

Brunner's gland hyperplasia: An unusual cause of gastrointestinal bleeding

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A case of Brunner's gland hyperplasia presenting as gastrointestinal bleeding is reported herein. A 40-year-old male presented to our hospital with features of upper gastrointestinal bleeding. The patient had a history of passing black tarry stools for the last two days. Upper gastrointestinal endoscopy was done, which showed a pedunculated polypoid lesion in the second part of the duodenum with active bleeding at the base of the polyp. Adrenaline was injected around the bleeding site; however, the patient continued to bleed. He was taken for surgery. A laparotomy was done, and the duodenum was mobilized and opened. A large pedunculated polyp measuring approximately 2 cm was found with bleeding at the base. Polypectomy was done. Histopathological examination of the specimen showed mature Brunner's gland with normal duodenal mucosa at the surface. Diagnosis of Brunner's gland hyperplasia was made. The patient is under follow-up and is symptom-free.

Key words: Brunner's gland, polyp, gastrointestinal bleeding

Brunner bezi hiperplazisi: Nadir bir gastrointestinal kanama sebebi

Gastrointestinal kanama ile kendini gösteren Brunner bezi hiperplazisi olgusu burada sunulmuştur. Üst gastrointestinal kanama bulguları olan 40 yaşında erkek hasta, hastanemize müracaat etti. Hastanın son iki gündür siyah katran şeklinde dışkılama öyküsü mevcut idi. Yapılan üst gastrointestinal endoskopide duodenumun 2. kısım tabanında aktif kanama olan saplı polipoid lezyon gösterildi. Kanayan alan çevresine adenalin enjeksiyonu yapıldı. Fakat hasta kanamaya devam etti. Hasta cerrahiye alındı. Laparotomi uygulandı. Duodenum serbestleştirilip açıldı. Tabanından kanayan yaklaşık olarak 2 cm boyutunda büyük saplı polip bulundu. Polipektomi uygulandı. Örneğin histopatolojik incelemesinde yüzeyinde normal duodenum mukozası bulunduran normal Brunner bezi gösterildi. Tanı Brunner bezi hiperplazisi olarak yapıldı. Hasta semptomsuz olarak takip altındadır.

Anahtar kelimeler: Brunner bezi, polip, gastrointestinal kanama

INTRODUCTION

Brunner's gland hyperplasia is a very rare cause of upper gastrointestinal bleeding. The patient can present with symptoms of gastric outlet obstruction or upper gastrointestinal bleeding requiring prompt surgical or endoscopic intervention. Brunner's gland hyperplasia is an infrequently encountered polypoid lesion in the proximal duodenum. We report this case of Brunner's gland hyperplasia causing upper gastrointestinal bleeding and requiring surgical intervention.

CASE REPORT

A 40-year-old male patient presented to our Accident and Emergency Department with a complaint of black tarry stools for the last two days. There was no history of smoking or drug intake and no family history. On examination, the patient was grossly pale, ill in appearance, with a pulse of 120/minute and blood pressure of 80/40. Laboratory examination revealed hemoglobin of 5 g/dl, total leukocyte count of 8400/mm³ and platelet count of 70000/mm³. The patient was subjected to upper

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gastrointestinal endoscopy, which revealed a pedunculated polypoid lesion in the second part of the duodenum with active bleeding at the base of the polyp. Adrenaline was injected around the bleeding site; however, the patient continued to bleed and had progression of symptoms. The patient was taken to surgery. Laparotomy was done, and the duodenum was mobilized and opened. A large pedunculated polyp measuring about 2 cm was found. There was a small ulcer at the base, which was bleeding. Polypectomy was done (Figure 1). The duodenum was closed primarily. Histopathological examination of the specimen showed mature Brunner's gland with normal duodenal mucosa at the surface. There was no evidence of malignancy (Figure 2). Diagnosis of Brunner's gland hyperplasia (adenoma) was made. The patient is still under follow-up and is symptom-free.

DISCUSSION

The etiology of Brunner's gland hyperplasia, which is usually found in middle age, without any gender preponderance, is unknown (1). The most common location is the posterior wall of the duodenum near the junction of the first and second sections. The size of Brunner's gland hyperplasia ranges from 0.5-12 cm (2,3-5). In a series of 27 patients, Levine *et al.* (1) reported that 70% of them are found in the duodenal bulb, 26% in the second section and 4% in the third section of the duodenum.

Brunner's gland hyperplasia should be distinguished from other duodenal lesions such as leiomyoma, polypoid adenoma of the superficial mucosal glands, aberrant pancreatic tissue, and malignant tumors (3,6-8). They are usually asymptomatic and often diagnosed incidentally on barium meal or endoscopy (3,5).

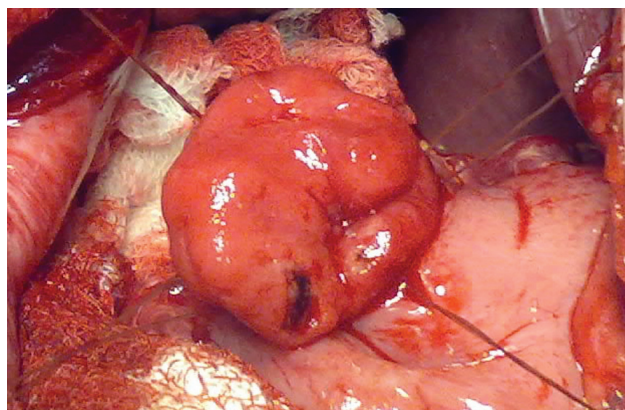


Figure 1. Polyp shown as identified on duodenotomy.

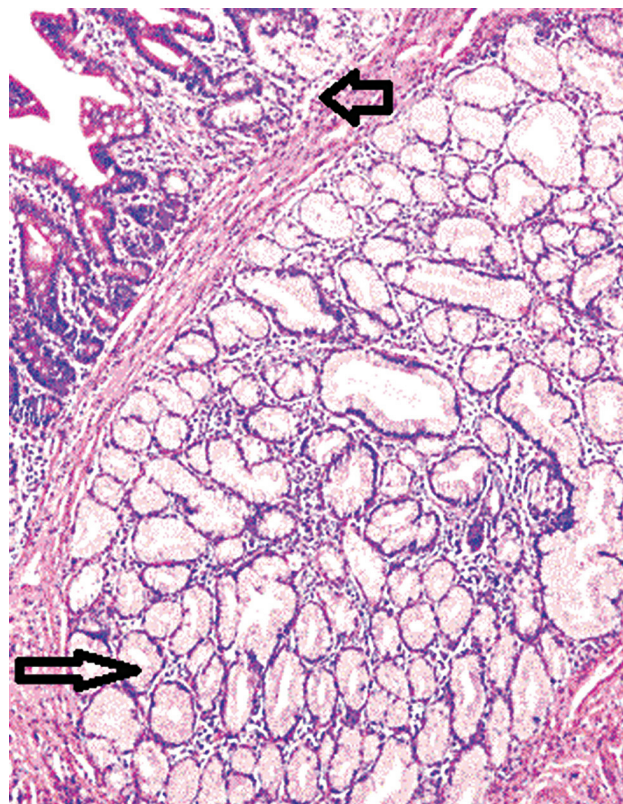


Figure 2. Histopathology of polyp showing duodenal mucosa (thick arrow) with Brunner's gland hyperplasia (thin arrow).

Diagnosis is rarely conclusive on endoscopic biopsies because the lesion locates mainly in the submucosal layer, and the biopsy is often not deep enough to reach the submucosal tumor tissue (3,5,7).

The final diagnosis of Brunner's gland hyperplasia depends on the pathological findings of resected specimens obtained by endoscopic mucosal resection, polypectomy or surgical treatment. Only 0.3-4.6% of benign tumors originating from the duodenum can be found with endoscope (9).

Brunner's gland hyperplasia of the duodenum can best be removed endoscopically, because it is thought to be clinically and histologically benign. However, endoscopists should be aware that there have been rare case reports of malignancy arising from Brunner's gland (3,6,10,11).

Brunner's gland hyperplasia is not fatal and patients remain asymptomatic, except for gastrointestinal bleeding or bowel obstruction. Treatment is necessary if gastrointestinal bleeding occurs (6-8,12-14), as in the present case. Gastrointestinal bleeding can occasionally be massive and rarely fatal, typically manifested by hematemesis or me-

lena, from ulceration or erosion of the mucosa stretched over the submucosal lesion (1,13). In the present case, bleeding was from the base of the polypoid lesion as a result of a small ulcer. The mechanism underlying gastrointestinal bleeding in the present case was atypical, as it is the apex

of the polyp that usually bleeds. Brunner's gland hyperplasia should be considered in the differential diagnosis of duodenal masses.

In conclusion, we report a case of pedunculated Brunner's gland hyperplasia of the duodenum causing upper gastrointestinal hemorrhages.

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