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BRIEF REPORT

A case of small invasive gastric cancer arising from *Helicobacter pylori*-negative gastric mucosa: Fundic gland-type adenocarcinoma

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A 50-year-old man underwent esophagogastroduodenoscopy for further investigation of mild anemia. Serum antibody titer against *Helicobacter pylori* (*H. pylori*) was below the detection limit. Esophagogastroduodenoscopy revealed a small reddish elevated lesion, measuring 5 mm in diameter, in the fundus of the stomach without any atrophic change (Fig. 1). Irregular microvascular

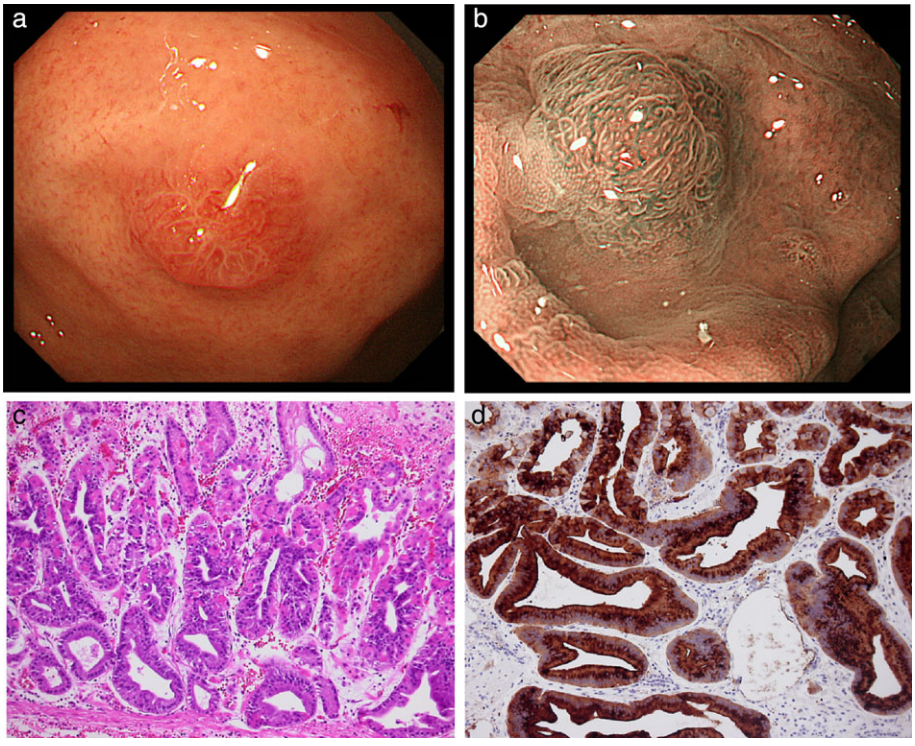

Figure 1 Esophagogastroduodenoscopy revealed a small reddish submucosal tumor like on *H. pylori*-negative gastric mucosa at the fundus in the stomach (Fig. 1a). Magnified narrow band imaging showed irregular microvascular patterns with dilated vessels on tumor surface (Fig. 1b). Hematoxylin and eosin stains revealed a well-differentiated tubular adenocarcinoma with gland architectures that are similar to the fundic glands (Fig. 1c). Immunohistochemical studies revealed that most of tumor cells were positive for pepsinogen-I (Fig. 1d).

patterns with dilated vessels were detected in the tumor surface by magnified narrow band imaging whereas the demarcation line was absent (Fig. 1). The tumor was visualized as a high echoic mass localized to the mucosal layer through endoscopic ultrasonography. Since these findings suggest a gastric tumor originating from the mucosal layer rather than the epithelium, precutting endoscopic mucosal resection (snaring combined with circumferential incision) was performed. Pathological examination of the resected specimen revealed a well-differentiated tubular adenocarcinoma with gland architectures similar to the fundic glands. The tumor was mainly localized in the mucosal layer with invasion into the submucosal layer and most of the tumor surface was covered with nonatypical foveolar epithelium. Immunohistochemical studies revealed that most of the tumor cells were positive for pepsinogen-I and MUC6, but not for H^+/K^+-ATPase (Fig. 1), which are aligned with findings that are characteristic of gastric adenocarcinoma of the fundic gland (chief cell-predominant type).[1,2] The differential diagnosis was fundic gland, fundic gland polyps with dysplasia, neuroendocrine tumor (carcinoid), hamartomatous inverted polyps, and low-grade differential adenocarcinoma of the gastric foveolar type.

Gastric adenocarcinoma of the fundic gland type is a rare disease entity, which exhibits a submucosal tumor-like or superficial flat-type elevated lesion on *H. pylori*-negative gastric mucosa in the endoscopic examinations. We need to bear in mind the possibility of gastric adenocarcinoma of the fundic gland type upon encountering such elevated lesions originating from *H. pylori*-negative gastric mucosa.

Acknowledgments

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