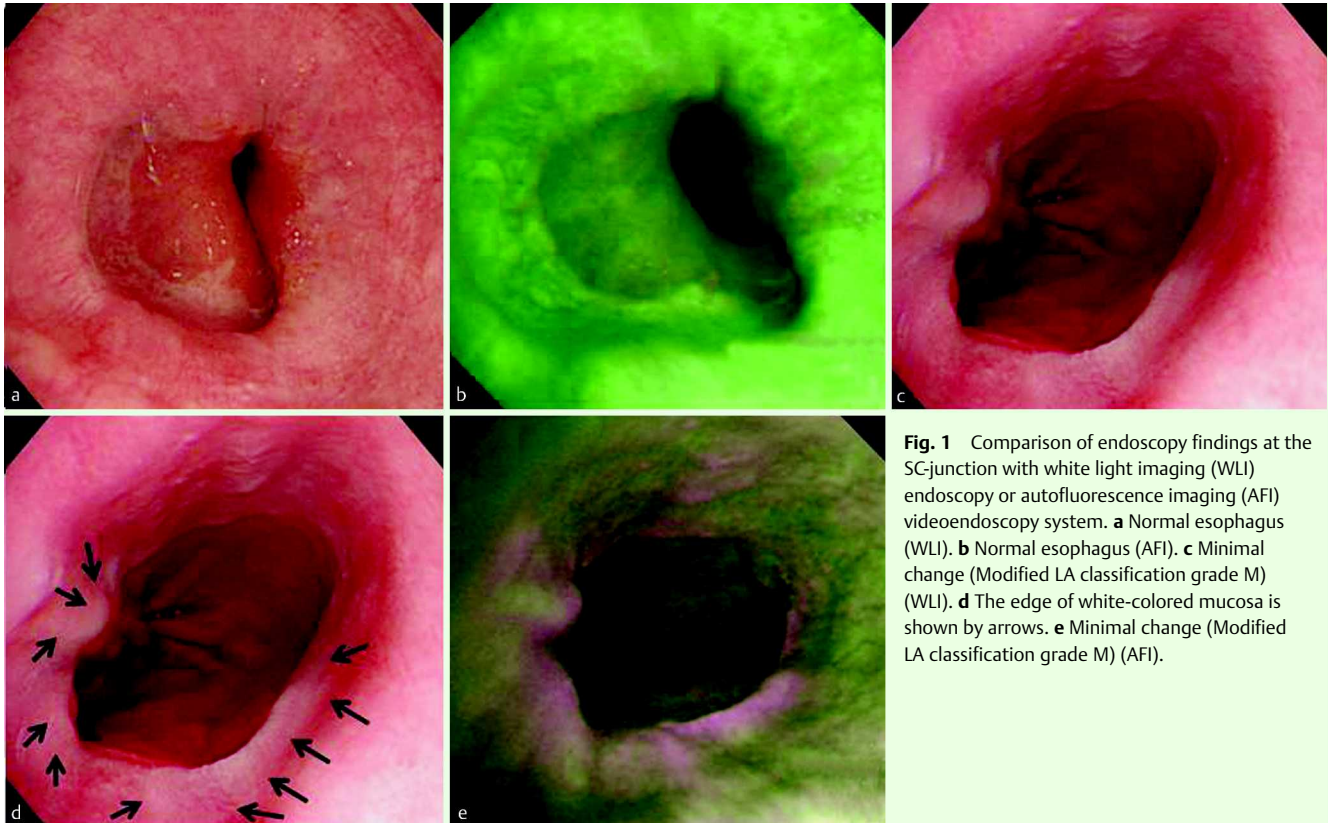


## Utility of autofluorescence imaging video-endoscopy system for the detection of minimal changes associated with reflux esophagitis



**Fig. 1** Comparison of endoscopy findings at the SC-junction with white light imaging (WLI) endoscopy or autofluorescence imaging (AFI) videoendoscopy system. **a** Normal esophagus (WLI). **b** Normal esophagus (AFI). **c** Minimal change (Modified LA classification grade M) (WLI). **d** The edge of white-colored mucosa is shown by arrows. **e** Minimal change (Modified LA classification grade M) (AFI).

The diagnosis of reflux esophagitis has been facilitated by the introduction of endoscopic imaging at high resolution. Recently, minimal changes at the squamocolumnar (SC) junction have attracted clinical interest; these are defined by endoscopists as white-colored changes to the esophageal mucosa near the SC junction. This finding is commonly accepted for inclusion in a modified LA classification “grade M (minimal change)”, as part of the spectrum of reflux esophagitis in Japan [1]. The clinical implications of such minimal changes are considered significant [2,3]. Because reliable detection of the white-color change of the esopha-

geal mucosa is difficult, the consistency of diagnosis varies among endoscopists. Recently, the autofluorescence imaging (AFI) videoendoscopy system (Olympus Corp., Tokyo, Japan) was developed for diagnosis of hyperplasia and inflammation of the gastrointestinal tract. Here, we investigate endoscopically detectable differences between normal controls and the white-colored esophageal mucosa of reflux esophagitis grade M using white light imaging (WLI) endoscopy and AFI. Fourteen cases (normal esophagus, n = 8; minimal change, n = 6) were investigated with WLI and AFI simultaneously. Esophageal mucosa recognized as normal by

WLI appears green by AFI, whereas WLI-detected white-colored esophageal mucosa appears pink by AFI (● Fig. 1). Histologic examination has shown that the epithelium is thickened in white-colored mucosa [4], which may lead to decreased autofluorescence in the lesion. By using AFI, we can easily distinguish the white-colored from the normal mucosa. It is therefore suggested that AFI is useful for the detection of minimal changes, appearing as pink-colored esophageal mucosa in reflux esophagitis grade M.

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