G Chir Vol. 39 - n. 2 - pp. 111-113
March-April 2018

clinical practice

A case of peduncolated Brunner's gland hamartoma

A. TORNAMBÈ, G. TORNAMBÈ

SUMMARY: **A case of peduncolated Brunner's gland hamartoma.**

A. TORNAMBÈ, G. TORNAMBÈ

Aim. *To report a case of Brunner's gland hamartoma (BGH) in patient treated with surgical resection.*

Case report. *A 73 years old male patient that was admitted with melena. The preoperative investigations suggested a suspected duodenal large polypoidal mass. A local resection was performed. Surgical resection is actually considered the best treatment for this lesion.*

Discussion. *Brunner's glands were first described by Brunner in 1688. Hamartoma designates an excessive focal overgrowth of mature normal cells and tissues, composed of identical cellular elements. Most patients with Brunner's gland hamartoma are asymptomatic or have nonspecific complaints.*

Conclusion. *BHG is a rare tumor arising from the Brunner's gland of the duodenum, considered entirely benign, although there have been occasionally reports of malignant foci inside.*

KEY WORDS: Brunner's gland - Hamartoma - GI bleeding.

Introduction

Brunner's gland hamartoma (BGH), also known as Brunner's gland adenoma or Brunneroma, is a rare benign tumor arising from the Brunner's gland of the duodenum (1). Brunner's gland hamartomas are relatively rare, found in <1 in 10,000 individuals and roughly 5% of all duodenal tumors (2). Most cases occur in the fifth and sixth decades of life, with neither gender nor race predominance (3). Usually asymptomatic and discovered incidentally, these lesions may manifest occasionally as a cause of duodenal obstruction or upper gastro-intestinal hemorrhage, requiring surgical excision (4). Therapy is essentially based on endoscopic removal in case of peduncolated lesions or surgical resection for broad-based structures or in case of unsuccessful endoscopic procedures. We report a case of duodenal BGH that underwent surgical resection because of upper gastrointestinal hemorrhage.

General Surgery Unit, "Giovanni Paolo II" Hospital, Sciacca (AG), Italy

Corresponding author: Antonino Tornambè,
e-mail: tornambeantonino@virgilio.it

Case report

A 73-years-old man was admitted in our hospital with melena, asthenia and dizziness. The blood tests revealed a severe anemia. After the administration of red blood cell mass, duodenal endoscopy was performed and showed a subepithelial suspected duodenal lesion as a large polypoidal mass in the second portion of duodenum. CT scan confirmed the presence of heterogeneous, hypervascular mass of 60 mm x 45 mm. Following the preoperative check-up, laparotomy was done. Surgery confirmed the presence of a mass with wide pedicle in the second portion of duodenum. Duodenotomy and resection of tumor was performed. There was no lymph node involvement. The surgical specimen showed a large duodenal lesion measuring 6.2x4.5x4.5 cm, apparently not showing any ulcer (Figure 1).

Histology showed a lesion covered with intestinal mucosa composed of lobular proliferation of Brunner's glands increased in both size and number, and separated by thin fibrous septa. No signs of malignancy or dysplasia were found.

The patient had an uneventful postoperative recovery and was discharged after 7 days. At six post-

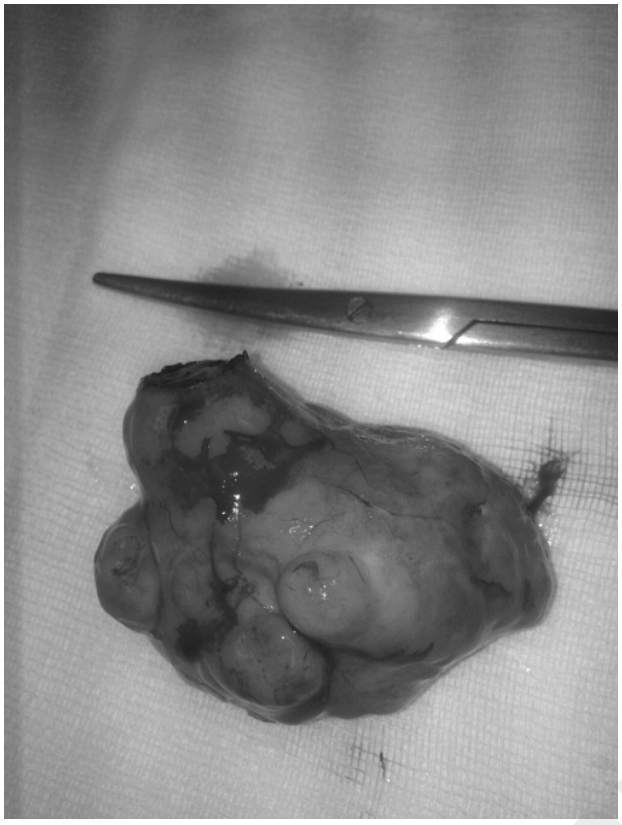

Figure 1 - Surgical specimen.

operative months the esophagogastroduodenoscopy did not find any evidence of recurrence or tumor remnants.

Discussion

Brunner's glands were first described by Brunner in 1688. These glands are branching actinotubular glands that arise in the duodenal submucosa. They secrete urogastrone, pepsinogen, and mucus to inhibit acid secretion and protect the duodenum from stomach acid. Therefore, they are crucial for preventing duodenal ulcers. The majority of Brunner's glands are located in the first portion of the duodenum, with decreasing prevalence in the second and third portions. BGH follow this distribution (3). Hamartoma shows an excessive focal overgrowth of mature normal cells and tissues in an organ composed of identical cellular elements. Adipose tissue, Paneth cells, mucus glands, pancreatic acini and lymphoid tissue usually without cellular atypia can also occur in BGH (5, 6). It has been hypothesized that BGH is related to hyperacidity with compensatory growth of the alkaline-secreting Brunner's glands or to Helicobacter pylori infection (7, 8). Most patients with Brunner's gland adenoma are asymptomatic or present nonspecic complaints such as nausea, bloating, or vague abdominal pain (9, 10). In these cases, the lesion is usually an incidental finding detected during endoscopy or imaging. The most common presentations in symptomatic patients are gastrointestinal bleeding and obstructive symptoms. Diagnosis of BGH is not always easy (11). Investigations by imaging modalities such as barium meal, ultrasonography, CT, and Magnetic Resonance Imaging (MRI) are capable of localizing the tumor. Definite diagnosis can be obtained only by histopathological examination (12). Moreover, similar to the pathological results found in our patient, upper endoscopy biopsies are often equivocal as BGH are submucosal-based lesions (13). Surgical resection is actually considered the best treatment to perform in symptomatic case. The morphological characteristics of BGH, along with its size are the most significant properties to discern between endoscopic or radical surgical resection. It has been suggested that in the case of duodenal lesions less than 1 cm or a maximum of 2 cm but confined to the mucosa, the endoscopic polypectomy approach still remains the best treatment (14). It is suggested that lesions larger than 2 cm should be treated by surgical resection with transduodenal polypectomy in order to guarantee complete excision.

Conclusion

BHGs are rare tumors arising from the Brunner's gland of the duodenum and are considered to be entirely benign although there have been occasionally reports of malignant foci inside (15). There are no reported recurrences following resection and the long-term prognosis is excellent.

Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying images. A copy of the written consent is available for review.

Conflict of Interests

The Authors declare that there is no conflict of interests regarding the publication of this paper.

References

1. Nakabori T, Shinzaki S, Yamada T, et al. Atypical duodenal ulcer and invagination caused by a large pedunculated duodenal Brunner's gland hamartoma. Gastrointest Endosc. 2014;79: 679-680.
2. Mumtaz R, Shah IA, Ramirez FC. Brunner's gland hamartoma simulating a pancreatic mass with duodenal obstruction. Gastrointest Endosc. 2002;56:932-4.
3. Levine JA, Burgart LJ, Batts K, Wang KK. Brunner's gland hamar- tomas: clinical presentation and pathological features of 27 cases. Am J Gastroenterol. 1995;90:290-4.
4. Gokhale U, Pillai GR. Large Brunner's gland hamartoma: a case report. Oman Med J. 2009;24:41-43.
5. Abbass R, Al-Kawas FH. Brunner gland hamartoma. Gastroenterol Hepatol. 2008;4:473-475.
6. Botsford TW, Crowe P, Croker DW. Tumors of the small intestine. A review of experience with 115 cases including a report of a rare case of malignant hemangio-endothelioma. Am J Surg. 1962;103:358-365.
7. Jansen JM, Stuifbergen WN, Van Milligen AW. Endoscopic resection of a large Brunner's gland adenoma. Neth J Med. 2002;60:253-255.
8. Kurella R, Ancha H, Hussain S, Lightfoot S, Harty R. Evolution of Brunner Gland Hamartoma Associated with Helicobacter pylori Infection. Southern Medical Association. 2008;101:648-50.
9. Singla R, Bharti P, Jain R, Kumar S, Ganguly KK, Kar P. Giant Brunner gland adenoma manifesting as iron de ciency anaemia and intussusception. Natl Med J India. 2010;23:376-7.
10. Yadav D, Hertan H, Pitchumoni CS. A giant Brunner gland adenoma presenting as gastro- intestinal hemorrhage. J Clin Gastroenterol. 2001;32:448-50.
11. Rocco A, Borriello P, De Colibus P, Pica L, Iacono A, Nardone G. Large Brunner's Gland Adenoma: Case report and literature review. World J Gastroenterol. 2006;12:1966-1968.
12. Woharndee P, Sornmayura P, Bunyaratvej S. Brunner's gland adenoma: A report of two cases. J Med Assoc Thai. 2005;88: 841-844.
13. Abbass R, Al-Kawas FH. Brunner gland hamartoma. Gastroenterol Hepatol. 2008;4:473-5.
14. Perez A, Saltzman JR, Carr-Locke DL. Benign nonampullary duodenal neoplasm. J Gastrointest Surg. 2003;7(4):563e641.
15. Brookes MJ, Manjunatha S, Allen CA, Cox M. Malignant potential in a Brunner's gland hamartoma. Postgrad Med J. 2003;79:416-417.