

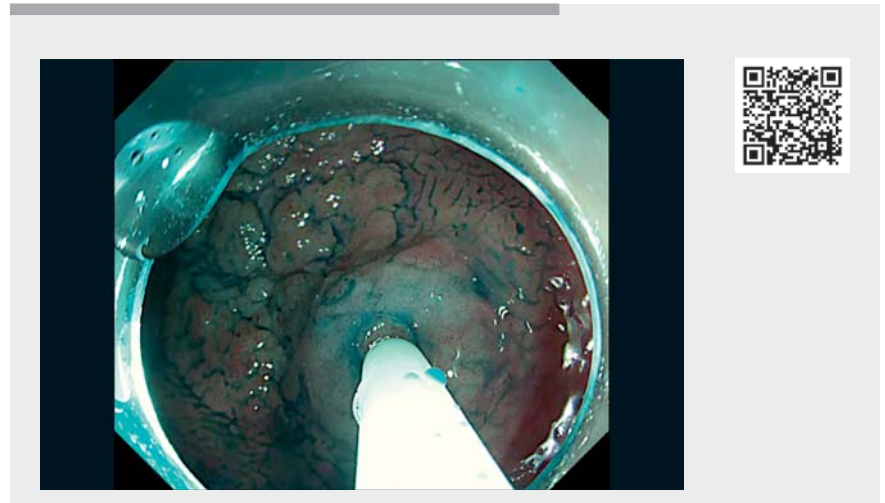


A novel submucosal injection material comprising a fully synthetic and self-assembling peptide solution for endoscopic resection of large colorectal laterally spreading tumors

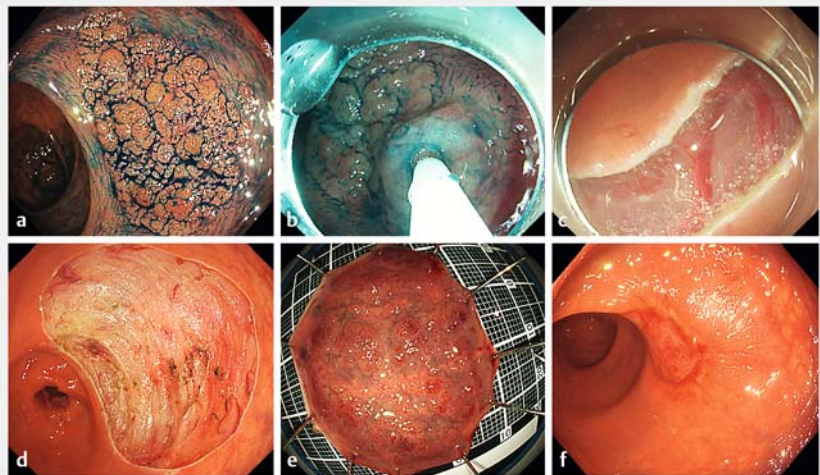
An injection solution is required to create a submucosal cushion to allow safe endoscopic resection [1, 2]. The fully synthetic and self-assembling peptide solution submucosal injection material (PuraLift; 3-D Matrix, Tokyo, Japan) is a non-biologic preparation that self-assembles to create a gel formed of nanofibers when in contact with a neutral pH [3]. It has the same ingredients as the peptide hemostatic agent (PuraStat; 3-D Matrix) [4]. Here we report the first two cases of the use of PuraLift (► **Video 1**).

Case 1: A 74-year-old woman with a 35-mm laterally spreading tumor (LST) located in the lower rectum (► **Fig. 1 a**). We diagnosed the lesion as an intramucosal adenocarcinoma (Tis) and performed endoscopic submucosal dissection (ESD) using PuraLift as a submucosal injection agent without any coloring or mixing. The ESD procedure was performed with a colonoscope (PCF-290TI; Olympus, Tokyo, Japan) with an endoscopic cap, a needle-type knife (DualKnife J; Olympus), and a 25G injection needle (Super Grip; Top Co, Kumamoto, Japan). En bloc resection of a 40×30-mm specimen was achieved in 35 min without any adverse events (► **Fig. 1 b, c, d, e**). Overall, 20 mL of PuraLift was injected. The histological diagnosis was Tis with curative resection. Follow-up colonoscopy was performed 1 month after ESD, showing almost complete healing of artificial ulcers (► **Fig. 1 f**).

Case 2: A 60-year-old woman with a 60-mm LST located in the transverse colon (► **Fig. 2 a**). We diagnosed the lesion as Tis and performed ESD under the same conditions as Case 1. En bloc resection of a 70×40-mm specimen was achieved in 130 min, without any delayed adverse events (► **Fig. 2 b–f**). Overall, 75 mL of PuraLift was injected. The histological diagnosis was Tis with curative resection.



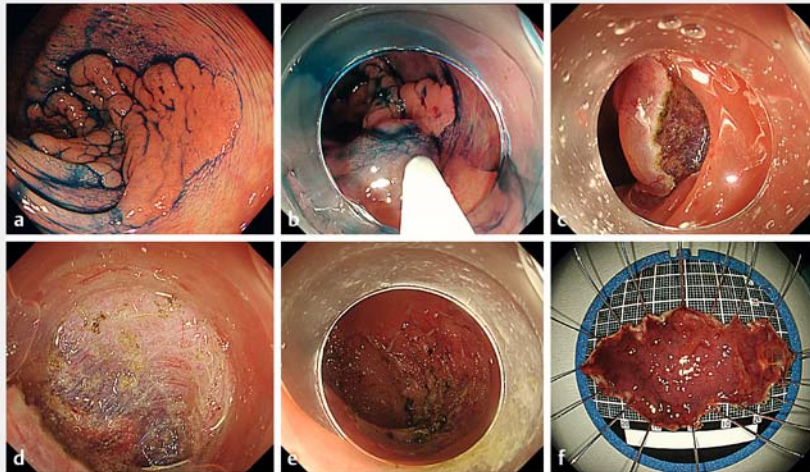
► **Video 1** Endoscopic submucosal dissection of colorectal laterally spreading tumors using PuraLift as the submucosal injection material.



► **Fig. 1** Endoscopic images showing a lateral spreading tumor in the lower rectum. **a** Chromoendoscopy using indigo carmine. **b** PuraLift was injected into the submucosal layer, and good lifting was achieved. **c** Mucosal incision. **d** Large mucosal defect. **e** The resected specimen. **f** Follow-up endoscopy 1 month after endoscopic submucosal dissection.

This new submucosal injection material was safe and feasible for ESD on large LSTs.

Endoscopy_UCTN_Code_TTT_1AQ_2AC



► **Fig. 2** Endoscopic images showing a lateral spreading tumor in the transverse colon. **a** Chromoendoscopy using indigo carmine. **b** PuraLift was injected into the submucosal layer, and good lifting was achieved. **c** Mucosal incision. **d** Submucosal dissection. **e** Large mucosal defect. **f** The resected specimen.

- [4] Uraoka T, Uedo N, Oyama T et al. Efficacy and safety of a novel hemostatic peptide solution during endoscopic submucosal dissection: a multicenter randomized controlled trial. *Am J Gastroenterol* 2023; 118: 276–283

Bibliography

Endoscopy 2023; 55: E621–E622

DOI 10.1055/a-2055-1260

ISSN 0013-726X

© 2023. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany



Funding

Safety and Feasibility Study of a Novel Submucosal Injection Material for Endoscopic Resection of Gastrointestinal Tumors
jRCT1032220175

Competing interests

Prof. Uraoka has received consulting fees from 3-D Matrix Co Ltd and lecture fees from Olympus Co.

The authors

Kengo Kasuga, Keigo Sato, Ko Nakata, Hirohito Tanaka, Hiroko Hosaka, Shiko Kuribayashi, Toshio Uraoka

Department of Gastroenterology and Hepatology, Gunma University Graduate School of Medicine, Maebashi, Japan

Corresponding author

Toshio Uraoka, MD

Department of Gastroenterology and Hepatology, Gunma University Graduate School of Medicine, 3-39-22 Showa-machi, Maebashi 371-8514, Japan
uraoka@gunma-u.ac.jp

References

- [1] Uraoka T, Saito Y, Yamamoto K et al. Submucosal injection solution for gastrointestinal tract endoscopic mucosal resection and endoscopic submucosal dissection. *Drug Des Devel Ther* 2009; 2: 131–138. doi:10.2147/ddt.s3219
- [2] Jung YS, Park DI. Submucosal injection solutions for endoscopic mucosal resection and endoscopic submucosal dissection of gastrointestinal neoplasms. *Gastrointest Interv* 2013; 2: 73–77
- [3] Nakata K, Pioche M, Kuribayashi S et al. The feasibility of a fully synthetic and self-assembled peptide solution as submucosal injection material: a preliminary animal study. *Scand J Gastroenterol* 2021; 56: 984–989

ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



E-Videos is an online section of the journal *Endoscopy*, reporting on interesting cases

and new techniques in gastroenterological endoscopy. All papers include a high-quality video and are published with a Creative Commons CC-BY license. *Endoscopy E-Videos* qualify for HINARI discounts and waivers and eligibility is automatically checked during the submission process. We grant 100% waivers to articles whose corresponding authors are based in Group A countries and 50% waivers to those who are based in Group B countries as classified by Research4Life (see: <https://www.research4life.org/access/eligibility/>).

This section has its own submission website at <https://mc.manuscriptcentral.com/e-videos>