A unique case of well-differentiated gastric-type adenocarcinoma coexisting with a gastric adenocarcinoma of the fundic gland in a Helicobacter pylori-uninfected stomach

We herein report a unique case involving the coexistence of well-differentiated gastric-type adenocarcinoma and gastric adenocarcinoma of the fundic gland in a Helicobacter pylori-uninfected stomach. An asymptomatic 51-year-old woman without H. pylori infection underwent a screening esophagogastroduodenoscopy at our hospital. The regular arrangement of collecting venules could be observed in the lower part of the stomach body and gastric angle under white-light endoscopy (▶Fig. 1a), consistent with an H. pylori-uninfected mucosal background [1, 2]. On the anterior wall of the upper gastric body, a 15-mm slightly elevated (0-IIa) and whitish lesion (lesion A) was identified. Both narrow-band imaging (NBI) and indigo carmine dyeing revealed the lesion to have a clear boundary. Further examination using underwater magnifying endoscopy with NBI (ME-NBI) revealed an irregular microsurface pattern with a demarcation line (▶Fig. 1b–f; Video 1), and a diagnosis of cancer was made [3]. A second 5-mm submucosal tumor-like elevated lesion (lesion B) with a discolored mucosal surface and dilatation of microvessels was seen at the greater curvature. ME-NBI showed a regular microsurface pattern without a demarcation line (▶Fig. 2). According to the magnifying endoscopy simple diagnostic algorithm for early gastric cancer (MESDA-G) [4], the diagnosis was noncancerous; however, as the endoscopic features on white-light imaging still strongly suggested a neoplastic lesion, lesion B was also diagnostically resected when endoscopic submucosal dissection (ESD) was performed for the lesion A. The final histologic examination showed that lesion A was a well-differentiated adenocarcinoma, which was confined to the mucosal layer without lymphatic or venous infiltration, and immunohistochemistry indicated the mucin genotype was gastric type. Lesion B was considered to be a gastric adenocarcinoma of the fundic gland (chief cell-predominant type) with a submucosal invasion depth of 800 μm, and negative vertical and horizontal margins.

▶Fig. 1 Endoscopic images showing: a no atrophy or intestinal metaplasia in the background gastric mucosa, with a regular arrangement of collecting venules visible in the lower part of the stomach body and gastric angle; b a type 0-IIa lesion on the anterior wall of the upper gastric body; c, d a clear demarcation line on narrow-band imaging (NBI) and indigo carmine dyeing; e, f an irregular microsurface pattern with a demarcation line on magnifying endoscopy with NBI.

▶Video 1 Two simultaneous gastric cancers are identified in a Helicobacter pylori-uninfected stomach.
The finding of simultaneous multiple gastric cancers in an *H. pylori*-uninfected stomach is extremely rare, so it is crucial that endoscopists are vigilant and pay more attention to minimize the risk of missed diagnosis.

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**Competing interests**

The authors declare that they have no conflict of interest.

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