



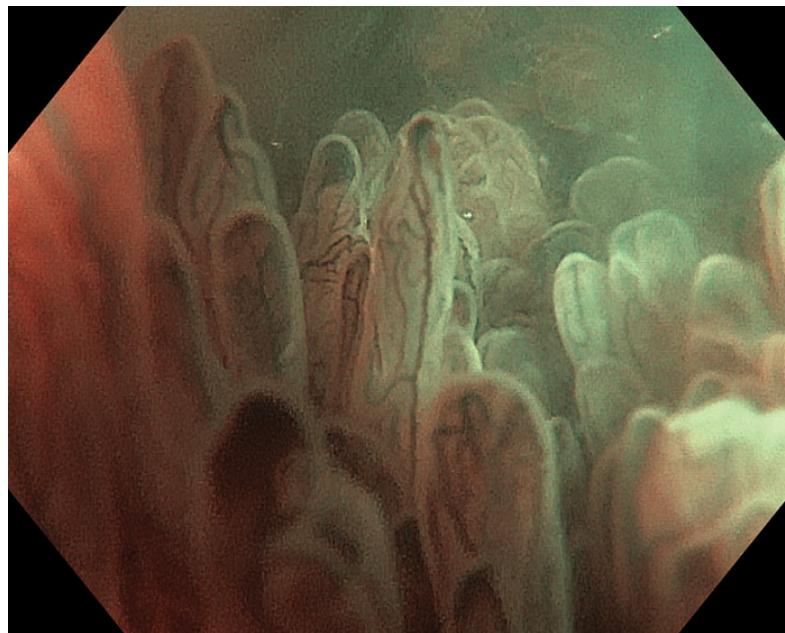
## Prediction of the histotype of a rectal polyp with the help of an underwater examination

What is the histotype prediction of this polyp in vivo and why?

### Question:

A 74-year-old Caucasian male, with a medical history of steatohepatitis and arterial hypertension, presented to the emergency department with three episodes of rectal bleeding in 2 months. He denied any family history of colorectal cancer or unintentional weight loss.

Colonoscopy revealed a large polyp measuring approximately 3 cm, which was located 10 cm from the anal verge. Narrow Band Imaging (NBI)-magnifying endoscopy showed the structure of the polyp, The NBI-International Colorectal Endoscopic classification was inconclusive in the gaseous environment. The polyp was examined underwater with the help of NBI and the near focus mode (Figure 1).



**Figure 1.** Endoscopic picture of the polyp during the underwater examination

### Answer: Villous adenomatous polyp

Underwater examination of the polyp and with the help of the near focus mode highlighted the villous component: glands were arranged in long finger-like structures from the polyp surface to the polyp base. Projections extended straight down with minimal or no branching, and capillary vessels were visible along the glands (Figure 1).

Polypectomy was performed, and histopathological results showed villous structures with central vascular cores covered by columnar epithelium, with pencil-shaped, hyperchromatic, pseudostratified nuclei, maintaining their basal polarity and the increased number of mitosis, with low-grade dysplasia. The nuclei did not reach the surface of the epithelium, and in the apical portion, mucin secretion was present (Figure 2, 3), which concurred with the histotype prediction during the underwater examination *in vivo*.

Overall, villous adenomas have a malignant risk of 15–25%. The risk of an adenocarcinoma approaches 40% in villous adenomas larger than 4 cm in diameter. Patients with an adenoma larger than 1 cm in diameter or with a villous histology had a 3.6-fold higher risk of developing an adenocarcinoma than the general population (1).

Predicting the histotype of villous adenomas *in vivo* during an underwater endoscopic examination may influence the therapeutic decision and optimizing protocols in the follow-up of patients. In this particular case, it helped us to avoid taking biopsies from the polyp for histopathological examination and then readmitting the patient for polypectomy. This procedure is time saving, significantly reduces repeated hospitalization, and offers relief to the patient from another colonoscopy for polypectomy.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the ethics committee of Targu Mures County Hospital Administration and Ethics Committee.

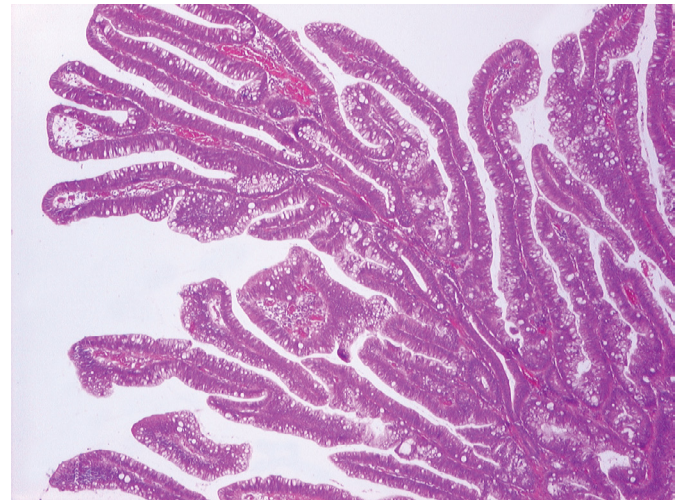
**Informed Consent:** Written informed consent was obtained from patient who participated in this study.

**Peer-review:** Externally peer-reviewed.

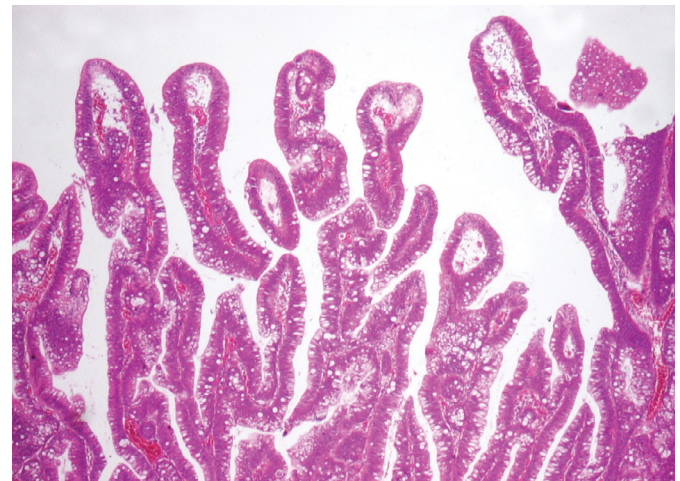
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**Figure 2.** Histopathological result showing a villous adenomatous polyp with low-grade dysplasia



**Figure 3.** Another histopathological result showing a villous adenomatous polyp with low-grade dysplasia

Peter Akabah<sup>1</sup>, Alina Boeriu<sup>1</sup>, Jeno Robert Bartha<sup>2</sup>, Daniela Dobru<sup>1</sup>

<sup>1</sup>Department of Gastroenterology, Mures County Hospital, Targu Mures, Romania

<sup>2</sup>Department of Histopathology, Mures County Hospital, Targu Mures, Romania

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**Address for Correspondence:** Peter Akabah

E-mail: akabahpeter@gmail.com

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