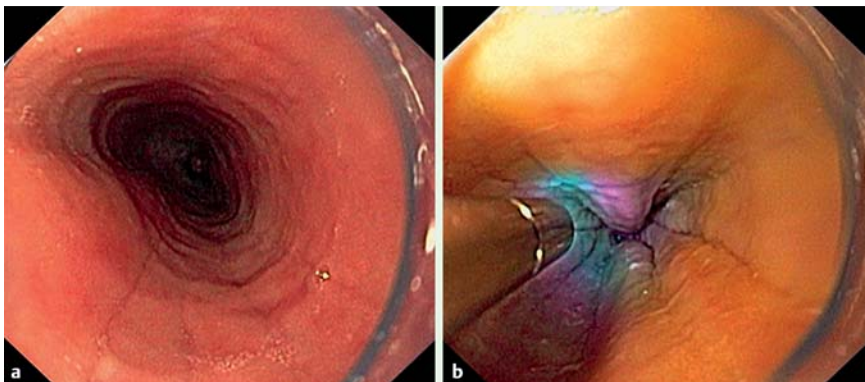
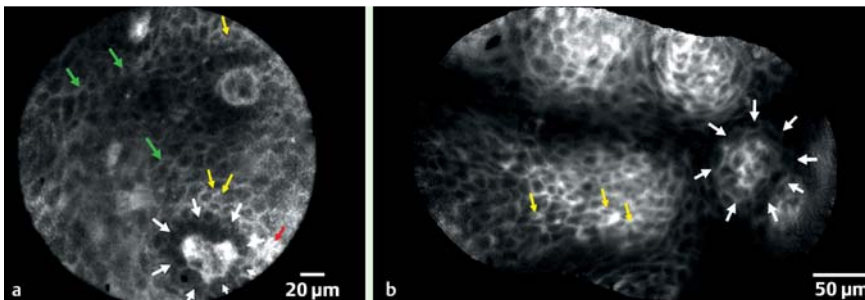


## First description of eosinophilic esophagitis using confocal laser endomicroscopy (with video)



**Fig. 1** **a** High resolution endoscopy revealed multiple coarse concentric rings throughout the entire esophagus and some narrow, long, linear channels down the esophagus. **b** Note the yellowish esophageal mucosa after administration of intravenous fluorescein and confocal miniprobe at the 8 o'clock position.



**Fig. 2** **a** Confocal laser endomicroscopy shows dilated intercellular spaces (green arrows), leakage demonstrated by the extravasation of fluorescein (red arrow) and capillary ectasia (white arrows). **b** Also seen are small cells within the intercellular spaces suspicious of eosinophils (yellow arrows) and mild mucosal edema (white arrows).

Confocal laser endomicroscopy enables in vivo microscopic imaging of the mucosal layer of the gut at a subcellular resolution [1]. Various studies have addressed the potential of endomicroscopy for the in vivo diagnosis of esophageal squamous cell carcinoma, Barrett's esophagus, and esophageal adenocarcinoma [2–4]. Currently, no data are available on the utility of endomicroscopy for the in vivo diagnosis of eosinophilic esophagitis.

We report the case of an 18-year-old man who presented at our outpatient department with heartburn occurring about three times a week and mild solid food dysphagia occurring approximately two times a week. Physical examination, medical history, and routine laboratory investigations were unremarkable. Esophagogastroduodenoscopy (EGD) was performed, showing multiple coarse, concentric rings throughout the entire esophagus. In addition, some narrow, long, linear channels down the esophagus were observed

(**Fig. 1 a**). Subsequent examination of the stomach and duodenum was unremarkable. After withdrawal of the endoscope (GIF Q160, Olympus, Tokyo, Japan) we attached a clear cap to the end of the scope and administered 5 mL of 10% fluorescein intravenously. Following reinsertion of the scope into the esophagus, the handheld probe-based confocal laser endomicroscope (pCLE; Cellvizio, Mauna Kea Technologies, Paris, France) was introduced through the working channel of the scope and gently pushed against the esophageal wall (**Fig. 1 b**). Fluorescein guided endomicroscopy revealed dilated intercellular spaces and capillary ectasia within the esophageal squamous epithelium. In addition, leakage, demonstrated by the extravasation of fluorescein, be-

came visible. Furthermore, small cells within the intercellular spaces suspicious of eosinophils and mild mucosal edema were demonstrated (**Fig. 2**, **Video 1**). Based on these findings, an in vivo diagnosis of eosinophilic esophagitis was made, which was later confirmed by corresponding histopathological analysis. Subsequent to endoscopic examination the patient was put on topical steroids and remains in remission at follow-up.

In summary, our findings indicate the potential of endomicroscopy for in vivo assessment of eosinophilic esophagitis. Future prospective studies on the sensitivity and specificity of this approach are highly warranted.

Endoscopy\_UCTN\_Code\_CCL\_1AB\_2AC\_3AH

**Competing interests:** None

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### Video 1

Confocal laser endomicroscopy. See text and

**Fig. 2** legend for details.