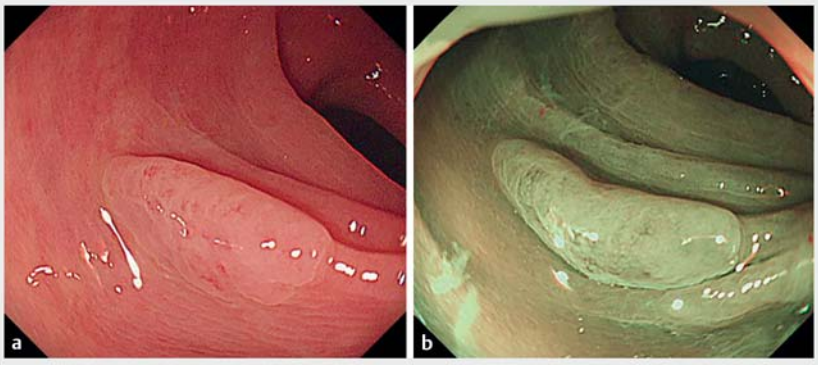
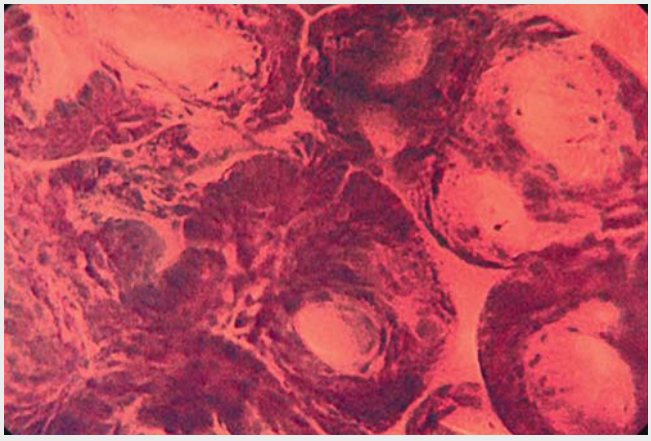
New-generation endocytoscopy with CM double staining for optical characterization of colon sessile serrated adenoma



▶ **Fig. 1** A colon polyp was detected at the sigmoid colon. **a** White-light image. **b** Narrow-band image.



Video 1 Endocytoscopy with CM double staining (crystal violet and methylene blue) to characterize the colon sessile serrated adenoma, demonstrating dilated oval crypt openings with some small round nuclei.

▶ **Fig. 2** Prior to endocytoscopic observation, a mixture of 0.05 % crystal violet and 1 % methylene blue was prepared to stain the cytoplasm and nucleus, respectively.

New-generation endocytoscopy (single lens, continuous zoom) enables in vivo ultra-high magnification (520×) for visualization at the cellular level and allows a precise pathological prediction of gastrointestinal (GI) neoplasia [1].

A 60-year-old man received colonoscopy screening owing to a positive fecal immunochemical test. A 1.2-cm slightly whitish colon polyp was found at the sigmoid colon by white imaging and narrow-band imaging (▶ **Fig. 1**). Endocytoscopy (CF-H290ECI endocytoscope; Olympus, Tokyo, Japan) was performed after CM double staining (0.05 % crystal violet and 1 % methylene blue mixture) (▶ **Fig. 2**, ▶ **Video 1**). It showed dilated gland lumens, i. e., oval crypt openings with some small round nuclei (▶ **Fig. 3**) [2–4]. Polypectomy was done, and the histology revealed typical features of sessile serrated adenoma, with dilated and L-shaped crypts (▶ **Fig. 4**) [5]. Sessile serrated adenomas are precursors of colorectal cancers and must be distinguished from hyperplastic polyps and treated endoscopically. Endocytoscopy is a promising tool for optical characterization of sessile serrated adenoma to guide subsequent endoscopic management.

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Competing interests

The authors declare that they have no conflict of interest.

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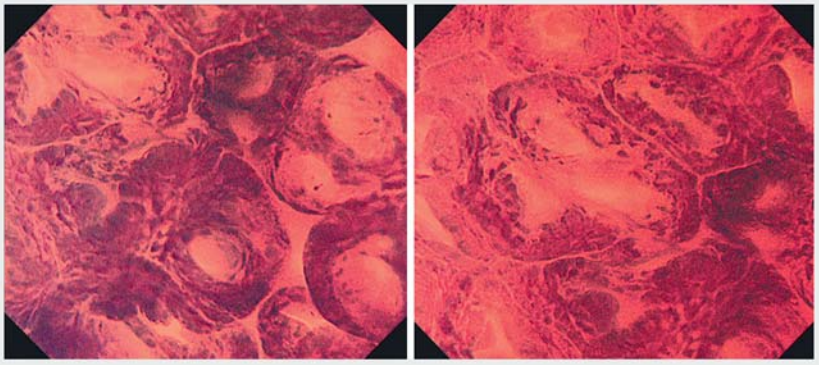
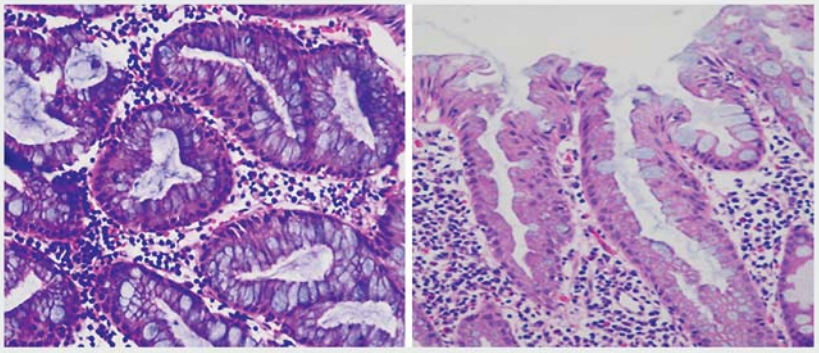


▶ **Fig. 3** Endocytoscopy for characterization of sessile serrated adenoma demonstrated dilated crypt openings with some small round nuclei.



▶ **Fig. 4** The pathological analysis of the polyp showed dilated and L-shaped crypts, which are compatible with the diagnosis of sessile serrated adenoma.

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