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BRIEF REPORT

A case of gastric granular cell tumor

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Introduction

Granular cell tumors (GCTs) are rare mesenchymal soft-tissue tumors, which can occur at many sites, including the skin, tongue, and subcutaneous tissues. GCTs in the gastrointestinal tract are uncommon and comprise approximately 4–6% of all GCTs.[1] The most common site is the esophagus, while the second most common site is the colon. The gastric GCTs are much rarer and account for only 4% of GCTs in the gastrointestinal tract.[2] We report herein a case of gastric GCT measuring 5 mm in diameter.

Case Report

A 61-year-old man was visited to our hospital for colorectal polyp. Screening esophagogastroduodenoscopy revealed a whitish solitary hemispherical mass measuring 5 mm in diameter on the lesser curvature of upper body of the stomach (Fig. 1a). The lesion showed a central tiny depression on the surface with a molar tooth-like appearance. Narrow band imaging with magnifying endoscopy showed the lesion was overlaid by the non-neoplastic mucosa (Fig. 1b). Tumor cells showed abundant eosinophilic cytoplasm (Fig. 1c) with periodic acid Schiff-positive granules. On immunohistochemistry, tumor was positive for S100 (Fig. 1d) and SOX10 (Fig. 1e). Pathology of biopsy specimens revealed GCT. There were no malignant features, including necrosis, spindle cell component, nuclear atypia, and mitosis. Computed tomography scan showed no metastatic lesions or enlarged lymph nodes. He was followed up for endoscopy. Six months after the first endoscopy, esophagogastroduodenoscopy revealed no detectable tumors in the stomach (Fig. 1f).

Discussion

GCTs in the gastrointestinal tract are generally not large, being mostly between 1 and 2 cm in diameter. Therefore, these tumors are generally found incidentally.[3] Endoscopy demonstrates a whitish, submucosal tumor that is sometimes with mucosal ulceration and has a rough surface typically described as a molar tooth-like appearance. However, it is difficult to distinguish GCTs in the gastrointestinal tract from other submucosal tumors, such as gastrointestinal stromal tumor or carcinoid, endoscopically. In immunohistochemical staining, GCTs were positive for S100 and SOX10 protein, which suggests the tumor may be derived from Schwann cells. Although GCTs are generally benign, some malignant lesions have been reported. Approximately 1.5–2.7% of esophageal GCTs are considered malignant.[4] Malignant GCTs are usually larger than 4 cm, display rapid recent growth, tend to recur locally after resection, and may have subtle histologic changes such as nuclear pleomorphism, increased nuclear size, tumor cell necrosis, large nucleoli, mitotic figures (more than 2 per 10 high power fields), and tumor cell spindling.[5] There are currently no guidelines for the treatment of GCTs in the gastrointestinal tract. Surgical excision is considered for large GCTs, benign GCTs causing symptoms, or when malignancy is suspected. In some cases, a conservative approach was selected by routine endoscopic follow-up when the patient was asymptomatic and the tumor measured less than 10 mm, with no

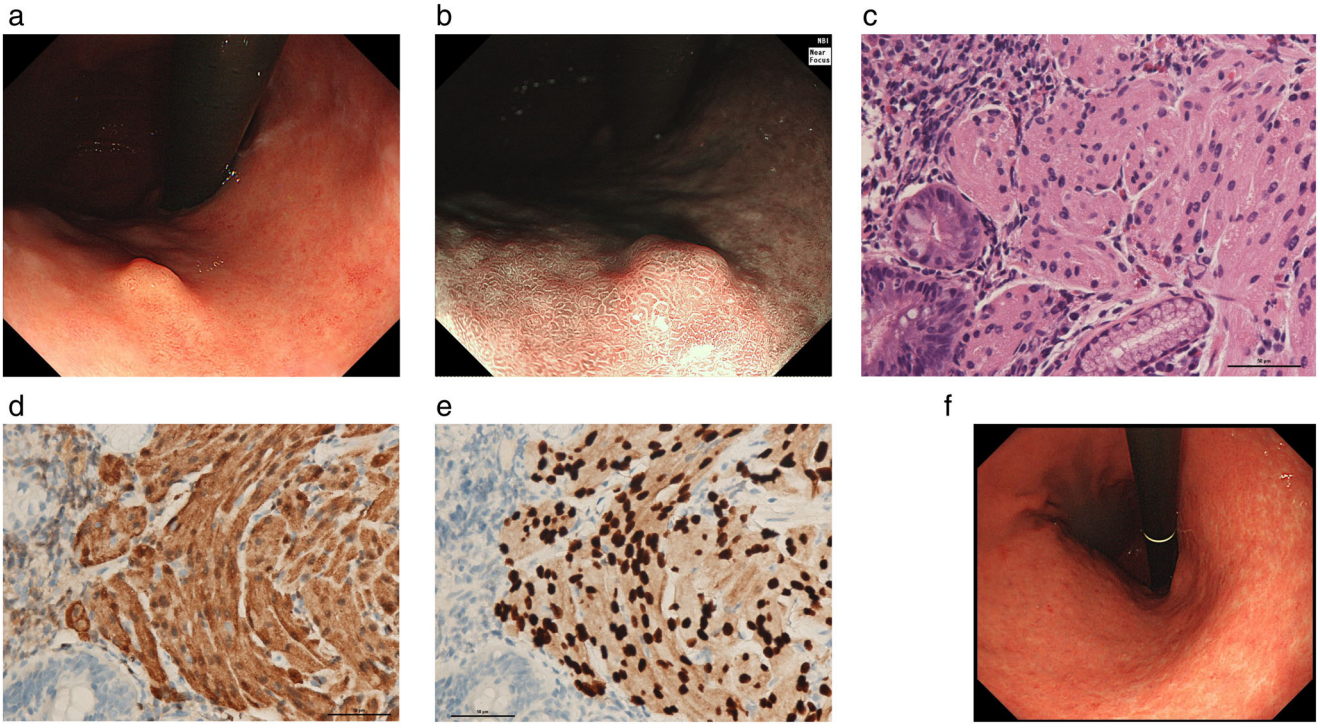

Figure 1 (a) Esophagogastroduodenoscopy revealed a whitish solitary hemispherical mass measuring 5 mm in diameter on the lesser curvature of upper body of the stomach, which showed a central tiny depression on the surface with a molar tooth-like appearance. (b) Narrow band imaging with magnifying endoscopy showed the lesion was overlaid by the non-neoplastic mucosa. (c) Tumor cells showed abundant eosinophilic cytoplasm without malignant features, including necrosis, spindle cell component, nuclear atypia, and mitosis (HE ×400). (d) The tumor was positive for S100. (e) The tumor was positive for SOX10. (f) Six months after the first endoscopy, esophagogastroduodenoscopy revealed no detectable tumors in the stomach.

evidence of malignant changes.[6] In this case, the patient was asymptomatic, tumor size was 5 mm in diameter, and pathology of biopsy specimens revealed no malignant features, including necrosis, spindle cell component, nuclear atypia, and mitosis. No studies have reported gastric GCTs with distant metastasis, including regional lymph nodes.[7] Thus, we decided to follow up the patient for endoscopy. Regarding appropriate interval for performing follow-up endoscopy, 6 months interval of endoscopic follow-up is recommended for the first follow-up if the conservative observation is conducted. If the tumor shows no remarkable changes at that time, yearly follow-up may be recommended thereafter.

In conclusion, although extremely rare, a GCT should be considered as a differential diagnosis for gastric submucosal tumors.

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