



BLEEDING STUMP: A CASE REPORT

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Abstract:

We report here an interesting case of upper Gastrointestinal (GI) bleed due to post op gastric stump carcinoma. The patient presented with intermittent melena and symptoms of anaemia for past 3 months. He also had co-morbidities like post Gastrojejunostomy (GJ) status, chronic kidney disease, coronary artery disease, hypertension and endovascular graft repair of aortic aneurysm. While evaluating GI bleed, he was found to have post op stump early gastric cancer following which he underwent surgery. We are reporting this case due to rarity of post op stump cancer presenting after 34 years of surgery with UGI bleed. We are highlighting the importance of endoscopic surveillance to diagnose gastric cancer at an early stage in post GJ status patients.

Keywords: Gastrojejunostomy, Endovascular graft repair, Endosonography, Gastroscopy, Billroth reconstruction.

Introduction:

Gastric stump carcinoma is one of the sequelae occurring 10-15 years following gastric surgeries for benign lesions. Due to the lack of specific clinical presentation of early gastric cancer, most cases are detected at later stage leading to poor prognosis. In this case, post op early gastric



stump cancer occurring 34 years after surgery for benign disease was detected on evaluation for upper GI bleed.

Case Summary:

A 68 year old male with significant comorbidities like hypertension, CKD, Gout, CAD, BPH and aortic aneurysmal repair done 3 years back presented to our gastro out-patient department with symptoms of passing episodic black tarry coloured stools, easy fatigability and breathlessness on exertion for 3 months duration. No other associated GI symptoms like abdominal pain, hematemesis, haematochezia, dysphagia, diarrhoea or constipation. On further questioning he revealed he underwent some abdominal surgery 34 years back for ulcer disease. He was a non-smoker and non-alcoholic. He was taking oral anti-platelet and anti-coagulants for 2 months. On general examination he was pale and hemodynamically stable. His abdominal examination was normal except for a midline scar. He had malenic stools on per rectal examination. Differential diagnosis of drug induced erosive gastritis and stump carcinoma was made.

Blood test reports revealed severe anaemia with Hb 5.4g/dl, azotaemia with creatinine 2.3mg/dl and INR of 1.97. Rest of blood tests including liver function tests and sugar levels were normal. Viral markers were negative. He underwent 3 units of PRBC's transfusion. Vascular surgeon and Nephrologist opinion was taken to rule out other causes of anaemia. After stabilization he underwent gastroscopy. Gastroscopy revealed a polypoidal lesion of 4x4 cms in pre-pyloric region and post GJ status (Fig-1). Differential diagnosis of carcinoid and carcinoma was thought of. Biopsy was taken from the lesion after stopping anti-platelets and anti-coagulants for 1 week. Post biopsy he had minimal ooze for which Inj. Adrenaline was sprayed over the ooze site (Fig-2). Non contrast CT abdomen revealed 3x3 cms lesion in pre-pyloric region, post GJ status and endovascular aortic aneurysmal graft (Fig-3). Histopathological examination showed sheets and clusters of abnormal columnar epithelial cells with altered nuclear cytoplasmic ratio suggestive of adenocarcinoma of stomach (Fig-4).

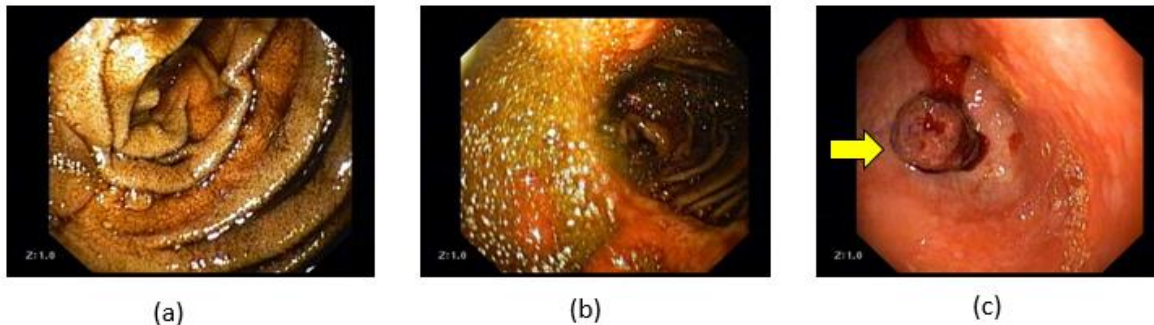


Figure-1: Gastroscopic image showing post GJ status (a & b) and polypoidal lesion of 4x4 cms in pre-pyloric region (c) shown in yellow arrow head

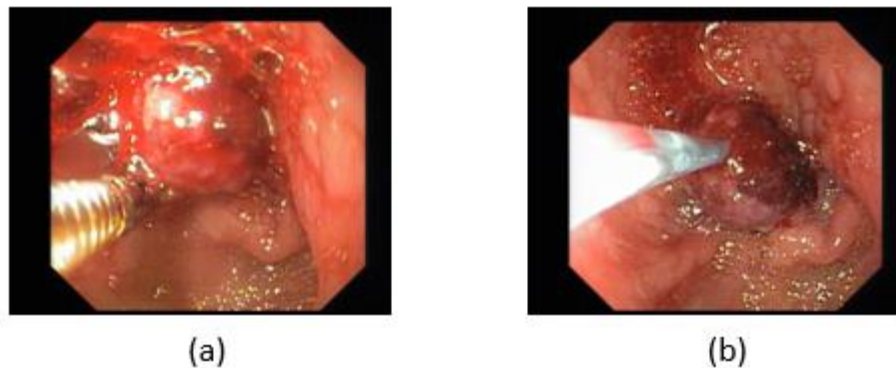


Figure 2: Gastroscopic image of (a) biopsy from polypoidal lesion, (b) Inj Adrenaline spray over the ooze site

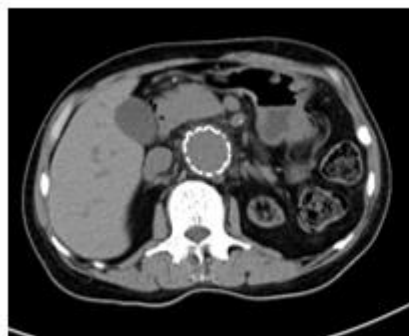


Figure 3: NCCT Abdomen showing Polypoidal Lesion in pre-pyloric region, post GJ status and endovascular aortic aneurysmal graft

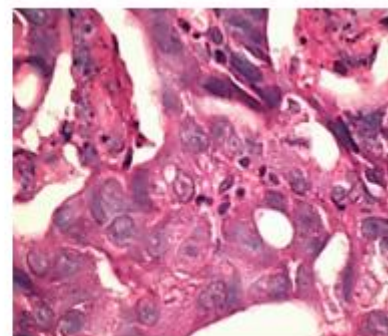


Figure 4: HPE showing sheets of abnormal columnar epithelial cells with altered Nuclear Cytoplasmic ratio



Treatment was planned under multi-disciplinary approach after getting clearance from vascular surgeon and nephrologist. He underwent laparotomy in which adhesions were released and GJ was disconnected. Then distal gastrectomy with jejunal resection was done followed by Roux en Y GJ with enteroenterostomy anastomosis. Post-operative status was uneventful.

Discussion:

In 1922, Balfour DC first reported a case of post op stump gastric cancer (1). The incidence of gastric stump cancer was reported to range between 1-10% according to various available current literatures (2). It was considered to be a definite risk factor for gastric cancer (3). Gastric stump cancer and gastric resection cancer terms are synonymous to each other. (4).

Common theories behind development of post op stump gastric cancer are(5):

- 1) Post GJ status leads to hypochlorhydria which in turn leads to bacterial overgrowth in stomach and increased nitrite production which is a risk factor for gastric cancer.
- 2) Chronic Enterogastric reflux of bile salts & pancreatic enzymes which are potent gastric irritants leads to development of gastric cancer
- 3) Atrophy of remaining fundic mucosa leads to low levels of gastrin which is a risk factor for gastric cancer.

Tanigawa *et al* reported that the apoptotic index, p53 labeling index and Ki-67 labeling index are significantly higher in patients treated with Billroth II than Billroth I reconstruction (6). Aya *et al* reported a significantly higher level of microsatellite instability, as well as a higher frequency of both hMLH1 and hMSH2 inactivation, in patients treated with Billroth II than with Billroth I reconstruction (7).

Although there was no significant correlation between *H.pylori* infection and Billroth anastomosis reconstruction, eradication of *H.pylori* infection was found to be associated with less incidence of post op stump cancer. There was significant association between Epstein - Barr virus infection in Billroth anastomosis and development of post op stump cancer (8).

Meta-analysis of 22 studies revealed there was no gender predominance in development of post op stump gastric cancer following Billroth reconstruction. However most commonly post op



stump gastric cancer develop following Billroth II anastomosis due to any cause. Billroth reconstruction for gastric ulcer has more risk to develop post op stump cancer than for duodenal ulcer (5).

The latency period to develop stump cancer following Billroth anastomosis varies according to the various etiologies for which it was done. Following malignant etiology stump cancer arises within 5-10 years and for benign etiology (PUD sequelae) usually it arises after 15-20 years of reconstruction (9).

The various locations from where post op stump gastric cancer can develop are (a) at anastomotic site (b) along stump line (c) along non-stump line and (d) small intestinal side. Tanigawa et al from Japan studied around 817 patients of post op stump cancer. He had shown that around 60-70% cases arise from anastomotic site and along stump line following Billroth II reconstruction. He had also shown that around 40-50% cases arise from non-stump line after Billroth I reconstruction.

Gastroscopic surveillance and CT abdomen helps in diagnosis of post op stump cancer much earlier. Japanese study of 817 patients revealed almost 50% of patients in T1 stage of gastric cancer due to their regular endoscopic and endosonographic surveillance protocol (9). Endosonography have a role in (i) nodular lesions (ii) to find the depth of the lesion and (iii) to assess the role of EMR or ESD in these lesions.

Treatment is total gastrectomy or partial gastrectomy with D2 lymph node dissection for T2-4 lesions according to their nodal involvement. For T1 lesions endoscopic mucosal resection (EMR) or endoscopic surgical dissection (ESD) has some role (9). Advanced post op stump gastric cancers can be managed through palliation in the form of metallic stenting or naso-jejunal tube feeding with chemotherapy according to their performance status. Prognosis of patients with post op stump gastric cancer is low due to their nature of presentation in advanced stages. Even after resection 5-years disease free survival rates are only around 7-20% (5).

We report this case due to its rarity of stump cancer arising 34 years after surgery for benign disease presenting as chronic blood loss which in the presence of co-morbidities was thought to be due to chronic kidney disease or antiplatelet drugs. Also we report this case to bring awareness for primary care physicians about the importance of especially annual endoscopic surveillance to diagnose gastric cancer at an early stage in post GJ status patients.



Acknowledgement: Nil

Conflicts of Interest: Nil

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