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A RARE CASE OF SPLENUNCULUS BURIED WITHIN THE STOMACH

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ABSTRACT

Background: Accessory spleen, or splenunculus, is a congenital anomaly resulting from failure of splenic anlage fusion during embryonic development. It is most commonly located near the splenic hilum or pancreatic tail and rarely occurs within the stomach wall. Gastric accessory spleen is a rare entity that may mimic submucosal neoplasms such as gastrointestinal stromal tumour, posing a diagnostic challenge.

Case presentation: We report the case of a 37-year-old male presenting with a 3-month history of epigastric pain, dyspepsia, and nausea. Endoscopy revealed a 2.5–3 cm submucosal mass in the gastric fundus with intact mucosa, and erosive antral gastritis. Endoscopic ultrasound demonstrated a 22.6 × 17.2 × 23.3 mm hypoechoic, homogeneous lesion arising from the third layer of the gastric wall. Endoscopic ultrasound-guided fine needle biopsy (EUS-FNB) showed lymphoid aggregates with characteristic vascular structures lined by CD8-positive littoral cells and CD68/PGM1-positive macrophages. Immunohistochemistry excluded epithelial, neuroendocrine, and lymphoproliferative neoplasms, confirming the diagnosis of gastric accessory spleen.

Discussion: This case is distinctive because the patient had no prior splenectomy or trauma and was diagnosed preoperatively using EUS-guided biopsy—avoiding unnecessary surgery. Gastric accessory spleen remains a rare but important differential diagnosis for submucosal gastric lesions. Recognition of its imaging and histopathologic features can prevent misdiagnosis and overtreatment.

Conclusion: Gastric accessory spleen is a benign, rare condition that should be considered in patients presenting with gastric submucosal masses. Non-invasive diagnostic modalities such as EUS-FNB and immunohistochemistry are essential to achieve an accurate diagnosis and to avoid unnecessary surgical resection.

KEYWORDS

Stomach, fundus, submucosal mass, EUS, accessory liver

LEARNING POINTS

- Gastric accessory spleen is a rare, usually incidental finding with no clinical significance.
- It should be considered as one of the differential diagnoses of gastric subepithelial lesions.
- Despite the fact that histopathologic evaluation remains the gold standard, both nuclear scintigraphy and enhanced computed tomography scan may be useful in the diagnosis of ectopic splenic tissue.

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INTRODUCTION

The spleen is a lymphoid vascular organ located in the left upper quadrant of the peritoneal cavity[1]. It functions as a filter that eliminates old blood cells, and it is essential for the production and storage of immune cells, and the defence against foreign organisms[2].

Splenic tissue located outside of the regular spleen is known as an accessory spleen, splenule, or splenunculus. The majority of accessory spleens (75%) are found close to the splenic hilum and (17%) around the pancreatic tail. However, they can also be located within the gastrointestinal tract[1]. Splenules are most likely the result of mesenchymal buds that fail to fuse in the dorsal mesogastrium during the 5th week of the embryonic life. Approximately 10-30% of people worldwide are born with this congenital defect[2]. The majority are benign and are discovered incidentally on cross-sectional abdominal imaging or during endoscopy[1].

The current case highlights the diagnostic challenge due to an accessory spleen manifesting as a submucosal gastric mass.

CASE DESCRIPTION

A 37-year-old male patient presented with 3-month history of epigastric pain, dyspepsia, and nausea. Abdominal ultrasound showed normal liver and spleen, and a normal gallbladder with no stones or sludge. Blood work including a complete blood count and liver enzymes was normal. Upper endoscopy showed a large 2.5 to 3 cm submucosal mass in the gastric fundus with normal overlying mucosa on white light and narrow band imaging (NBI), and few dispersed superficial erosions in the gastric antrum and pre-pyloric area *(Fig. 1A and 1B)*. Antral biopsies showed mild *Helicobacter pylori* positive erosive gastritis for which the patient received eradication therapy. Upper endoscopic ultrasound (EUS) of the submucosal lesion showed a 22.6 × 17.2 × 23.3 hypoechoic and homogenous lesion with irregular borders arising from layer 3 of the gastric wall *(Fig. 1C)*. EUS-guided fine needle biopsy (EUS-FNB) was performed. Histology showed scattered lymphocytic aggregates made of a mixture of small B- and T-lymphocytes separated by sieve like vascular structures lined by round cells with numerous red blood cells, neutrophils and eosinophils *(Fig. 2A)*. These vascular structures are lined by CD8 positive splenic littoral cells and cuffed by CD68/PGM1 positive macrophages. After ruling out epithelial, neuroendocrine, Langerhans cell histiocytic neoplasms as well as lymphoproliferative processes by extensive immunostaining, the overall histologic appearance was compatible with gastric accessory or ectopic spleen. Here is the summary of the immunohistochemical staining results: cytokeratin (-), synaptophysin (-), chromogranin (-), CD117 (-), CD30 (-), S100 (-), CD1a (-), CD20 (+), CD3 (+), myeloperoxidase (+), CD34 (+), CD68/PGM 1 (+) *(Fig. 2B)*, CD31 (+), CD8 (+) *(Fig. 2C)*.

DISCUSSION

We report the case of a benign gastric accessory spleen located in the fundus of the stomach in a patient without any medical or surgical history. The real incidence and prevalence of this condition are not well known, and it is considered a rare incidental finding especially in patients who undergo upper endoscopy for investigation of various upper gastrointestinal complaints such as dyspepsia or before bariatric surgery evaluation[3].

Although they are usually asymptomatic, patients with gastric accessory spleen may complain of upper abdominal pain and may, in rare cases, suffer from complications such as bleeding, spontaneous rupture, embolization, and torsion[1].

According to the current literature, accessory spleen is rarely found in the stomach and is mainly located in the splenic hilum and the tail of the pancreas. A total of 12 documented cases of gastric splenule have been reported including 5 females and 7 males, with a female/male ratio of 0.71/1. The mean age of the patients was between 30 and 70 years[4].

Most masses are located in the gastric fundus. They are well-demarcated, ovoid with smooth surfaces, and their size range from 1–3 cm in diameter. Masses larger than 4 cm are very rare. These lesions can be misdiagnosed as either benign masses like gastric stromal tumour (GIST), leiomyoma, or schwannoma or malignant tumours like lymphoma, neuroendocrine or metastatic deposits[1,4].

Abdominal cross-sectional imaging: computed tomography (CT) scan and magnetic resonance imaging are pivotal for

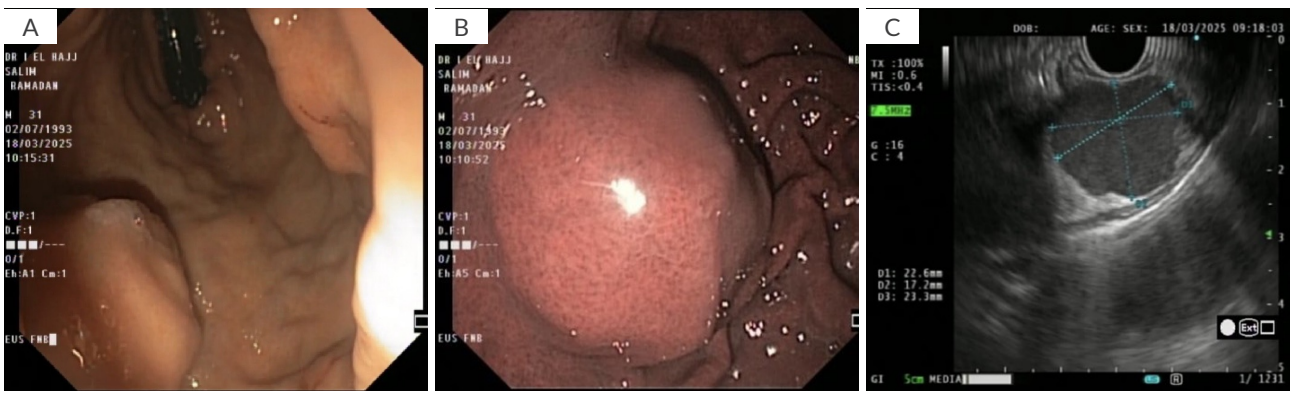


Figure 1. A) Upper endoscopy showing a submucosal mass in the gastric fundus 2.5 to 3 cm in size, with a smooth shiny surface; B) Narrow band imaging of the submucosal mass showing normal overlying mucosa and normal vascular pattern; C) Upper endoscopic ultrasound showing a 22.6 × 17.2 × 23.3 mm hypoechoic, homogenous lesion with irregular borders arising from layer 3 of the gastric wall.

Author (year)	Age (years)/sex	Prior splenectomy	Presentation/ symptoms	Lesion size (cm)	Location	Diagnostic method/ imaging	Management	Pathologic/ imaging diagnosis	Notes/ outcome
Trujillo et al.[1]	54/F	Yes	Iron deficiency anaemia	2	Fundus	Endoscopy → Resected via Ovesco FTRD	Endoscopic resection	Submucosal accessory spleen	Incidental finding, unrelated to anaemia
Kim et al.[5]	52/M	Yes	Incidental finding	2.4	Fundus	Imaging + Tc-99m RBC scan	Observation (no resection)	Accessory spleen	No intervention required
Chen et al.[4]	19/M	No	Gastric bleeding	1.7	Fundus	Endoscopy + laparoscopy	Laparoscopic resection	Intragastric accessory spleen	Symptom resolution
Hou et al.[6]	27/F	No	Epigastric discomfort	1.3	Fundus	Endoscopy	Laparoscopic resection	Accessory spleen	Uneventful recovery
Shen et al.[7]	34/F 65/F	Yes (both)	Incidental fundic submucosal lesions	Not specified	Fundus	Imaging (CT, MRI, Tc-99m)	Observation	Compensatory accessory spleen	Post-splenectomy compensatory hypertrophy
Zhang et al.[8]	34/M	Yes	Upper abdominal pain	Not specified (~GIST-like)	Fundus	Endoscopy + Imaging	Endoscopic full-thickness resection	Accessory spleen	Initially suspected GIST
Almazeedi et al.[3]	Not specified/F	No	Incidental during sleeve gastrectomy	2.5	Fundus	Intraoperative finding	Resection	Accessory spleen	Incidental, uneventful outcome
Liu et al.[9]	18/M	No	Severe anaemia and GI bleeding	12.7	Fundus (vascular)	Imaging	Laparoscopic resection	Vascular accessory spleen causing gastric varices	Symptom resolution
Current case	37/M	No	3-month epigastric pain, dyspepsia, nausea	2.5–3	Fundus	Endoscopy + EUS + EUS-FNB + IHC	No resection (biopsy diagnosis)	Accessory spleen (CD8+, CD68+, CD31+, CD34+)	Histologically confirmed; *H. pylori* gastritis treated

Abbreviations: RBC, red blood cell; FTRD, full-thickness resection device; CT, computed tomography; MRI, magnetic resonance imaging; GIST, gastrointestinal stromal tumour; EUS, endoscopic ultrasound; FNB, fine needle biopsy; IHC, immunohistochemistry.

Table 1. Summary of reported cases of gastric accessory (ectopic) spleen.

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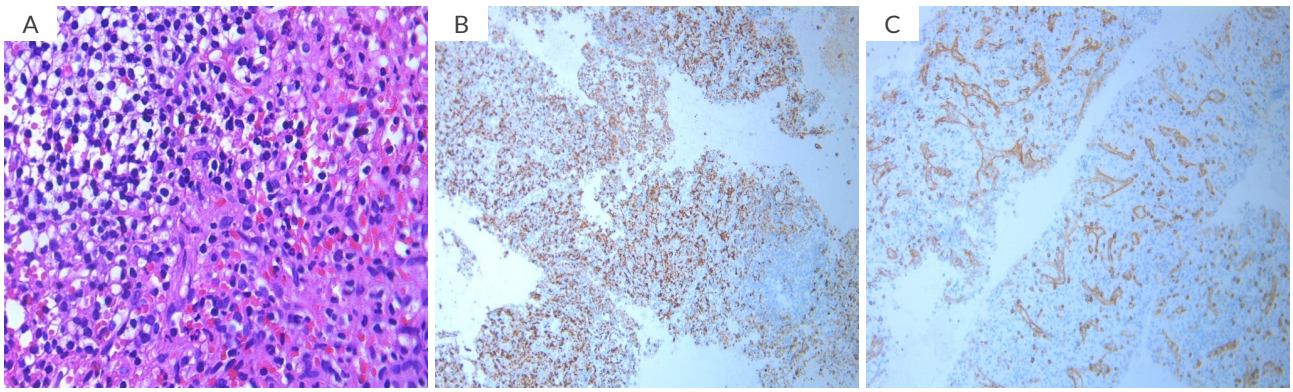


Figure 2. A) Haematoxylin and eosin stain high power field; B) Immunostain positive for CD68/PG-M1; C) Immunostain positive for CD8.

the diagnosis of gastric splenules. They appear as distinct, single or multiple, round-ovoid masses that are less than 2 cm and show uniform enhancement that is the same as that of normal splenic parenchyma. EUS is superior to computed tomography (CT) scan for differentiating between a submucosal mass and an extrinsic compression lesion of the stomach. However, histopathological confirmation through postoperative specimens or through EUS-FNB is essential for a definitive diagnosis when imaging is inconsistent[5].

Furthermore, nuclear medicine imaging can also validate the diagnosis. A simple technique that is sensitive and specific for identifying heterotopic splenic tissues is the 99mTc-labeled heat-denatured red blood cell spleen scintigraphy which can distinguish between GIST and accessory spleen[5]. Since most of the gastric accessory spleens are small and asymptomatic, surgery is not recommended[2]. However surgical intervention is indicated when there is torsion, bleeding or compressive symptoms[4]. Surgical excision is reserved for symptomatic cases or when the lesion's nature remains uncertain after non-invasive evaluation[6,7]. Importantly, accessory spleens should always be actively looked for during splenectomy, as failure to identify and remove them may result in persistence or recurrence of hematologic diseases (e.g., idiopathic thrombocytopenic purpura) for which splenectomy was performed[8,9].

Several cases of gastric accessory spleens have been reported in the literature. *Table 1* summarizes the different characteristics of the reported cases and compares them to our case.

What makes our case particularly unique is that the patient had no prior splenectomy, trauma, or underlying systemic disease, yet presented with a relatively large (≈3 cm) intramural accessory spleen located in the gastric fundus—an extremely rare presentation. Most previously reported cases occurred in post-splenectomy patients or were incidentally discovered during unrelated surgeries or imaging studies. Furthermore, the diagnosis in our case was achieved preoperatively through EUS-FNB and confirmed by a comprehensive panel of immunohistochemical stains, avoiding unnecessary surgical intervention. This combination of atypical location, absence of prior splenic surgery, and definitive minimally invasive diagnosis highlights the distinctiveness and clinical relevance of our report, emphasizing the importance of considering accessory spleen in the differential diagnosis of gastric submucosal lesions.

CONCLUSION

Gastric accessory spleen is a rare entity. It is usually an incidental finding with no clinical significance. It should be considered as one of the differential diagnoses of gastric sub-epithelial lesions. Despite the fact that histopathologic evaluation remains the gold standard, both nuclear scintigraphy and enhanced CT scan may be useful in the diagnosis of ectopic splenic tissue.

REFERENCES

1. Trujillo SG, Saleh S, Burkholder R, Shibli F, Shah B. Accessory Spleen: A Rare and Incidental Finding in the Stomach Wall. *Cureus* 2022;**14**:e24977. doi: 10.7759/cureus.24977
2. Mohammadi S, Hedjazi A, Sajjadian M, Ghrobi N, Moghadam MD, Mohammadi M. Accessory Spleen in the Splenic Hilum: a Cadaveric Study with Clinical Significance. *Med Arch* 2016;**70**:389-391. doi: 10.5455/medarh.2016.70.389-391
3. Almazeedi S, Alhaddad E, Al-Khithr T, Alhunaidi M. Incidental gastric accessory spleen during laparoscopic sleeve gastrectomy. *Int J Surg Case Rep* 2017;**36**:119-121. doi: 10.1016/j.ijscr.2017.05.022
4. Chen G, Nie L, Zhang T. An extremely rare case of a gastric accessory spleen: case report and review of the literature. *BMC Gastroenterol* 2021;**21**:275. doi: 10.1186/s12876-021-01852-z
5. Kim JS, Chong A, Kim SM. Diagnosis of gastric subepithelial mass as an accessory spleen using fusion of spleen SPECT and CT images. *Radiol Case Rep* 2018;**13**:1137-1140. doi: 10.1016/j.radcr.2018.07.021
6. Hou S, Cheng B, Gao Z, Ye Y. Congenital accessory spleen in the fundus of stomach mimicking a gastrointestinal stromal tumor. *Asian J Surg* 2023;**46**:1585-1586. doi: 10.1016/j.asjsur.2022.09.147
7. Shen YT, Zhou CH, Tang W, Wu W, Chen GQ, Hu DM. Accessory Spleen Presenting as a Submucosal Lesion on Stomach Wall after Splenectomy. *Chin Med J (Engl)* 2018;**131**:869-870. doi: 10.4103/0366-6999.228240
8. Zhang J, Zhong JW, Lu GR, Zhou YH, Xue ZX, Ye MS. Accessory spleen originating from the intrinsic muscularis of the stomach misdiagnosed as gastrointestinal stromal tumor: a case report. *J Int Med Res* 2020;**48**:300060520935304. doi: 10.1177/0300060520935304
9. Liu Y, Dai Y, Xiao F, Liu S, Wu Y, Ran E. Rare case of upper gastrointestinal hemorrhage due to accessory spleen: A case report. *Medicine (Baltimore)* 2022;**101**:e29636. doi: 10.1097/MD.0000000000029636