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Endoscopic full-thickness resection of a gastric schwannoma

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Case report

A 69-year-old man was referred to our center for further evaluation and treatment of a gastric mass. Esophagogastroduodenoscopy found a 30-mm submucosal tumor (SMT) in the gastric body (Fig. 1A). Endoscopic ultrasound revealed a hypoechoic lesion originating from the muscularis propria layer. Computed tomography showed the tumor presented with predominately intraluminal growth pattern. Gastrointestinal stromal tumor (GIST) was suspected, and endoscopic submucosal dissection (ESD) was scheduled. Following submucosal injection (Fig. 1B), the tumor was dissected away from the muscularis propria (Fig. 1C). However, given a close adhesion between the tumor and the serosa, it was hard to continue dissection without perforation; hence endoscopic full-thickness resection (EFTR) was performed (Fig. 1D). The serosal layer was actively incised with IT2 knife, and the tumor was *en bloc* resected. The gastric wall defect was successfully closed via endoscopic purse-string suture (Fig. 1E). The patient developed transient fever postoperatively that recovered with antibiotics and was discharged uneventfully. Histopathology showed it as a spindle cell tumor (Fig. 1G). Further immunohistochemistry revealed tumor cells were stained positive for S100 (Fig. 1H),

while negative for CD34, CD117, SMA and Desmin, consisted with a diagnosis of schwannoma. During the six-month follow-up, neither tumor recurrence nor residual was noted (Fig. 1I).

Discussion

Schwannoma is a mesenchymal tumor and rarely occurs in the stomach. Given its unspecific endoscopic and radiographic features, it is challenging to differentiate it from common SMTs, e.g., GIST. Surgery, either wedge resection or partial gastrectomy, is the primary treatment[1], while ESD appears a minimally invasive alternative for selected cases[2]. However, as schwannoma mainly arises from the deep muscular layer[3], EFTR may be required for complete resection. The effective and reliable closure of the perforation is vital for preventing major complications and surgical intervention.

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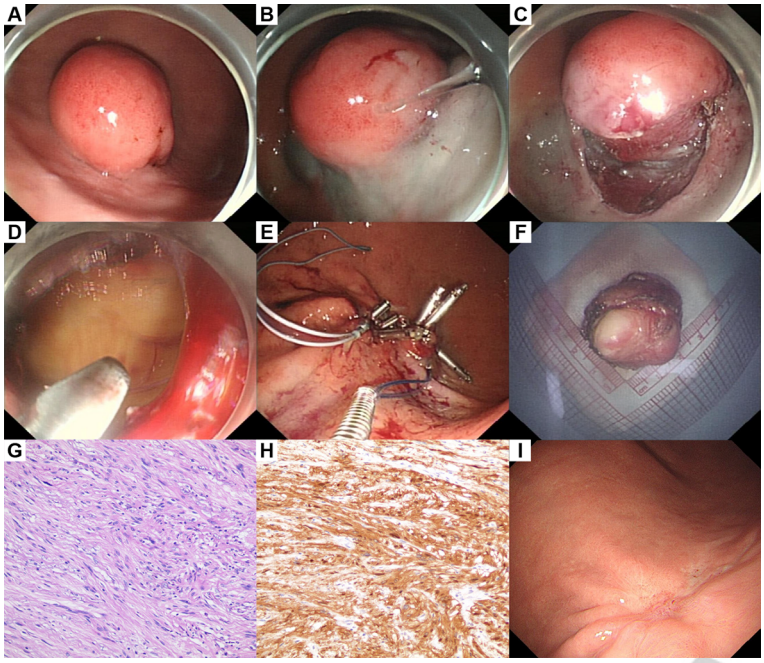

Figure 1. (A) A submucosal tumor located in the greater curvature of the gastric body. (B) Submucosal injection for making a fluid cushion. (C) Circumferential dissection of the tumor as deep as the muscularis propria. (D) Full-thickness resection was performed for removal of the tumor and the omentum was visualized. (E) Endoscopic purse-string suture of the gastric wall defect using endoclips and endoloops. (F) The resected specimen. (G) Hematoxylin and eosin staining showed spindle cell neoplasm. (H) Immunohistochemistry showed that the tumor cells were diffusely positive for S100, consistent with schwannoma. (I) The wound was healed at six months postoperatively.