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A Rare Tumor of the Duodenum, Brunner's Gland Adenoma: A Case Report

Duodenumun Nadir Bir Tümörü, Brunner Gland Adenomu; Olgu Sunumu

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ÖZET

Brunner bezi adenomu (BGA), duodenumun nadir görülen tümörlerinden biridir. Esas olarak duodenal bulbusta bulunur, şekil, sayı ve boyut bakımından farklılık gösterir. Çoğunlukla asemptomatiktir ve özofagogastroduodonoskopi sırasında tesadüfen saptanır. Etyoloji ve patogenez tam olarak açıklanamamıştır. Ayırıcı tanıda lipom, nöroendokrin tümörler, lenfoma, adenokarsinom, GİST, leiomyom, karsinoid düşünülmelidir. BGA için standart bir tedavi ve takip algoritması yoktur. Semptomatik hastalarda lezyonlar endoskopik veya cerrahi olarak rezeke edilmelidir.

Anahtar Kelimeler: Brunner gland adenomu, Brunner gland hiperplazisi, duodenal kanser

ABSTRACT

Brunner's gland adenoma is a rare type of duodenum tumor. It is mostly found in the duodenum and varies in shape, number, and size. It is mostly asymptomatic and is discovered by chance during an esophagogastroduodenoscopy. The etiology and pathogenesis are not fully understood. Lipoma, neuroendocrine tumors, lymphoma, adenocarcinoma, GIST, leiomyoma, and carcinoid should all be considered in the differential diagnosis. There is no standard treatment and follow-up algorithm for Brunner's gland adenoma. Lesions in symptomatic patients should be resected endoscopically or surgically.

Key words: Brunner's gland adenoma, Brunner's gland hyperplasia, duodenal cancer

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INTRODUCTION

Brunner's glands (BGs) are acinotubular glands located in the submucosa layer of the duodenum that secrete an alkaline fluid containing mucin to protect the duodenal epithelium from the acidic chyme of the stomach (1, 2). Brunner was the first to describe it in 1688 (1). Proliferative lesions of BGs have been described in the literature as hyperplasia, adenoma, hamartoma, and, in rare cases, adenocarcinoma (3). These lesions are usually discovered by chance during an endoscopy. It can appear polypoid, nodular, exophytic, sessile, or pedunculated (4-6). It occurs more frequently in the fifth and sixth decades (5). Large lesions may cause obstruction or hemorrhage. Brunner's gland adenomas (BGA) have also been reported in the stomach, pylorus, jejunum, and pancreas head, but the duodenal bulb is the most common location (5). We present a case of BGA that was discovered by chance during endoscopy as a polypoid lesion in the duodenum.

CASE PRESENTATION

A 40-year-old male presented to our outpatient with complaints of epigastric pain and dyspepsia for 3 months. No history of alcohol or non-steroidal anti-inflammatory medication intake. During the physical examination, he had normal vital signs. No abnormalities detected in the abdominal examination. Laboratory examinations were within normal limits. Normal esophagus and gastric mucosa were seen on esophagogastroduodenoscopy; Numerous polypoid lesion was seen in the duodenum bulb (Fujinon EG 530, Japan) (Fig.1). Multiple biopsies were taken from lesion. The pathology result of the patient was reported as BGA (Fig. 2A-B). We decided to keep the patient on track because no new lesions were found in the control endoscopy at the sixth and twelfth months.

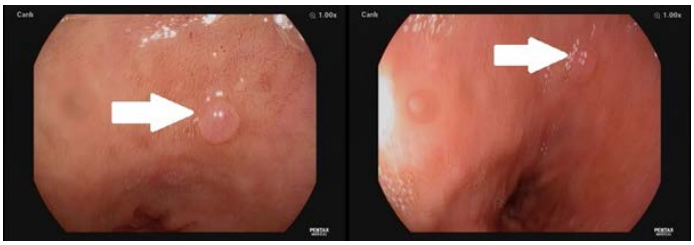

Figure 1. Endoscopic images of the Brunner gland adenoma.

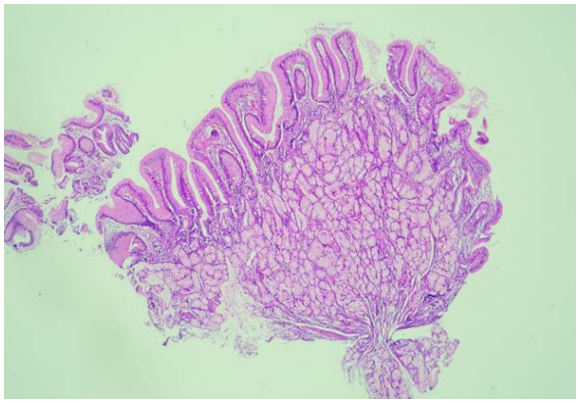

Figure 2A. Hyperplastic gland structures separated by thin fibrous septa under the mucosa preserved on the surface (H&E, x40).

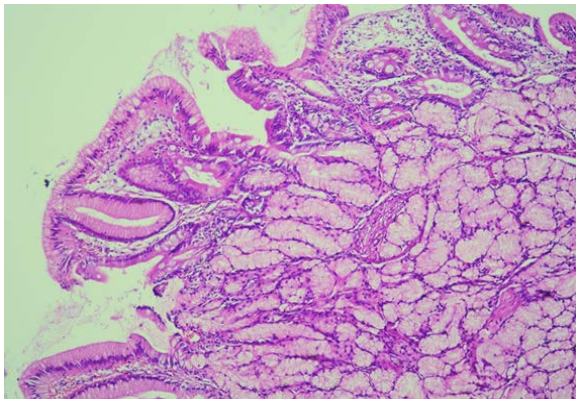

Figure 2B. Brunner glands extending to the mucosa, forming focal erosion on the surface (H & E, x100)

DISCUSSION

BGA is a benign small intestine lesion that accounts for approximately 5-10% of all duodenal masses and less than 1% of all gastrointestinal tumors (4, 7). It is estimated that 0.008% of the population is affected (8). The first BGA cases were reported in the literature by Cruveilhier in 1835 and Savioli in 1876. (1, 7). The duodenal bulb (70%) and descending duodenum (26%) are the most common locations (5). BGA is typically discovered incidentally during endoscopy and manifests as nodular, polypoid, pediculoid lesions ranging in size from 0.7 to 12 cm (2, 4, 9). BGA lesions are more common in the fifth to sixth decades of life and are not associated with race or gender (8). Although there are several hypotheses such as BGA is a duodenal dysembryoplastic lesion or hamartoma, ethiopathogenesis has not been explained yet (8). However, H. pylori infection, local irritation, and hyperchloridia are highlighted (4, 7). The clinical and symptoms of the patient vary depending on the size and location of the BGA lesion. In a review of 48 BGA cases, Zhou et al. (5) discovered that the most common patient findings were abdominal pain (33%), abdominal distension (25%), weight loss (25%), and melena (18.8%). Our patient complained of abdominal pain, and an esophagogastroduodenoscopy revealed multiple nodular lesions in the duodenum. There are case reports in

the literature that show computed tomography (CT) and magnetic resonance imaging (MRI) to be especially useful in detecting large lesions that cause gastric outlet obstruction. However, radiological findings are not always specific. It has the potential to mimic lesions that cause duodenal filling defects, such as leiomyoma, lipoma, or lymphoma (8). Endoscopic ultrasonography (EUS), which is widely used in the differential diagnosis of submucosal lesions, aids in determining the echogenicity, vascularity, depth, and intestinal layer from which the lesion originates (2, 4, 6, 8, 10). Lipoma, neuroendocrin tumors, leiomyoma, pancreatic heterotopia, adenocarcinoma, GIST, leiomyomas, schwannomas, duplication cysts, and carcinoid should all be considered in the differential diagnosis (2, 4, 5, 8, 10). In the literature, there is no accepted or applied formal guideline for the follow-up and treatment of BGA. However, because it can coexist with adenocarcinoma, high-grade dysplasia, and neuroendocrine tumors, resection of the BGA is recommended (1, 3, 11, 12). While endoscopic mucosal resection (EMR) and snare polypectomy are preferred for resection of pediculated, small, and superficial submucosal localized BGA lesions, surgical resection is used for lesions in large and difficult anatomical regions that spread deep into the submucosa (2, 5, 10). We decided to pursue our case cautiously. We decided to follow up our case conservatively.

CONCLUSIONS

BGA can appear in any part of the gastrointestinal tract. Endoscopic or surgical resection is recommended for symptomatic lesions and suspicion of malignancy. Multi-center and long-term studies and treatment guidelines are needed for the follow-up and treatment strategy of BGA.

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Ethic statement

Our institutional review board was waived due to the retrospective nature of the study. Written informed consent was obtained from the patients for the publication of this case report.

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