

# Unusual cause of duodenal bleeding, Brunnomma, managed unusually: a case report

## Abstract

Brunnomma, is a benign tumor of duodenal wall. Usually present with anaemia. Endoscopy of stomach and duodenum gives the diagnosis. Pedunculated lesion is best managed by endoscopic snare and cautery excision. Lesion close to pylorus makes the endoscopy difficult. Hence a mini-laparotomy, and trans-gastric three port endo-luminal harmonic excision was done safely.

**Keywords:** brunnomma, anaemia, endoluminal surgery

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## Introduction

Brunner's glands (BG) are located only in duodenum in the submucosal layer. These are branched, unlike tubular glands in the gastrointestinal tract and are considered histological identity of duodenum. These gland secretes lot of bicarbonate rich fluid to neutralizes the gastric HCl mixed food as they pass the duodenum. Benign and malignant lesions are rare at duodenum unless there is familial polyposis coli.<sup>1,2</sup> These glands can have hyperplasia, adenoma and carcinoma, unusually presents with slow bleeding, causing anemia or rarely obstruction.<sup>3</sup> Upper gastrointestinal endoscopy is diagnostic as well as therapeutic. It can be removed during the same sitting by snare with electro cautery in pedunculated lesion. Endoscopic removal is easy, if the lesion at second part. The present case, the lesion was at the first part of duodenum. And handling at this location became difficult endoscopically. Hence, this patient was handed over to surgeon.

Case-53 years old asymptomatic male, found to be having low hemoglobin (8.5G%), while annual health check. He was clinically normal. No weight loss and was having microcytic, hypochromic anemia. WBC and platelets are normal. On evaluation, Stool occult blood was positive. GI endoscopy noticed a lesion at the junction of first and second part of duodenum. They attempted to remove but, it failed.

Surgery was planned in consultation with the patient. Mini laparotomy was done. The DJ flexor area was occluded with a vascular clamp, so that, the gas will only fill the stomach and duodenum and other bowel remain normal. Antrum of stomach was brought out of the wound, two stay stiches were placed at the antrum, a 5-6mm opening was made along the long axis of stomach it was dilated to accommodate a 10mm trocar, CO<sub>2</sub> was insufflated and the lesion was located. Two 5mm trocars were placed around 3-4cms ahead of telescopic trocar. The pyloric opening dilated automatically by gastric CO<sub>2</sub> insufflation. So, two 5mm ports instruments were used for surgery. The D-1 was cleaned of its blood and the lesion is excised in toto (Vedio-1-(55 Sec.)). Hemostasis was confirmed and full thickness injury was ruled out. The procedure was terminated by closure of the gastric ports. The DJ flexor clamp was releases and the abdomen was closed. He recovered in 72hrs and started on oral. He was given oral iron replacement for 6 months to replace the total body iron pool. His hemoglobin increased by 3.5grams in 6weeks. Biopsy reported as

benign BG tumor (Brunnomma). He was on regular follow up for three years and remains asymptomatic.

## Discussion

Brunner's gland tumor is a rare and unusual.<sup>2</sup> BG lesion can have hyperplasia, adenoma or carcinoma and all three present with bleeding. The size of the lesion varies. Few they bleed slowly like the present case. But rarely do they bleed heavily and even fatal.<sup>4</sup> Possibly the size is related to the degree of bleeding. The most vital diagnostic test is the upper gastro-intestinal endoscopy. Often these are pedunculated, unlike the present case and well managed by endoscopy itself. The base is infiltrated with adrenalin for hemostasis. Polypectomy of the lesion is done by endoscopy.<sup>4</sup> One benign BG tumor needed laparotomy, duodenotomy for removal of lesion after endoscopic injection therapy.<sup>5</sup> Besides the inherent disadvantage of open surgery, duodenal leak is a major complication.<sup>3</sup> Endoscopic and endo-luminal gastrointestinal tract surgery is well established as natural orifice surgery. But the risk of missing perforation is always there. To avoid missing leak during endoluminal surgery, one more dimension, and laparoscopy is added to avoid laparotomy. submucosal resection is added with wedge resection safely.<sup>6</sup> We have added one more available safest invasive dimension, a mini laparotomy. So mini-laparotomy and trans-gastric-endo luminal surgery is done through the pylorus. Such unique procedure is not reported so far. The advantages are, direct vision of placing three ports, avoiding abdominal distention by putting a clamp to jejunal lumen, this added one more advantage of distended duodenum leading to good vision, which opens up the pylorus and difficult procedure made easy and safe. The biggest advantage is detecting the duodenal leak immediately by non-distention of duodenum during the procedure. The thick walled, highly vascular stomach wounds were closure safely at the end of the procedure. Above all 100% check of duodenal safety of no ischemia, little co-lateral injury by harmonic energy added to the final safety. The limitation is only a case report ([Video](#)).

## Conclusion

Mini-laparotomy, trans-gastric endoluminal duodenal surgery gives quadruple safety of trocar placement, use of harmonic scalpel bloodless excision, confirming absence of duodenal ischemia/leak and avoids abdominal distention.

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## Conflicts of interest

Author declares there are no conflicts of interest

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## References

1. de Bree E, Rovers KP, Stamatou D, et al. The evolving management of small bowel adenocarcinoma. *Acta Oncol.* 2018;57(6):712–722.
2. Kamani L, Raj R, Ali R, et al. Brunner's gland hyperplasia: A rare cause of gastrointestinal bleeding. *Clin Pract.* 2020;10(2):1267.
3. Lu L, Li R, Zhang G, et al. Brunner's gland adenoma of duodenum: report of two cases. *Int J Clin Exp Pathol.* 2015;8(6):7565–7569.
4. Hirasaki S, Kubo M, Inoue A, et al. Pedunculated Brunner's gland hamartoma of the duodenum causing upper gastrointestinal hemorrhage. *World J Gastroenterol.* 2009;15(3):373–375.
5. Wani ML, Malik AA, Malik RA, et al. Brunner's gland hyperplasia: an unusual cause of gastrointestinal bleeding. *Turk J Gastroenterol.* 2011;22(4):419–421.
6. Tsujimoto H, Yaguchi Y, Kumano I, et al. Successful gastric submucosal tumor resection using laparoscopic and endoscopic cooperative surgery. *World J Surg.* 2012;36(2):327–330.