b).

Ethics Committee Approval: This study was approved by the Ethics Committee of Southern Medical University and was performed according to the Declaration of Helsinki.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

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