

# Underwater Endoscopic Mucosal Resection of a Large Flat Adenoma with Pseudoinvasion in the Rectum

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## Keywords

Pseudoinvasive adenoma · Underwater endoscopic mucosal resection · Rectum

## Mucosectomia Underwater de Lesão Plana Adenomatosa com Pseudo-Invasão no Reto

## Palavras Chave

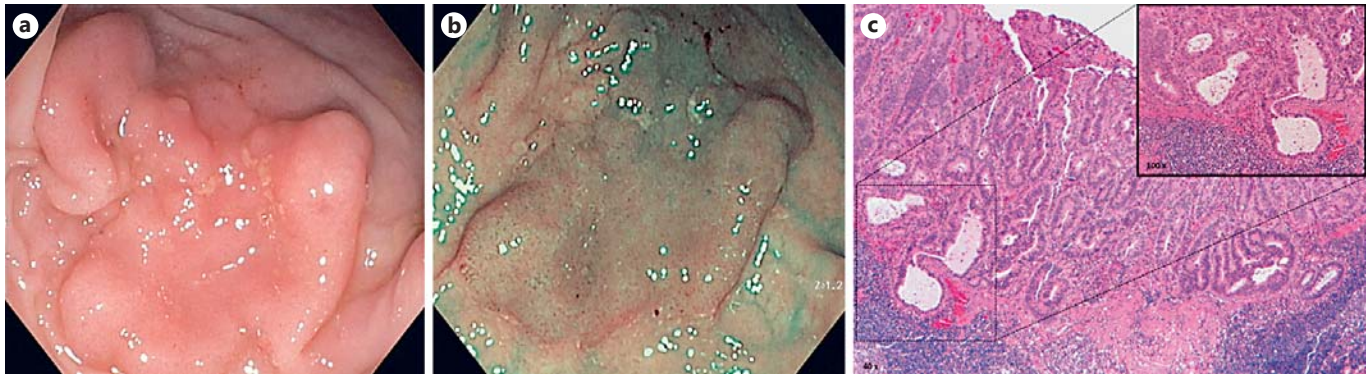
Adenoma pseudo-invasivo · Mucosectomia underwater · Reto

A 69-year-old male with no relevant personal and family medical history was admitted for endoscopic resection of a rectal laterally spreading tumor. Colonoscopy revealed a 30-mm pseudodepressed, laterally spreading tumor (Paris classification 0-IIa+IIc) with granular and nongranular components. A high-definition colonoscope (CF-H180AL; Olympus Medical Systems, Hamburg, Germany) was used to examine the lesion and its margins using white-light (Fig. 1a) and narrow-band imaging (Fig. 1b) to evaluate the mucosal and vascular patterns, which were regular. Subsequently, an underwater endoscopic mucosal resection (UEMR) was performed, as this technique enables resection of larger fragments and obviates the need of submucosal injection, which is sub-

optimal in pseudodepressed lesions. Air insufflation was switched off, luminal air was aspirated, water was instilled using the water jet until complete immersion of the lumen was achieved (Fig. 2a), and the lesion was resected in piecemeal fashion using a conventional 25-mm oval snare (CJ-ADR-23–230–025; Nova LightSystems, Life Partners Europe, Bagnolet, France) and usual electro-surgical settings (Endocut effect 2, ICC 200; ERBE Elektromedizin, Tübingen, Germany) (Fig. 2b, c). A bleeding vessel was identified during the procedure (Fig. 3a) and managed with a hemostatic clip (Fig. 3b). Histological analysis revealed a tubulovillous adenoma with high-grade dysplasia and rare adenomatous glands within the submucosa extending from the overlying epithelium, with no associated desmoplastic reaction, corresponding to an adenoma with misplaced epithelium (Fig. 1c). A follow-up procedure performed 3 months later revealed no residual lesion.

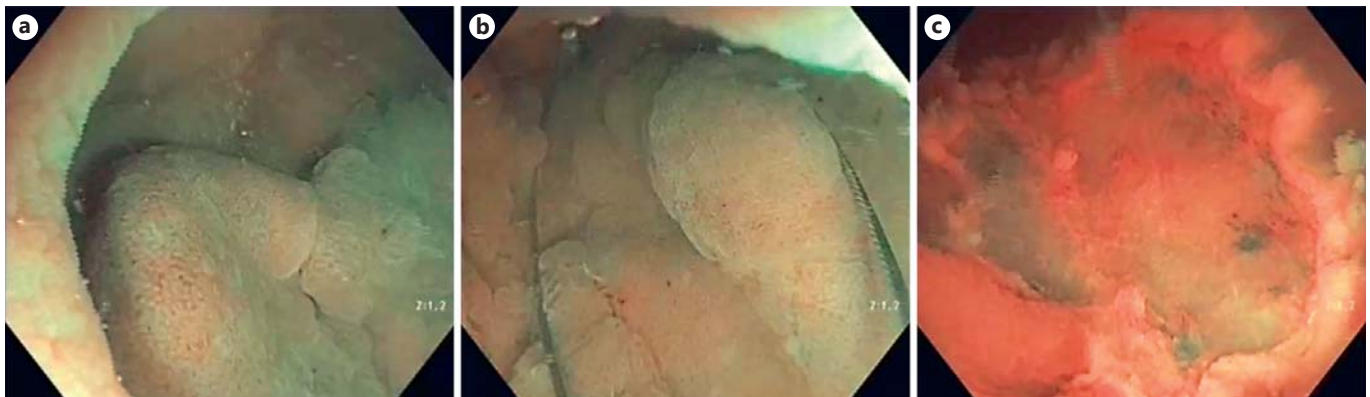
Water immersion preserves the circular configuration of the muscularis propria of the colon while folds of mucosa and submucosa project into the lumen away from the muscle layer, avoiding the need for submucosal injection used in conventional EMR [1, 2]. Bleeding during UEMR is uncommon, and the point of origin is clearly identified underwater [1].

Adenoma with misplaced epithelium is a rare entity formerly known as pseudoinvasive adenoma, which corresponds to an extension of the adenomatous glands of an adenoma into the submucosa through minor defects of the muscularis mucosae [3, 4]. The distinction of this entity from an invasive cancer in which neoplastic epithelium, such as desmoplasia, frank atypia, or pleomorphism, is present in the submucosa may be difficult but is crucial as the management and prognosis of an adenoma with misplaced epithelium is identical to an adenomatous polyp [3, 4].



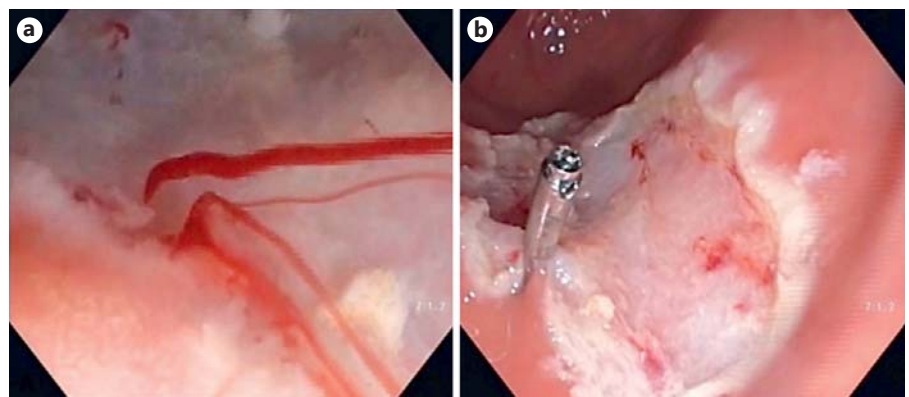
**Fig. 1.** **a** Endoscopic image using white light, showing a pseudodepressed, laterally spreading tumor (Paris classification 0-IIa+IIc) with granular and nongranular components. **b** Endoscopic image using narrow-band imaging. **c** Histological image (H&E, ×40 magnification) showing a tubulovillous adenoma with rare areas of

pseudoinvasion. **Inset** One area of pseudoinvasion is further amplified to ×100, highlighting an adenomatous gland within the submucosa extending from the overlying epithelium with no associated desmoplastic reaction.



**Fig. 2.** **a** Endoscopic image showing the underwater view of the lesion after air insufflation was switched off, luminal air was aspirated, and water was instilled until complete immersion of the lu-

men was achieved. **b** Endoscopic image depicting the resection of the lesion in piecemeal fashion, using a conventional oval snare. **c** Endoscopic image revealing the final scar.



**Fig. 3.** **a** Endoscopic image revealing a bleeding vessel from the scar of the resected lesion, which is clearly identified underwater. **b** Endoscopic image depicting the final scar with a hemostatic clip placed in the bleeding spot.

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### Statement of Ethics

This case required informed consent but did not require review/approval by the appropriate ethics committee.

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### Disclosure Statement

The authors have no conflicts of interest to declare.

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