

Brunner's Gland Hamartoma Complicated by Gastric Perforation: A Case Report

¹Onyishi N. T., ²Kabba M., ¹Sesay A. A.

¹Department of Anatomic Pathology, University of Sierra Leone Teaching Hospitals Complex, Freetown, Sierra Leone, ²Department of Surgery, University of Sierra Leone Teaching Hospitals, Freetown, Sierra Leone.

Corresponding Author: Dr Nnaemeka T Onyishi: tedcoj@gmail.com

ARTICLE INFO

Article History

Received: March 11, 2025

Accepted: May 3, 2026

Published: June 23, 2026

Corresponding Author:

Nnaemeka T Onyishi

Technical Information

How to Cite: Brunner's Gland Hamartoma Complicated by Gastric Perforation: A Case Report: SLJM 2026;Vol 3(1) pp 9-11. <https://doi.org/10.69524/sljm.v3i1.201>

Editor-in-Chief: Prof. Kehinde S. Oluwadiya, University of Sierra Leone Teaching Hospitals Complex, Freetown, Sierra Leone.

Copyright: © 2026, Onyishi N. T. et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Funding: No funding was received for this study.

Ethical Consideration

Conflict of interest: The authors declare they have no conflicts of interest that are directly or indirectly related to the research.

ABSTRACT

Brunner's gland, primarily located in the submucosa of the duodenum, between the pyloric ring and the papilla of Vater, are tubuloacinar glands whose mucin product serves to protect the duodenal mucosa against acid chyme from the stomach. Most cases of Brunner's gland hamartoma have been diagnosed in the duodenum, but sporadic reports of gastric, jejunal and esophageal occurrences are documented. Brunner's gland hamartoma of the stomach is very rare and presentation with gastric perforation is quite uncommon. We report a rare case of gastric Brunner's gland hamartoma presenting with gastric perforation and acute abdomen.

Key words: Brunner's gland, hamartoma, adenoma, gastric perforation

1. INTRODUCTION

Most cases of Brunner's gland hamartoma (BGH) have been diagnosed in the duodenum, but sporadic reports of gastric, jejunal and oesophageal occurrences are documented¹⁻³. The presenting symptoms are varied and nonspecific, including abdominal pain, abdominal discomfort, abdominal distension, weight loss, melena, decreased appetite, vomiting and hematemesis. However, the majority are asymptomatic and incidentally discovered on endoscopy⁴. BGH of the stomach is rare as is presentation with gastric or intestinal perforation. Our PubMed search for gastric perforation in Brunner's gland returned one case⁵. We report a rare case of gastric BGH presenting with gastric perforation and acute abdomen.

2. CASE PRESENTATION

The patient was a 42-year-old man who presented with acute abdomen, and was found to be sweaty, febrile and restless. He gave a history of longstanding abdominal discomfort prior to his most recent deterioration. Exploratory laparotomy revealed a perforation in the greater curvature of pyloric antrum of the stomach with copious collection of offensive fluid in the peritoneum. Wedge resection and surgical repair of gastric perforation was done. Few days post operatively, the patient suffered wound dehiscence at the repair site necessitating a second operative repair. Following the second operation, the patient went into shock and was managed in the intensive care unit. He died of septic shock after one week of intensive care. Gross examination showed a tissue mass measuring 1.5 x4.0 cm; the external surface was solid, and the cut surfaces were solid, grayish white to tan in colour (Figure 1).

On microscopic examination, the resected tissue consisted of extensive proliferation of Brunner's glands arranged in lobules in the submucosa of the stomach (Figure 2).

In some areas, wisps and bands of smooth muscle cells and aggregates of lymphocytes were present between the lobules (Figure 3). The overlying foveolar epithelium had areas of intestinal metaplasia.

3. DISCUSSION

Brunner's glands (BG) are tubuloacinar glands domiciled mostly in the submucosa of the duodenum, between the pyloric ring and the papilla of Vater, where their mucin product serve to protect the duo-



Figure 1: Gross Photograph of Tissue From Wedge Resection and Surgical Repair of Gastric Perforation Site.

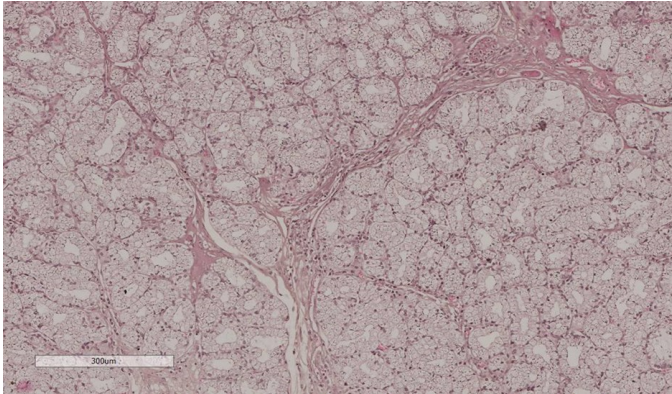


Figure 2: Lobules of Brunner's Gland Acini. Individual Glands are Lined by Mucin Secreting Cells with Basally Located Nuclei

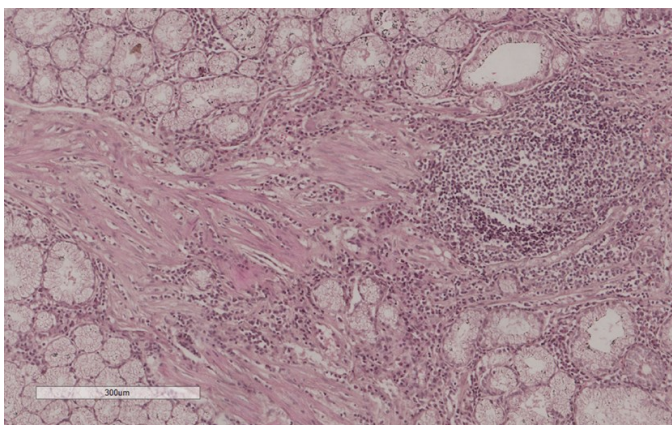


Figure 3: Bands of Smooth Muscle Cells (White Arrow) and Lymphoid Aggregates (Black Arrow) in Brunner's Gland Hamartoma

denal mucosa against the acid chyme from the stomach. Heterotopic aggregates of Brunner's gland are sometimes found, proximally, in the stomach, and the esophagus^{2,6}. Brunner's gland heterotopia accounts for 1.2% of all gastric polyps³. Occasionally, proliferative expansion of the BG occurs, giving rise to conditions variously named Brunner's gland hyperplasia, Brunner's gland hamartoma and Brunner's gland adenoma (Brunneroma). These terminologies are not definitively settled in literature and have been used interchangeably in various reports. Some workers view Brunner's gland hyperplasia and adenoma as sequential stages in a spectrum of one hyperplastic process and Brunner's gland hamartoma as lesions that have mesenchymal component in addition to the acinar proliferation⁴. Many workers agree that the distinction between Brunner's gland hyperplasia and hamartoma is arbitrary⁷. In fact, Al-Hilli and colleagues⁵ advance some evidence, synthesized from various case reports, as to why Brunner's gland proliferations are more likely hyperplasia rather than

hamartomas or adenomas.

Our report is a case of gastric Brunner's gland hamartoma in a 42-year-old male. This age of presentation conforms with established trends in literature with peak occurrence being reported in the 5th to 6th decade of life⁸. Histologically, it was composed of expansive lobules of proliferating Brunner's gland with bands of smooth muscle cells and focal areas of lymphocytic cell infiltration. Most reported cases of BGH have, understandably, occurred in the duodenum, the native site of Brunner's gland. Location in the stomach is infrequently reported². Our case occurred in the stomach and presented clinically with gastric perforation. Brunner's gland hyperplasia presenting with gastric perforation and acute abdomen is extremely rare as our literature search returned only one previous case by Al-Hilli and colleagues⁵. Notable similarities between their case and ours include: both were males with emergency acute abdomen, diagnoses established by histopathological examination of resected gastric perforation site; post-operative septic shock and intensive care management.

4.1 Conclusion

BGH, though benign, may underlie gastric perforation. Late presentations as surgical emergency may hamper preoperative diagnosis, which may contribute to incomplete resection and wound breakdown. Generally, late presentation of gastric perforation of any cause is associated with high mortality as a result of sepsis and multi-organ failure.

Conflict of Interest:

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this paper.

Funding:

The authors received no external funding for this research

REFERENCE

1. El Faleh I, Lutz N, Osterheld MC, Reinberg O, Nydegger A. Gastric outlet obstruction by Brunner's gland hyperplasia in an 8-year-old child. *J Pediatr Surg*. 2009 Apr;44(4).
2. Zhou SR, Ullah S, Liu YY, Liu BR. Brunner's gland adenoma: Lessons learned for 48 cases. *Digestive and Liver Disease*. 2021; 53:134–136.
3. Stolte M, Sticht T, Eidt S, Ebert D, Finkenzeller G. Frequency, location, and age and sex distribution of various types of gastric polyp. *Endoscopy*. 1994;26(8):659–65.
4. Zhu M, Li H, Wu Y, An Y, Wang Y. Brunner's Gland Hamartoma of the Duodenum: A Literature Review. *Adv Ther*. 2021;38(6):2779–94.
5. Al-Hilli Fayek A, Kumar Malik A, George SM. The pathological expressions of Brunner's gland hyperplasia into adenoma and hamartoma. *Saudi Medical Journal*. 2003;24(11): 1256-1260.
6. Johnson CD, Bynum TE. Brunner gland heterotopia presenting as gastric antral polyps. *Gastrointest Endosc*. 1976;22(4):210–1.
7. Patel ND, Levy AD, Mehrotra AK, Sobin LH. Brunner's gland hyperplasia and hamartoma: Imaging features with clinico-

pathologic correlation. American Journal of Roentgenology. 2006;187:715–22.

8. Abbass R, Al-Kawas FH. Brunner Gland Hamartoma. Gastroenterol Hepatol. 2008;4(7):473–5.