

# Gastrointestinal and Liver Pathology at Rush

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## Case of the Month Answer – November 2009

*Contributed by Drs. Luis Blanco Jr. and Shriram Jakate*

### **Diagnosis: Brunner's gland hamartoma**

Brunner's gland hamartoma of the duodenum, also known as Brunner's gland adenoma, Brunneroma and polypoid hamartoma, is a rare, benign, proliferative lesion arising from the Brunner's glands. It accounts for 10.6% of benign tumors of the duodenum<sup>1</sup> with approximately 150 cases in the literature since it was first reported by Cruveilhier in 1876<sup>2</sup>.

Patients are usually asymptomatic and the lesions are discovered incidentally. Occasionally, they can cause duodenal obstruction or upper gastrointestinal hemorrhage. They usually affect those in their fifth and six decades with no sex predilection.

Brunner's glands are located deep in the mucosa and submucosa. Their structure and function are similar to pyloric glands. They are branched acinotubular structures, which secrete urogastrone and pepsinogen when stimulated by acid chyme from the stomach<sup>3</sup>. This alkaline fluid protects the duodenal epithelium.

Brunner's gland hamartomas range in size from 1 to 12 cm, but are usually 1 to 2 cm in diameter. It most commonly presents as a polypoid nodule or mass in the posterior wall near the junction of the first and second portions of the duodenum. The specific anatomic distribution in decreasing order is as follows: duodenal bulb (57%), the second (27%) and third (5%) portions of the duodenum, the pyloric channel (5%), jejunum (2%) and proximal ileum (2%)<sup>4</sup>.

Characteristic endoscopic findings are as follows: (1) pedunculated polyp (Fig. 1), although 11% can be sessile; (2) polypoid or lobulated mass; and (3) covered with normal mucosa<sup>5</sup>. Endoscopic ultrasound demonstrates a submucosal lesion (Fig. 2).

Histological examination shows a nonencapsulated submucosal growth composed of exuberant benign Brunner's glands (Fig. 3) admixed with ducts, adipose tissue, lymphoid tissue and fibrovascular connective tissue. These features support the designation of these lesions as a hamartoma rather than a true neoplasm<sup>1</sup>.

The differential diagnoses for Brunner's gland hamartoma include leiomyoma, adenoma of the mucosal glands, carcinoid tumor, lipoma, prolapsed pyloric mucosa, and antral polyp<sup>4</sup>.

Brunner's gland hamartomas are best removed endoscopically, because these are thought to be clinically and histologically benign<sup>5</sup>. Generally, these have an excellent prognosis and there have been no cases of recurrence<sup>1</sup>. However, rare case reports of malignancy arising from Brunner's gland hamartomas have been reported<sup>5</sup>.

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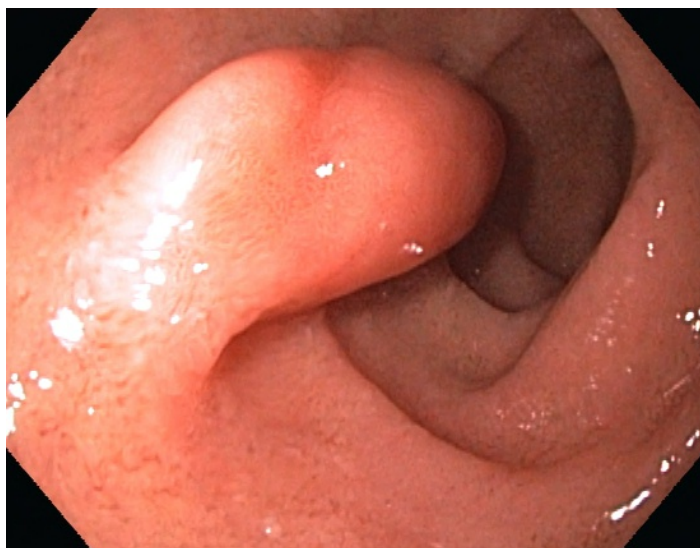


Fig. 1 Endoscopy of the duodenum.



Fig. 2 Endoscopic ultrasound of The duodenum.

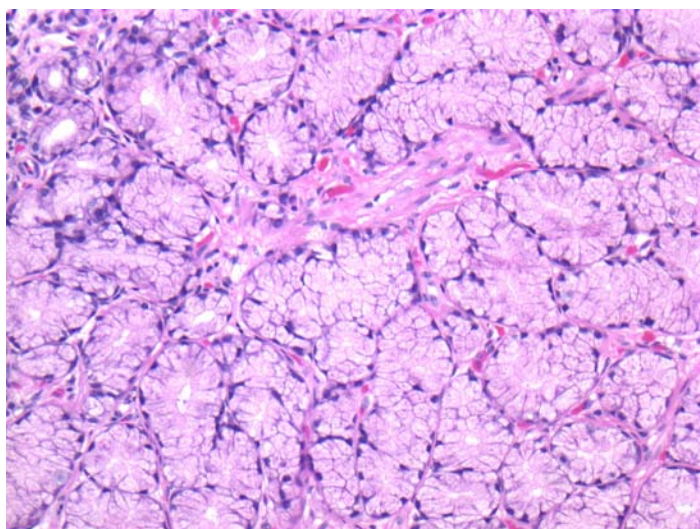


Fig. 3 Microphotograph of the polyp.

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