

## Gel immersion endoscopic mucosal resection for pedunculated Brunner's gland hyperplasia in the duodenal bulb near the pylorus

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Brunner's gland hyperplasia is a benign tumor that occurs primarily in the duodenal bulb. Endoscopic resection is indicated when there is bleeding, obstructive symptoms, or the lesion is large and malignancy cannot be ruled out [1]. Conventional endoscopic mucosal resection (EMR) for the resection of Brunner's gland hyperplasia has been reported [2, 3]. However, conventional EMR of large Brunner's gland hyperplasia in the duodenal bulb is often difficult because the space is narrowed by local injection, reducing visibility and maneuverability. Underwater EMR may be an effective method [4], but it is often difficult to secure the visual field owing to poor saline retention in the duodenal bulb near the pylorus. Gel immersion EMR (GI-EMR) has recently been reported for duodenal tumors [5]. Here we report the usefulness of GI-EMR in the duodenal bulb near the pylorus for pedunculated Brunner's gland hyperplasia.

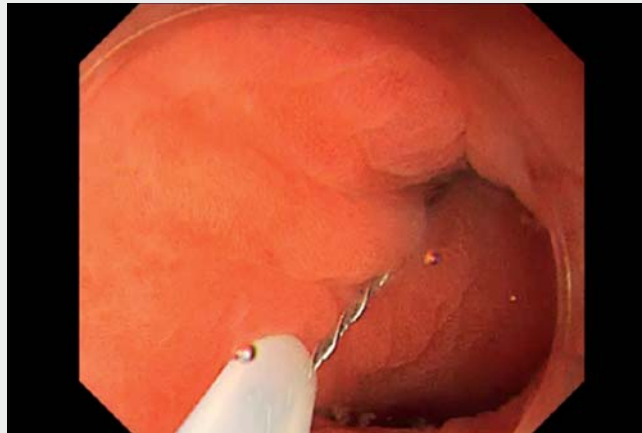
A 30-mm pedunculated submucosal tumor was found in the duodenal bulb near the pylorus (► Fig. 1 a). As biopsy, computed tomography, and endoscopic ultrasonography could not diagnose the submucosal tumor and its size was large, we decided to perform endoscopic resection. GI-EMR was performed using an

upper endoscope (GIF-H290T; Olympus Medical Systems, Tokyo, Japan) and gel (VISCOCLEAR; Otsuka Pharmaceutical Factory, Tokushima, Japan) (► Video 1). The retention of the gel in the duodenal bulb was good, even with a small volume (100 mL) (► Fig. 1 b). No additional gel immersion was required at the time of resection. The gel provided a good field of view and enabled snaring while confirming the origin of the stem (► Fig. 1 c).

Clip closure after resection was also performed partially under gel conditions (► Fig. 1 d). The pathological finding was Brunner's gland hyperplasia with no malignancy (► Fig. 1 e).

GI-EMR was considered useful for resection of large Brunner's gland hyperplasia in the duodenal bulb near the pylorus.

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► Video 1 Gel immersion endoscopic mucosal resection for pedunculated Brunner's gland hyperplasia in the duodenal bulb near the pylorus.



► Fig. 1 Before and after gel immersion endoscopic mucosal resection (GI-EMR) for the removal of Brunner's gland hyperplasia. **a** On the day of GI-EMR, a 30-mm pedunculated submucosal tumor of the duodenal bulb was identified near the pylorus. **b** 100 mL of gel filled the lumen and retention was good. **c** The gel in the duodenal bulb made the tumor float, allowing snaring while checking the origin of the stem. **d** The gel filling also facilitated clipping by floating the wound edges. **e** The size of the resected specimen was approximately 30 mm. The pathological finding was Brunner's gland hyperplasia with no malignancy.

## Competing interests

The authors declare that they have no conflict of interest.

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## References

- [1] Matsumoto T, Iida M, Matsui T et al. A large Brunner's gland adenoma removed by endoscopic polypectomy. *Endoscopy* 1990; 22: 192–193
- [2] Naito S, Fukuzawa M, Nakamura S et al. Giant Brunner's gland hamartoma diagnosed via endoscopic mucosal resection: a case report. *DEN Open* 2021; 2: e65
- [3] Ohba R, Otaka M, Jin M et al. Large Brunner's gland hyperplasia treated with modified endoscopic submucosal dissection. *Dig Dis Sci* 2007; 52: 170–172
- [4] Uchima H, Diez-Cbalero A, Capdevila J et al. Underwater endoscopic mucosal resection for en bloc resection of a neuroendocrine tumor in the duodenal bulb. *Endoscopy* 2022; 54: E264–E265
- [5] Yamashita T, Shimatani M, Takahashi Y et al. Gel immersion endoscopic mucosal resection (EMR) for superficial nonampullary duodenal epithelial tumors may reduce procedure time compared with underwater EMR (with video). *Gastroenterol Res Pract* 2022; 2022: 2040792

## Bibliography

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