

# Accessory Spleen Presenting as a Submucosal Lesion on Stomach Wall after Splenectomy

Ya-Ting Shen<sup>1</sup>, Chun-Hua Zhou<sup>1</sup>, Wen Tang<sup>1</sup>, Wei Wu<sup>1</sup>, Guang-Qiang Chen<sup>2</sup>, Duan-Min Hu<sup>1</sup>

<sup>1</sup>Department of Gastroenterology, The Second Affiliated Hospital of Soochow University, Suzhou, Jiangsu 215000, China

<sup>2</sup>Radiology Center, The Second Affiliated Hospital of Soochow University, Suzhou, Jiangsu 215000, China

To the Editor: Gastric submucosal lesions are easily misdiagnosed as submucosal tumors (SMTs) or oppression, and these patients may go through endoscopic resection or surgeries. For submucosal lesions in the gastric fundus, with echotexture same as the spleen and extragastric under endoscopic ultrasound (EUS) examination, especially in patients with the history of splenectomy, accessory spleen should be suspected. It is a challenge for EUS operators. This report presented two cases diagnosed as accessory spleen by EUS and CT for the purpose of avoiding unnecessary treatment.

Case 1: A 34-year-old woman had suffered epigastric discomfort for weeks and gastroscopy performed in local hospital revealed an SMT. She underwent splenectomy 10 years ago due to a car accident. Physical examination and laboratory results were unremarkable. Gastroscopy performed in The Second Affiliated Hospital of Soochow University revealed a submucosal elevated lesion on the gastric fundus with depression in the middle [Figure 1a]. An oval mass with homogenous echo was found from extragastric organs during further EUS examination [Figure 1b]. Further CT scan showed that the mass was clinging to the stomach fundus and had a density similar to that of normal spleen tissues [Figure 1c and 1d]. Considering her history, we diagnosed it as a compensatory accessory spleen.

Case 2: A 65-year-old woman suffered from epigastric pain and presented multiple mucosal elevated lesions under gastroscopy at another hospital. She had splenectomy one year ago. No other special history could be obtained. Physical examination and laboratory results were unremarkable. EUS revealed a lageniform mass having a homogenous echo and clinging to the stomach wall [Figure 1e and 1f]. Further CT scan revealed a well-marginated soft-tissues clinging to the gastric body, which had similar density with the normal spleen [Figure 1g and 1h]. The lesion was diagnosed as an accessory spleen.

Compared with gastroscopy, EUS is more valuable for the diagnosis of gastric submucosal lesions due to its improved imaging of gut wall and surrounding structures. EUS provides detailed information on the exact size, layer of origin, and characteristic morphologic features of the lesions. Features of submucosal elevated lesions identified on EUS can be useful to determine whether further diagnostic procedures, such as

endoscopic resection, fine-needle aspiration, and core biopsy, are required.<sup>[1]</sup>

Accessory spleens are the most common of all splenic anomalies. The vast majority of them are encountered in the vicinity of the splenic hilum. Accessory spleens can have compensatory hypertrophy of residual splenic tissue following splenectomy and occasionally reach 3–5 cm in size.<sup>[2]</sup> Accessory spleens are well marginated, exhibit homogenous echo and extragastric under EUS examination.

CT is an imaging technique commonly used to evaluate gastrointestinal tract diseases, including SMTs. Typically, accessory spleens appear on CT scans as well-marginated round masses that are smaller than 2 cm and enhance homogeneously on contrast-enhanced images. The attenuation is identical to that of normal splenic parenchyma both before and after administration of contrast medium in CT.<sup>[3,4]</sup> Thus, accessory spleens can be differentiated from metastatic lesions or lymphadenopathy when they enhance to the same degree as the spleen.

Compared with CT, EUS is a better modality for differentiating between SMTs and extrinsic compression lesions of the stomach. In EUS, accessory spleens are usually round or sometimes oval with a regular, sharp, or distinct outer margin. They can be either hyperechoic or hypoechoic but always homogenous, with the majority exhibiting an echo intensity similar to that of the adjacent spleen. In the two aforementioned cases, the patients had a history of splenectomy, making the diagnosis of accessory spleens difficult without a comparison.

Most accessory spleens are asymptomatic and often detected by accident during abdominal CT scan. Patients with accessory spleen may feel discomfort in the upper gastrointestinal area. Accessory spleen oppression is rarely reported, especially in patients with

**Address for correspondence:** Dr. Duan-Min Hu,  
Department of Gastroenterology, The Second Affiliated Hospital  
of Soochow University, Suzhou, Jiangsu 215000, China  
E-Mail: huduanmin1976@163.com

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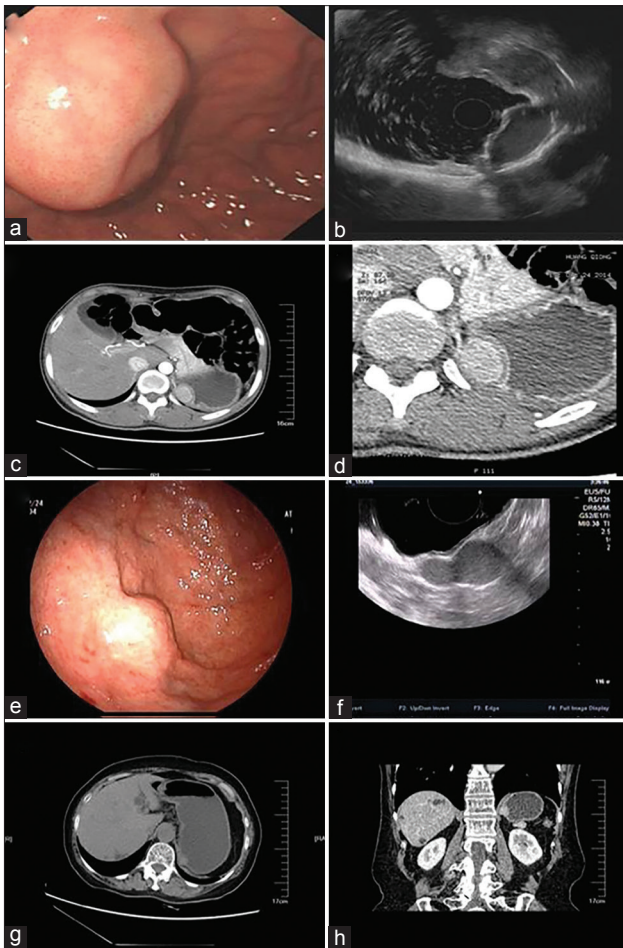
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**Figure 1:** A 34-year-old woman diagnosed with a compensatory accessory spleen: (a) Gastroscope revealed a submucosal elevated lesion on the gastric fundus with depression in the middle; (b) EUS revealed an oval mass with homogenous echo from extragastric organs and an integrated gastric wall; (c and d) CT showed an abdominal mass clinging to the fundus whose density was similar to that of spleen. A 65-year-old woman diagnosed with an accessory spleen: (e) Multiple mucosal elevated lesions under EUS examination; (f) EUS revealed a homogenous-echo mass close to stomach wall; (g and h) CT of a soft-tissue found clinging to the gastric body. EUS: Endoscopic ultrasound; CT: Computed tomography.

splenectomy history. The two cases showed a well-margined, homogenous echo mass that originated from extragastric organs under EUS examination and had the same echotexture as normal

spleen tissues. Abdominal CT further confirmed the diagnosis of accessory spleens. Given that the epigastric discomfort symptoms of the two patients were not associated with the accessory spleen, splenectomy was avoided.

The steep learning curve for EUS is one of the main factors preventing the wide acceptance of this method.<sup>[5]</sup> For EUS learners, operating skills and the knowledge of illustrating the findings under EUS are essential. When submucosal lesions are present in the stomach, especially in the fundus of the stomach, the echo intensity similar to that of the spleen under EUS should alert the operators of the possible presence of an accessory spleen even when the patients have a medical history of splenectomy. To minimize diagnosis errors, EUS should be performed by experienced operators who have specialized knowledge of anatomy and imaging for the prevention of unnecessary treatment.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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