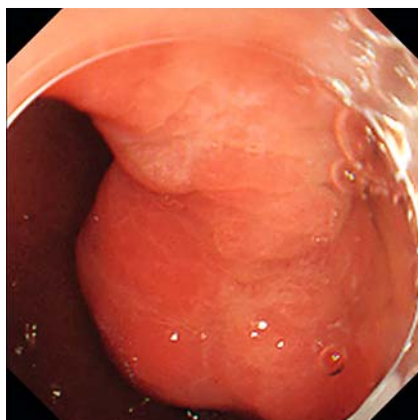


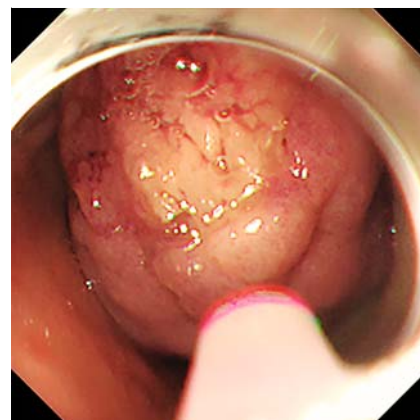
## Saline-immersion therapeutic endoscopy (SITE) combined with endoscopic submucosal dissection (ESD) of a rare cause of intussusception: a giant Brunner gland adenoma

A 48-year-old woman was referred to our institution due to abdominal pain and an episode of melena. At esophago-gastroduodenoscopy (EGD) a 60-mm pedunculated lesion (Paris 0-Ip) was identified. The lesion was arising from the duodenal aspect of the pyloric ring (► Fig. 1, ► Fig. 2) and prolapsing into D3. Computed tomography showed duodenal thickening with areas of fat tissue that could represent a lipoma or a liposarcoma. A scheduled therapeutic EGD was performed under general anesthesia with surgical backup on standby. The scope was retroflexed in the bulb to ensure direct visualization of the lesion's stalk and saline-immersion therapeutic endoscopy (SITE)-facilitated endoscopic submucosal dissection (ESD) was performed (► Fig. 3, ► Video 1). After resection, tip-of-the-knife coagulation was applied prophylactically to cauterize any visible vessels. No intraoperative or postoperative complications occurred. Histopathological analysis revealed a Brunner gland adenoma (BGA) without any evidence of dysplasia or malignant components (► Fig. 4, ► Fig. 5); sections of the polyp showed nodules of Brunner glands in the submucosa and extending into the underlying adipose tissue. These findings were in keeping with a diagnosis of a giant BGA measuring 60×34×24 mm.

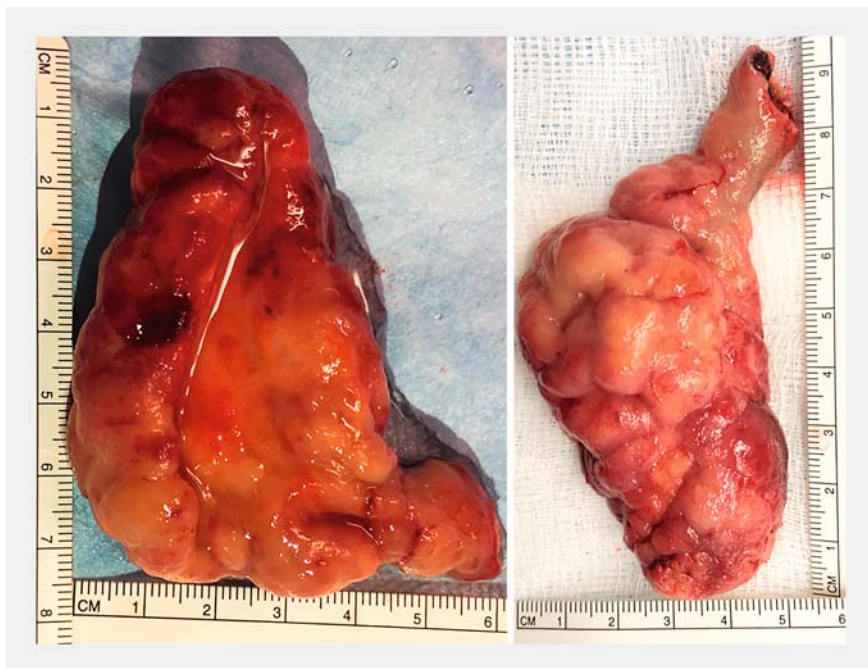
BGAs are very rare benign duodenal tumors proliferating from normal Brunner glands. BGAs represent about 5%–10% of benign duodenal tumors and have an estimated incidence of less than 0.01% [1, 2]. Patients are usually asymptomatic and these lesions can present as incidental findings during EGD or imaging. Non-specific gastrointestinal symptoms including abdominal pain, nausea, and bloating have been reported. Gastrointestinal bleeding, iron deficiency anemia, and obstructive symptoms have also been described in rare cases [3, 4].



► Fig. 1 Pedunculated lesion arising from the pyloric ring in a 48-year-old woman referred because of abdominal pain and melena.



► Fig. 2 Saline-immersion therapeutic endoscopy (SITE) facilitated endoscopic submucosal dissection (ESD).

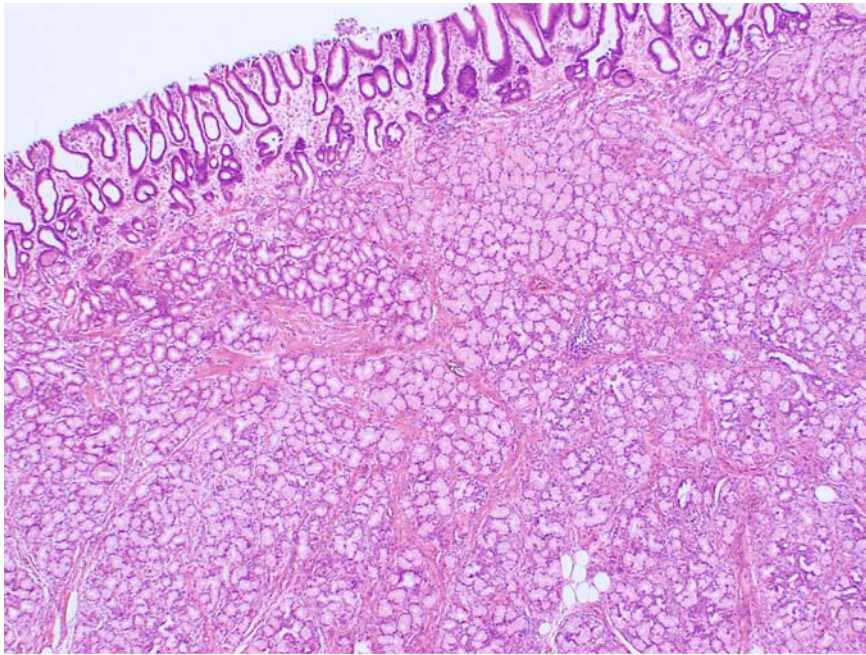


► Fig. 3 The retrieved specimen.

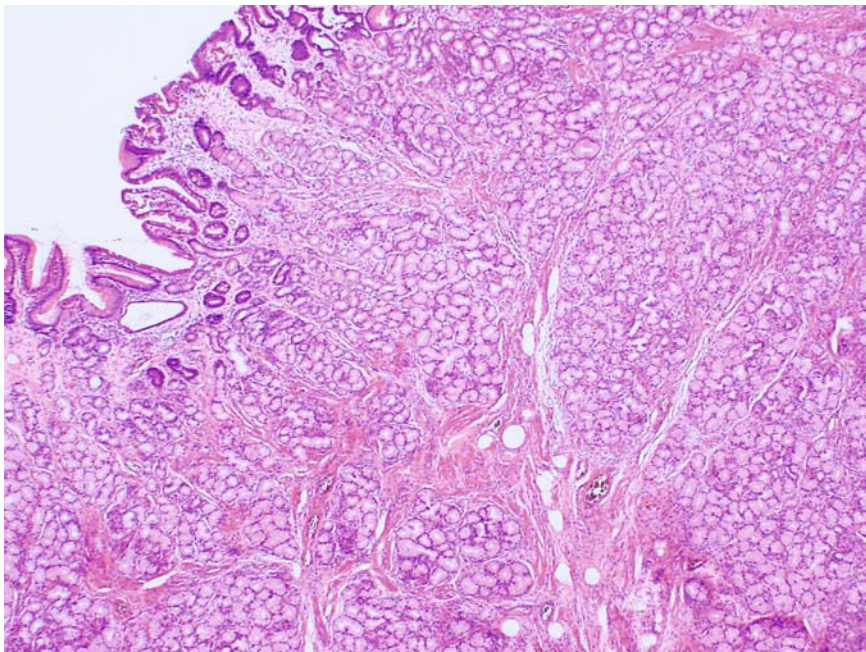
To date, a consensus for the optimal management of giant BGA is lacking. Surgical and endoscopic management have been reported depending on lesion size and local expertise. Careful endoscopic resec-

tion appears to be effective, minimally invasive, and safe even for giant lesions.

Endoscopy\_UCTN\_Code\_TTT\_1AO\_2AG



► **Fig. 4** Histopathology image showing no evidence of dysplasia or malignant components.



► **Fig. 5** Histopathology image showing nodules of Brunner glands in the submucosa and extending into the underlying adipose tissue.

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We wish to thank our colleague, Dr. Jennifer Watkins, consultant cellular pathologist, for her kind input into this case.

## Competing interests

Dr. Despott and Dr. Murino receive research/education support from Aquilant Medical, Fujifilm, Olympus, and Pentax Medical. Professor Yano receives research/education support from Fujifilm. All other authors have no conflict of interest to disclose.

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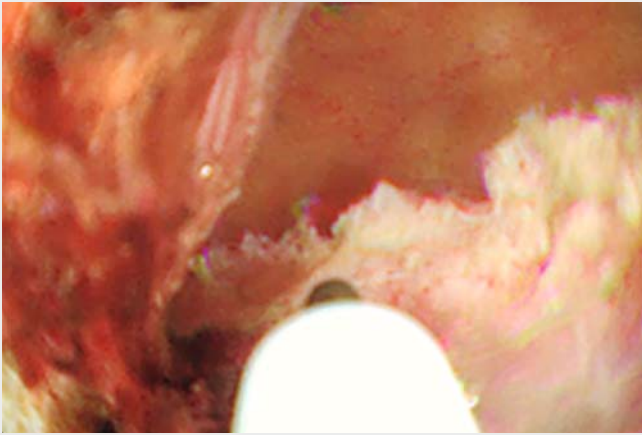
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**Video 1** Saline-immersion therapeutic endoscopy (SITE) facilitated endoscopic submucosal dissection (ESD) of a giant Brunner gland adenoma.

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