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Case Report

Brunneroma-Uncommon Tumor of Duodenum

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Abstract

Brunneroma (Tumor of the Brunner's gland) is an uncommon tumor of the duodenum. They are, probably, not true neoplasms but hamartomas arising from Brunner's gland and may represent a protective phenomenon against gastric hypersecretion. It presents with non-specific symptoms such as abdominal pain, nausea and bloating or gastric outlet obstruction. Usually, they are treated with endoscopic resection, with some lesions requiring surgical intervention. We present here a case of pedunculated poly of first part of duodenum which was consistent with Brunneroma on histopathology. Tumor of Brunner gland is known as Brunner gland adenoma. They are also referred to as Brunneroma or polypoidal hamartoma. These lesions are usually benign with a low malignancy potential.

Keywords: Brunneroma; Duodenum; Hamartomas; polyp

Introduction

Brunner's glands, first described by anatomist Brunner in 1688, are submucosal glands predominantly located in the duodenal bulb and progressively decrease in size and number distally. They secrete alkaline viscous mucus protecting the duodenum from acidic gastric chyme [1]. Hence Brunneroma is protective phenomenon to prevent damage due to acid hypersecretion [2]. Increased incidence of Brunneroma has been described in uremic patients [3].

Case Report

We present a case of 36-year-old gentleman presented in gastroenterology OPD with complaint of recurrent upper abdominal pain for last 2 years. He had history of taking treatment from other hospitals in form of PPI but still symptoms were persistent. On investigation, basic laboratory investigations were unremarkable. Helicobacter pylori antigen in stool was positive. Patient was started on H. pylori therapy. Esophagogastroduodenoscopy was planned. On endoscopy a 2.5 cm pedunculated polyp with normal overlying mucosa was seen in first part of duodenum just beyond pylorus (figure 1). Biopsy was taken from the polyp. Meanwhile, CT enterography was requested to rule out small bowel polyposis. CT confirmed solitary duodenal polyp. Pinch Biopsy showed duodenal mucosa with prominent Brunner glands perhaps giving a polyp like appearance but otherwise within normal histological limits.

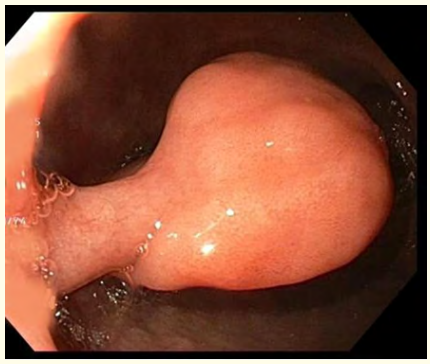

Figure 1: Endoscopic picture of polyp.

Patient was planned for Endoscopic polypectomy with surveillance colonoscopy. Colonoscopy did not reveal any other polyp. During upper GI endoscopy it was noted that there had been an increase in the size of polyp as compared to previous study. Polyp was injected at the base with saline adrenaline solution (1:10) dilution. Loop application was tried. Loop was negotiated to the base of polyp but while tightening it broke off. So a hemoclip was applied at the base of polyp and hot snare polypectomy was done. Polyp was retrieved out with a foreign body holding forceps. Base was clean post polypectomy. There was no bleeding and no hemostatic measures were required. On follow up a week after the procedure patient had no delayed complications and was free of symptoms subsequently.

On gross examination of specimen, biopsy fragment was soft polypoidal tissue measuring 2x1.8x1.4 cm with gray tan soft cut surface. Microscopically, it showed duodenal tissue biopsy showing areas of erosion. Brunner's gland was found in lamina propria with disorganized lobular growth. There was proliferation of gland with evident arrangement in lobules separated by fibroconnective tissue. (Figure-2) There was no detectable mitosis, but mild atypia was there consistent with Brunner's gland adenoma (Hamartoma). Lamina propria showed abundant lymphocytes, eosinophils with presence of plasma cells. Excision margin was free from the lesion. Features was in keeping with duodenal Brunner's gland adenoma (Brunneroma) with mild atypia on top of chronic duodenitis with villous repair.

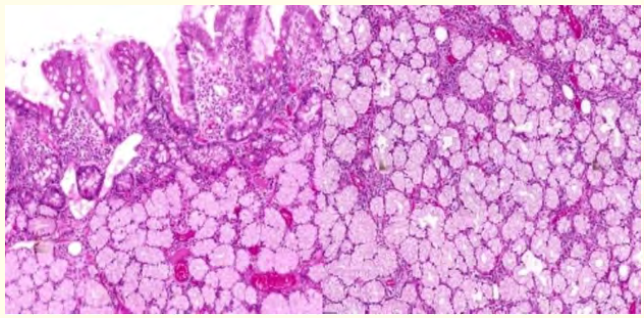

Figure 2: Histopathology image of Brunneroma.

Discussion

Brunner's gland consists of submucosal mucin-secreting glands located exclusively in the duodenum. Tumors of duodenal glands were thought to be rare till adenomas were recognized [4]. The exact incidence of Brunneroma is not known. The lesions are most frequently located in the superior and descending part of the duodenum [5]. The lesion may be located near a duodenal ulcer or area

of duodenitis. It usually presents with hemorrhage, obstruction or diarrhea and runs a benign course. The lesion may be single or multiple sessile or pedunculated polyps. Brunner's gland adenoma that causes clinical symptoms is composed of hyperplastic Brunner's glands and contains mostly an admixture of glandular, adipose and muscular tissue [6]. It is still controversial whether asymptomatic Brunner's gland tumor found incidentally need surgical removal [7]. Some people think it needs no treatment, whereas others hold that endoscopic excision should be performed in order to prevent complication. In this case, we proceeded with endoscopic resection as the first biopsy did not confirm the diagnosis.

Histologically, all lesions are composed of lobules of normal Brunner's glands surrounded by bands of smooth muscle originating from the muscularis mucosae. Focal lymphocytic infiltration may be present as was seen in the present case. On follow up endoscopy after 6months, polyp site was completely clear of lesion and normal intestinal mucosa was restored.

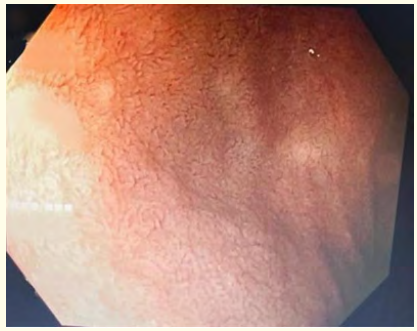

Figure 3: Follow up Endoscopic Image of polyp site after polypectomy.

Conclusion

Patient with recurrent upper abdominal pain despite conventional anti-secretary treatment must go endoscopic evaluation of any polyp. Brunneroma usually present as polyp in first part of duodenum. Symptomatic Brunner's gland tumors usually need surgical treatment. When the tumor is small or pedunculated, endoscopic polypectomy is the first choice. Open surgical excision is reserved for cases where snaring has failed or when tumor is too large [8, 9].

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