

# Duodenal Brunner's Gland Adenoma

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DUODENAL BRUNNER  
BEZİ ADENOMU

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## SUMMARY

*Tumors of the duodenal bulb are rare and only 91 benign duodenal tumors have been reported in the medical literature. About 10.6% of all benign duodenal tumors are Brunner's gland tumor and are extremely rare. We present one more patient with Brunner's gland adenoma located in the duodenal bulb manifested by duodenal obstruction and anemia. The initial symptoms and signs were that of a peptic ulcer clinically that could be a pitfall in the diagnosis preoperatively.*

**Key Word:** Brunner gland adenoma duodenal obstruction.

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## ÖZET

*Duodenal bulbüs tümörleri nadir olup tıp literatüründe yalnızca 91 benign duodenum tümörü bildirilmiştir. Brunner bezi adenomları çok daha nadir olup bütün benign duodenum tümörlerinin yaklaşık %10.6'sını oluştururlar. Bu yazıda duodenal tıkanıklığa ve anemiye neden olan bir vaka sunulmuştur. Hastanın klinik bulgu ve şikayetleri ameliyat öncesinde peptik ülser olarak değerlendirilmiştir.*

**Anahtar Kelimeler:** Brunner bezi adenoma, Duodenal obstrüksiyon.

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## INTRODUCTION

Tumors of the duodenal bulb are rare and only 191 benign duodenal tumors have been reported in the medical literature (1). In a series of 25.000 gastro-duodenoscopies 1.5 of % bulbar tumors including inflammatory polyps and heterotopies of the gastric mucosa were found and only 6.9 % of them were diagnosed as tumor of Brunner's gland (2).

The first detailed description of glands of duodenum was proposed by Brunner in 1688 (3). The first description of an adenoma arising from these particular glands, namely Brunner's gland tumors, was introduced to medical literature in 1872 (4). These tumors are benign and may be of three types. Those are:

1. Diffuse nodular hyperplasia
2. Localized nodular hyperplasia, and
3. Brunner's gland adenoma which is a true polypoid tumor large and even pedunculated mass (5).

Brunner's gland adenomas have been reported to cause obstruction of the duodenum and of the common bile duct which can mimic carcinoma of

the head of pancreas, hemorrhage and intussusception of the duodenum (6).

We present a case manifested as a large obstructing and bleeding Brunner's gland adenoma located in the duodenal bulb that was removed surgically.

## CASE REPORT

54 year old male patient was admitted to cancer surgery service of the Ankara Numune Hospital in July 1987 for investigation of mild anemia (hemoglobin 9 gr/dl) and fecal blood loss. He complained of postprandial epigastric fullness, intermittent nausea and vomiting. Physical examination was unrevealing. Radiologic examination of the stomach and duodenum showed a tumoral mass considered as a benign lesion of 2 cm its largest diameter in the duodenal bulb (Fig. 1). He had no endoscopic examination.

Preoperatively the stomach was found to be dilated and a tumoral mass was palpated in the duodenal bulb. At duodenotomy a bulky pedunculated

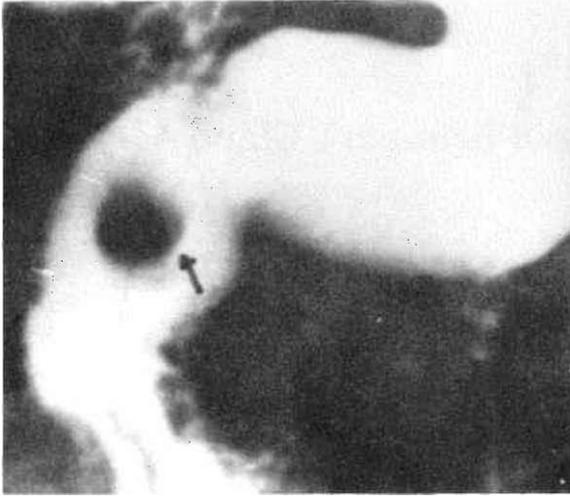


Fig. 1 Roentgenogram of the gastrointestinal tract reveals a tumor mass in the duodenal bulb.

polyp obstructing the duodenum was explored. Frozen section examination revealed this mass to be a Brunner's gland adenoma. Then tumor was removed with a healthy tissue surrounding the lesion.

Gross examination of the removed tissue revealed a mass of 4x2x2 cm with a thinned overlying mucosa. Its out surface was lobulated and pinkish. Under microscope, surface of the tissue was lined by a columnar epithelium under which the entire tumor consisted of glands closely mimicking regular duodenal structures predominantly of Brunner's glands. Histochemical analysis showed that the cytoplasm consisted a strongly PAS and diastase PAS positive material. These glands were embedded in a small amount positive material. These glands were embedded in a small amount of fibrous tissue (Fig.2 and 3).

The stalk of the polyp also contained Brunner's glands. Neither cellular atypia nor ulceration were present.

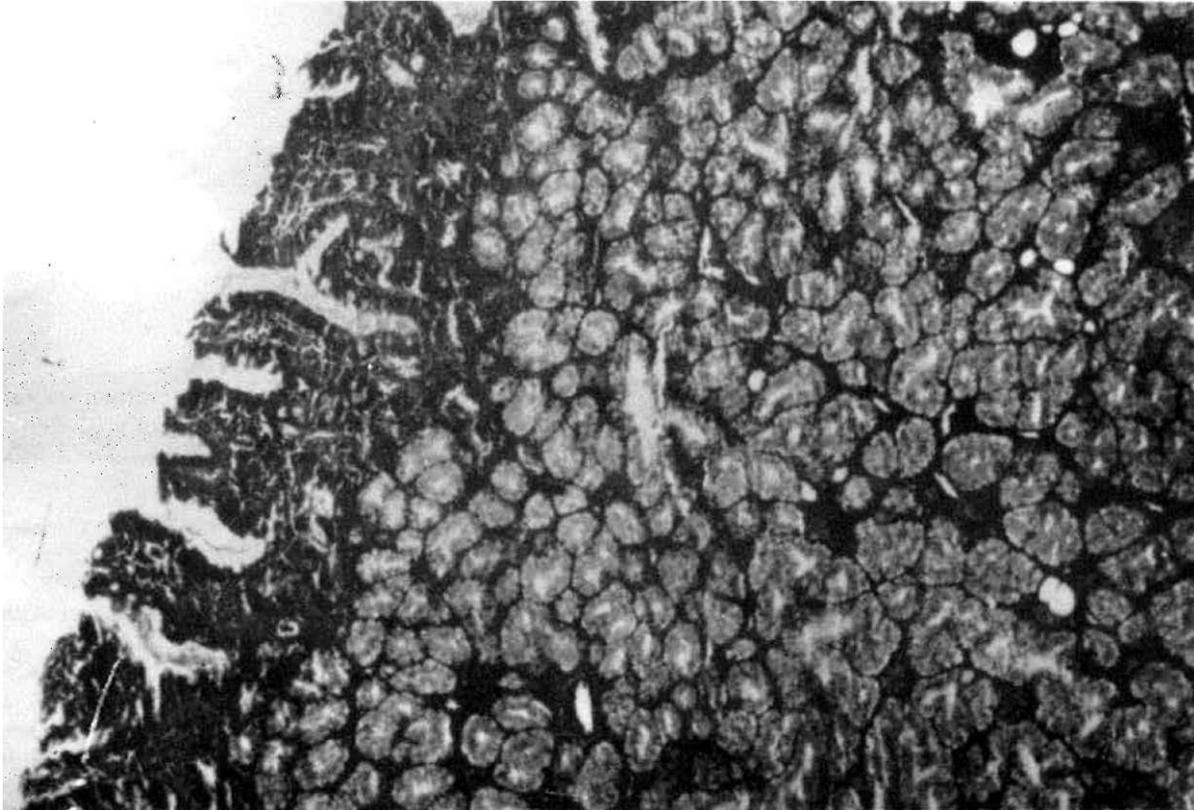


Fig.2 The tall columnar epithelial cells are overlying tumor. Under the surface epithelium entire tumor comprising of duodenal glands (Brunner's glands). These glands are embedded in a scanty fibrous connective tissue (Hematoxylin-eosin, x40).

**Fig. 3** Note the very thin fibrous connective tissue in between the Brunner's glands. (Hematoxylineosin, x 100).

## DISCUSSION

About 10.6% of all benign duodenal tumors are Brunner's gland tumor (1) and are extremely rare. Only two adenocarcinomas presumably of duodenal origin have been reported up to date (7). Additionally, only one malignant tumor of Brunner's glands has been described in a baboon (8).

The majority of Brunneromas are located mainly in proximal duodenum ie. duodenal bulb (1,9). Endoscopically most of them appear as small polypoid lesions. Their diameter ranges in general form from a few millimeters to approximately 2 centimeters and covered by a normal appearing mucosa. Only a small number of larger tumor with a diameter of up to 8.5 cm has been reported (10). The tumor reported here was therefore exceptionally large.

Whether these tumors are hamartomas or real neoplastic lesions has always been a matter of debate. The size of these tumors and the fact that they do not manifest themselves until adult life militates in favor of adenoma(11). However, the mixture of

glandular structures, ducts and smooth muscle fits in the description of a hamartoma (12).

Because the tumors are located predominantly in the submucosa and either tumors or normal Brunner's gland do not differ histologically. Endoscopic biopsies may be unrewarding (9). Therefore, the diagnosis of Brunner's gland adenoma is based on gross and histological findings. At barium x-ray examination these tumors may be detected as sessile or pedunculated polyps.

The symptoms of Brunner's gland tumor are rare. However, bleeding, obstruction of the duodenum and of the papilla of Vater associated with recurrent pancreatitis have been described (6,9). Bleeding is due to ulceration of the overlying mucosa. Therefore this explains why the symptoms imitate those of duodenal ulcer.

This particular patient presented with symptoms of obstruction and chronic bleeding. Consequently, polyp extirpation was indicated and it was performed without any complication.

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