# BRUNNER'S GLAND ADENOMA: CASE REPORT WITH REVIEW OF LITERATURE

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***ABSTRACT***
*Brunner's gland adenoma is a rare benign tumor of the duodenum. Less than 150 cases have been reported in the literature. We are reporting the case of a 50 years old lady who presented with upper gastrointestinal symptoms. An abdominal ultrasonography showed hydatid cyst of liver, but on laparotomy a duodenal mass was found which turned out to be Brunner's gland adenoma on histopathology. A review of literature is being presented.*

***KEY WORDS:*** *Brunner's Gland Adenoma, Duodenal Tumours, Endoscopy, Polypectomy*

## INTRODUCTION

Brunner's gland adenoma (BGA), also referred to as Brunneroma or Brunner's gland hamartoma, is a rare benign tumour of the duodenum. It was first reported by Cruveilheir in 1835; he described the case of a woman who died of intussusception caused by the BGA[1]. These tumours usually occur in the first part of the duodenum, and may be asymptomatic and discovered incidentally during investigation for upper GI symptoms[2]. They may also present with bleeding, obstruction or anaemia due to chronic blood loss. The condition is diagnosed mainly on barium studies and endoscopy. Small polypoidal lesions are removed endoscopically while larger and difficult ones require surgical removal through duodenotomy[3,4].

## CASE REPORT

A 50 years old lady presented with two years history of epigastric burning, discomfort, bloating, belching, nausea and occasional vomiting, especially after meals. There was no history of haematemesis, malena, persistent vomiting or weight loss. Her symptoms had deteriorated over the past two months. Her abdominal examination was normal.

Her routine investigations were normal, but an abdominal ultrasound reported a hydatid cyst in the caudate lobe of the liver, though her *Ecchinococcus* antibodies were within the normal range. An exploratory laparotomy was performed through an upper midline incision, which revealed that the liver was normal. However, a 6x4 cms mobile swelling, with consistency of a lipoma was found in the first part of duodenum. A longitudinal duodenotomy was performed over the swelling and a large, pale, lobulated polyp was found arising from the posterior wall of first part of duodenum on a 2cms stalk. It was gently squeezed out through the duodenotomy and removed along with a cuff of duodenal mucosa. The duodenotomy was closed transversely. The patient made an uneventful recovery and remained asymptomatic thereafter. Histopathology reported the swelling to be a Brunner's gland adenoma with no evidence of malignancy.

## DISCUSSION

Benign tumours of the duodenum are rare. The reported incidence is 0.008% in patients at autopsy, BGA comprising 10.6% of these lesions[1]. Brunner's glands are branched acinotubular structures located in the submucosa and deeper parts of the duodenal wall. Their distribution is more in the proximal part of the duodenum above the ampulla of Vater, though BGAs have been reported in the jejunum and even ileum[1,6,7].

Brunner's glands protect the duodenal mucosa from the

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acid chyme of stomach by secreting an alkaline mucous fluid containing glycoproteins, which form an adherent, protective layer on the duodenal mucosa. These glands also secrete urogastrone, which inhibits secretion of the gastric acid[5,8].

Feyrter (1934)[9] classified the abnormal proliferation of these glands into three types:

1) Diffuse nodular hyperplasia - occupying most of the duodenum in the form of multiple sessile projections.
2) Circumscribed nodular hyperplasia - the most common type presenting mainly in the duodenal bulb
3) Adenomatous hyperplasia - which may be sessile or pedunculated[9].

Hyperplasia refers to lesions smaller than 1cm while adenomas are larger than 1cm. BGAs are benign but malignant degeneration has been reported[4,10-12]. The aetiology of BGA is obscure but association with peptic ulcer disease, *H. pylori* infection, chronic pancreatitis and chronic renal insufficiency has been described[1,13].

BGA usually presents in middle age with no sex predominance; however, cases have been described from early infancy to 80 years of age[5]. Levine et al studied 27 patients and described three types of presentations: asymptomatic patients (where it is an incidental finding), haemorrhagic complications and upper GI obstructive symptoms[14]. Eleven percent of patients with BGA are asymptomatic[1]. Haemorrhagic complications occur in 40-50% of the patients, who present with haematemesis (12%) or malena (43%), which may be massive or even fatal[1,5]. Patients may also present with symptoms of anaemia, which may be severe enough to cause heart failure[2]. Anemia results from chronic occult blood loss due to ulceration of the adenoma. Bleeding complications are more common in distal tumors[5,14]. Obstructive symp-toms are present in about 50% patients. These include postprandial epigastric discomfort, pain, nausea and vomiting. Less common presentations include duodenal obstruction, intussusception, abdominal mass, obstructive jaundice, biliary fistula and recurrent pancreatitis[1,5,15,16]. BGA may rarely mimic pancreatic cancer[5].

Diagnostic studies include ultrasonography, barium contrast studies and endoscopy. Large adenomas may be detected by ultrasonography[1,17]. Upper GI barium studies, barium meal and enteroclysis may reveal multiple small filling defects (Swiss cheese appearance) in Brunner's gland hyperplasia, or in the case of an adenoma, a smooth surfaced polypoidal lesion (Vacuole sign)[1,7,18]. Upper GI endoscopy and biopsy is essential for confirming diagnosis. Biopsy must be sufficiently deep because of submucosal location of the tumour[4]. Use of endoscopic intraluminal ultrasound and CT scan has also been described[1,3,19].

The differential diagnosis of BGA includes leiomyoma, lipoma, angioma, aberrant pancreatic tissue, duodenal duplication cyst, adenocarcinoma, lymphoma, and carcinoid tumor[6]. The treatment of BGA is excision of the tumour, though asymptomatic patients can be treated conservatively[1,14]. Endoscopic snare polypectomy is the preferred treatment for small adenomas. Endoscopic resection is less invasive and more cost effective[2]. Excision via open surgery and duodenotomy is reserved for larger and difficult tumors[1,4,5].

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