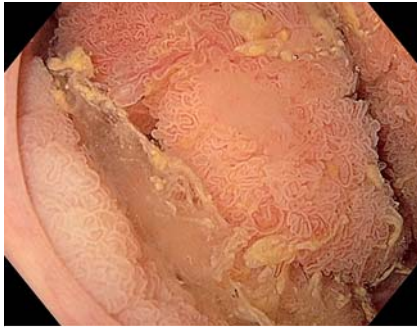


## Pristine submucosal visibility using Texture and Color Enhancement Imaging during saline-immersion rectal endoscopic submucosal dissection



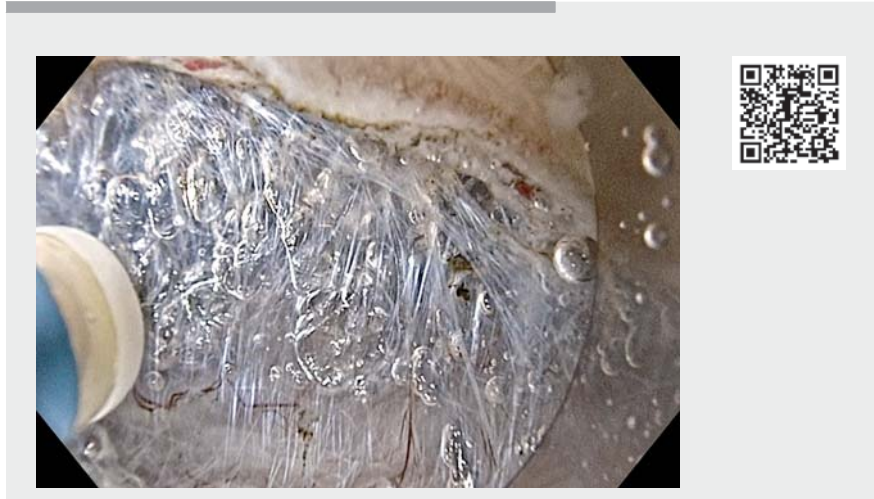
► **Fig. 1** High-definition white-light examination of a large villous Paris O-Is + IIa rectosigmoid polyp.



► **Fig. 2** Narrow-band imaging examination with near focus of the villous part of the lesion, which is classified NICE II, JNET-2A with benign features.



► **Fig. 3** Texture and Color Enhancement Imaging (TXI) mode under saline immersion conditions with clear identification of the limits of the lesion. Lifting is obtained with glycerol injection into the submucosa in these conditions.



► **Video 1** Use of Texture and Color Enhancement Imaging (TXI) combined with near focus during the dissection step of saline-immersion colorectal endoscopic submucosal dissection offers pristine submucosal visibility: a case of a large traditional serrated adenoma.

Endoscopic submucosal dissection (ESD) is spreading worldwide to remove large protruded adenoma in the colorectum with the aim to obtain adequate pathological examination and virtual recurrence rate [1]. Up to now, no virtual enhancement tool has been described to facilitate submucosal visibility during submucosal space endoscopy.

The new Texture and Color Enhancement Imaging (TXI; Olympus, Tokyo, Japan) that enhances the texture and corrects the color tone and brightness was initially designed to better detect and assess margins of early neoplasia [2]. We report here the synergistic added value of TXI and near-focus mode when used during saline-immersion ESD by improving submucosal space visibility (► **Video 1**).

A 39-year-old man was diagnosed with a granular laterally spreading tumor (LST), with a large villous nodule (Paris O-Is-IIa) of 50 mm on 30% of the circumference, located at the rectosigmoid junction (► **Fig. 1**). Magnifying narrow-band imaging (NBI) revealed a NICE II, JNET 2A

lesion (► **Fig. 2**), and biopsies revealed low-grade dysplasia.

We conducted an en bloc resection by ESD using a GIF-HQ190 (Olympus) gastroscope in TXI mode associated with near focus. Being on the gravity side, the whole procedure was performed under saline immersion conditions (► **Fig. 3**). After proximal lifting using glycerol solution with blue dye, a mucosal incision was made with the DualKnife J. The submucosal space was opened with a scope water-jet, allowing progressive dissection under 50% of the lesion in the retroflex position. Visibility in the submucosal space was impressive with respect to the brightness and sharpness of the submucosal fibers, muscular plane, and vessel recognition (► **Fig. 4**). Thereafter, the distal side was opened and dissected to obtain a specimen of 85×70 mm (► **Fig. 5**). The histopathological examination of the specimen showed a traditional serrated adenoma with low grade dysplasia with free margins [3].



► **Fig. 4** Texture and Color Enhancement Imaging (TXI) mode during the submucosal dissection step of the procedure was associated with bright and clear visibility of the submucosal fibers and location of vessels as well as the muscular plane.



► **Fig. 5** Picture of the specimen resected en bloc.

This case illustrates the impressive technical step offered when combining saline immersion, near-focus and TXI mode to enhance visibility of planes during submucosal space endoscopy.

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## Competing interests

The authors declare that they have no conflict of interest.

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