

CASE REPORT

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Gastric foreign body granuloma resembling gastric cancer: a case report

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Abstract

Fishbones are frequently swallowed by foreign objects that can penetrate the gastrointestinal tract. Nonetheless, it is quite uncommon for these fishbones to become lodged within the tract, resulting in the formation of foreign body granulomas that resemble submucosal tumors. When encountering this situation, it's important to consider differential diagnoses such as gastric intestinal stromal tumor, gastric leiomyoma, and gastric neurofibroma. We present a case of gastric foreign body granuloma that presents with dull aching epigastric pain. The patient gave a vague history of displaced intrauterine contraceptive devices (IUCD). Contrast CT and PET scan showed a gastric antral mass possibly a gastric cancer or a migrating IUCD. Endoscopic ultrasound (EUS) suggested a perigastric foreign body reaction due to the presence of a linear echogenic structure in between the markedly thickened gastric antral wall and the right lobe of the liver. EUS-guided fine needle biopsy (EUS-FNB) revealed non-specific inflammatory reaction. Afterward, surgical exploration unveiled the cause of the mass as a foreign body granuloma caused by a perforating fishbone.

Keywords Foreign body granuloma, Gastric antral tumors, Fishbone, EUS, EUS-FNB

Case presentation

A case of a 61-year-old female patient with no significant family history of malignancy. She has a past medical history of insertion of intrauterine contraceptive device (IUCD) 35 years ago and it was removed with difficulty afterward without documenting the removal of the whole device.

She presented with a dull aching upper abdominal pain for 1 month. This pain developed gradually over the first two weeks and increased in severity over the next 2 weeks. It was radiating to the back and it was not associated with vomiting or weight loss.

Physical examination was unremarkable, and laboratory tests and tumor markers were in the normal range.

The patient underwent upper gastrointestinal endoscopy which showed multiple superficial erosions and a small deep antral ulcer with a clean floor and edematous edges, measuring 0.5 cm in diameter, 2 cm away from the pyloric ring (Fig. 1). It was biopsied and histopathological examination revealed chronic gastritis of moderate activity.

¹⁸F-FDG PET/CT scan showed gastric pyloric anterior wall active irregular thickening with a linear hyperdense radio-opaque area within, having exophytic configuration encroaching on the related left hepatic lobe, the lesion measures 4.5 cm and eliciting a high SUVmax of 7.6 (Fig. 2).

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Fig. 1 Gastroscopy images showing gastric antral ulcer with swollen mucosa

EUS examination showed a significantly (11 mm) thickened posterior antral wall with an oblong soft tissue area between the posterior antral wall and the left hepatic lobe with a linear dense hyperechoic structure inside, 30 mm in length. The picture was impressive of a severe inflammatory foreign body reaction versus a malignant lesion (Fig. 3).

The patient underwent surgical exploration from the left subcostal incision and the antral mass was adherent to the left hepatic lobe by dense adhesions. On dissection,

the mass was opened and we found a foreign body in the form of a fish bone inside, confirming the diagnosis of a foreign body granuloma. No pus was discharged from the mass. Excision of the lesion was done with the closure of the antral opening in transverse continuous sutures to avoid stricture of the antral cavity. Abdominal drain was placed and closure of the wound was done in layers. The procedure and postoperative hospital stay were uneventful (Fig. 4).

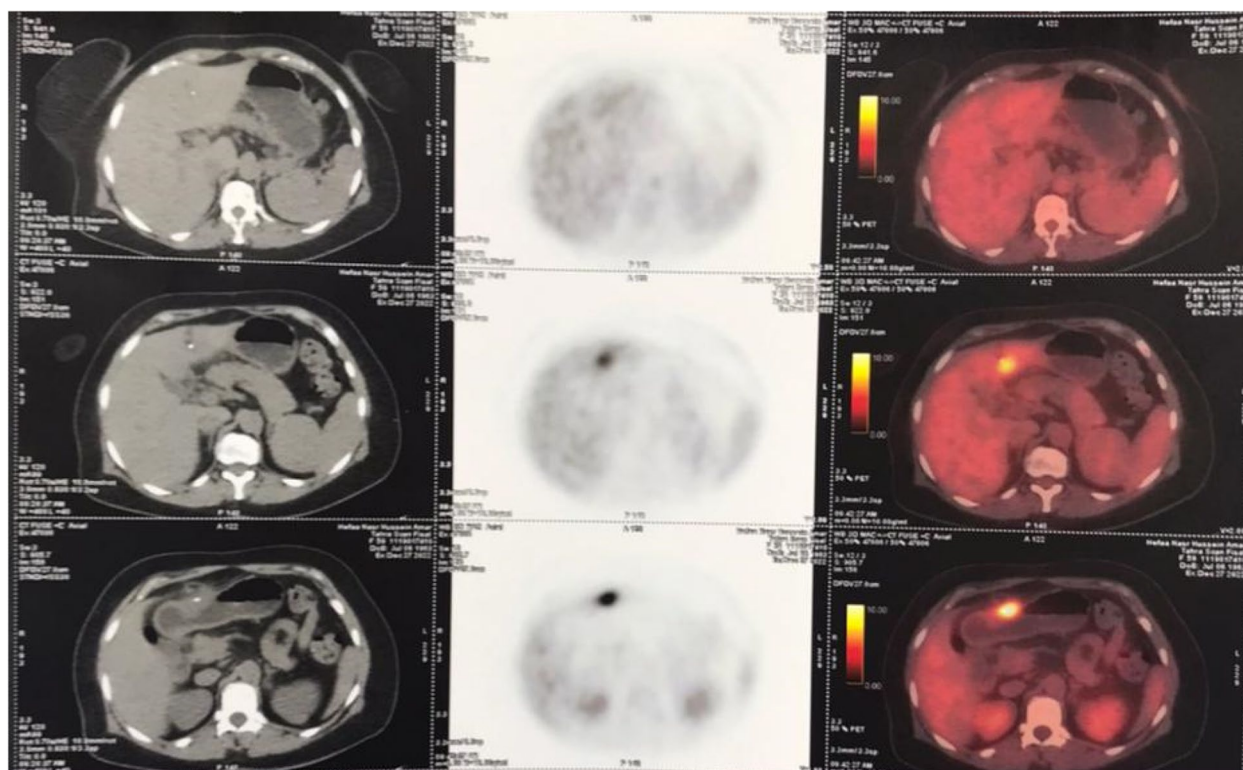


Fig. 2 PET/CT showing irregular radiodensity in the antral lesion



Fig. 3 EUS picture showing irregular hyperechoic lesion within antral soft tissue mass lesion

Discussion

Gastric malignancy is the most common cause of gastric masses including gastric carcinoma, lymphoma, carcoid tumor, or gastro-intestinal stromal tumor (GIST).

Benign lesions that present as gastric masses include true leiomyoma, schwannoma, lipoma, and ectopic pancreas, this makes up only 5–10% of all stomach tumors.

Inflammatory lesions such as chronic gastritis or foreign body granuloma are much less likely possibilities [1].

Ingested foreign bodies mostly cause non-specific symptoms and in most cases, they pass through the gastrointestinal tract without complications [2].

In cases in which complications such as perforations of the stomach occur, patients present in a more

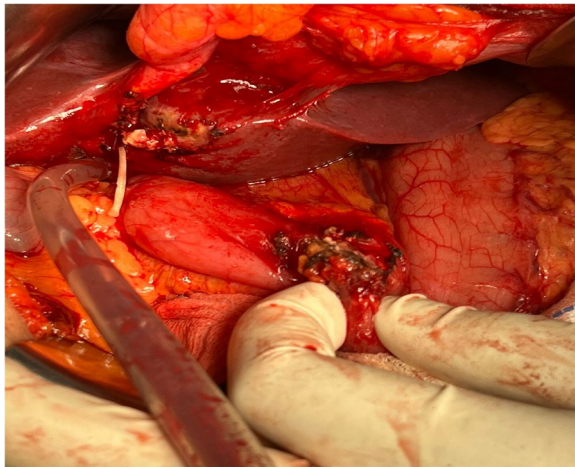


Fig. 4 Picture of the soft tissue lesion with the foreign body in-between the gastric antrum and the left lobe of the liver

insidious manner, which leads to difficulty in reaching the correct diagnosis. This probably occurs due to a thicker wall compared to a small bowel [3].

CT scan is considered the most accurate imaging modality in localizing ingested foreign bodies like fish bone with high sensitivity and specificity [4].

The picture of the intra-gastric bulge in endoscopy or CT picture suggesting a mass with a central hyperdense lesion should raise a high level of suspicion of the possibility of a foreign body even when the history is not clear. This does not exclude the possibility of malignancy as endoscopic biopsy is commonly superficial and small [5].

However, in this case, PET/CT suggested gastric malignancy as the first possibility due to the high SUV-max of 7.6 (Fig. 2); however, this may exceptionally occur in active inflammatory reactions.

EUS is another helpful diagnostic tool in submucosal gastric masses which enables visualization of lesion extensions with added value of possibility of obtaining tissue biopsy. In our case, it revealed the foreign body as a hyperechoic lesion while the biopsy showed chronic inflammation [6]. Up to our knowledge, this is the first reported case of gastric fish bone granuloma described by EUS and also up to our knowledge, no cases of gastric foreign body granulomas mistaken for gastric malignancy have been reported in Egypt.

It would have been almost impossible to remove this foreign body endoluminal by Endoscopy, as the mucosa was completely intact over it and the foreign body was not visualized. Surgery is the preferred method of excision for foreign bodies in the stomach but if the foreign body is visible, removal could be done with mucosal clipping to avoid perforation of the wall [1].

Abbreviations

IUCD	Intrauterine contraceptive device
EUS	Endoscopic ultrasound
EUS-FNB	EUS guided fine needle biopsy
GIST	Gastro-intestinal stromal tumor

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Authors' contributions

HO was the main endoscopist and did the final review and editing. AZ and HD helped in investigations. HF collected the data. AA wrote the manuscript. AS designed the methodology and helped in writing the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

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Declarations

Ethics approval and consent to participate

The study was approved by the institution's ethical committee. Oral and written informed consent was obtained from the patient or from his eligible relative.

Consent for publication

Oral and written informed consent was obtained from the patient or his eligible relative.

Competing interests

The authors declare that they have no competing interests.

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