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# A Rare Case Report of Gastroduodenal Stromal Tumour: A Diagnostic Dilemma

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**Abstract:** ***Gastrointestinal stromal tumors are relatively uncommon mesenchymal tumors affecting the GI tract. Non palpable gastro duodenal are difficult to diagnose. Here is one such case diagnosed on upper GI endoscopy and was evaluated. On evaluation features were suggestive of CA stomach and endoscopic biopsy report was inconclusive. The patient underwent exploratory laparotomy and post operatively histopathology report suggested of Gist. Hence on table surgeons decision of surgical procedure is gold standard in deciding the further outcome of the disease.***

**Keywords:** Gastroduodenal stromal tumour, upper GI endoscopy, Gastroduodenostomy, Gist

## 1. Introduction

Gastrointestinal stromal tumors are rare mesenchymal neoplasms affecting the gastrointestinal tract. [1-3] GISTs are defined as mesenchymal tumors arising from the gastrointestinal wall, mesentry, omentum or retroperitoneum. Most common sites being stomach (40-60%) and small intestine (30-40%).[4] The most common presentation is gastrointestinal bleeding which may be chronic and mild or sudden and massive.[5] The next most common presentations are abdominal discomfort, pain and swelling.[6] Diagnosis can be made with upper GI endoscopy.[6] Presentation of a non palpable gastro duodenal stromal tumor is very vague and high likelihood of missed diagnosis persists.

## 2. Case Report

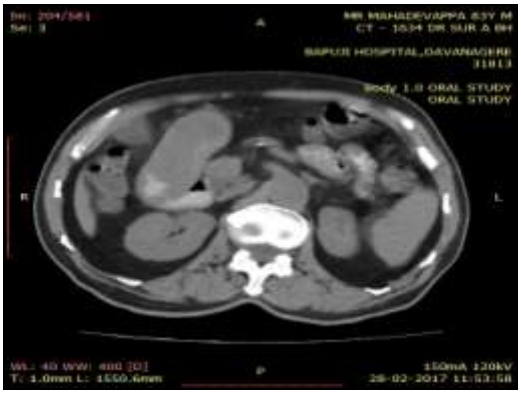
An 83 year old patient presented with gradual onset non colicky pain abdomen with 2-3 episodes of vomiting everytime he had food since one week. On examination the patient looked healthy with no evidence of pallor or jaundice.

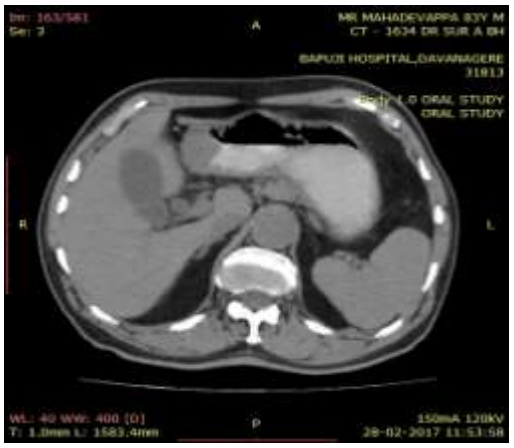
Per abdomen examination findings revealed tenderness in the umbilical region with no e/o any palpable mass and, bowel sounds were normal. Patient had no episodes of constipation. Per rectal examination was normal. Neck and inguinal region revealed no lymphadenopathy.

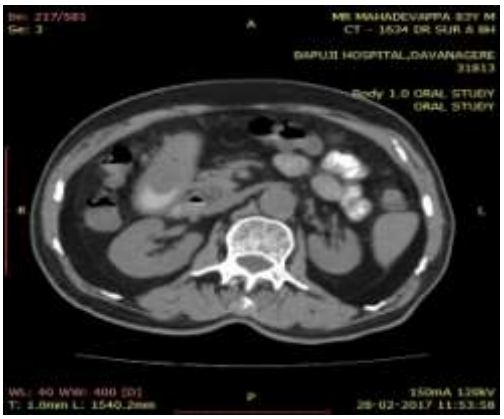
Patient underwent esophago-gastro-duodenoscopy which revealed a sub mucosal lesion at pyloric region; biopsy was taken and sent for analysis. The results of the biopsy were inconclusive.

CT- homogenous well defined endophytic lobulated soft tissue lesion in gastric antrum, pylorus, and 1st and 2nd part of duodenum with heterogeneous post contrast enhancement.

Suggestive of carcinoma of stomach.

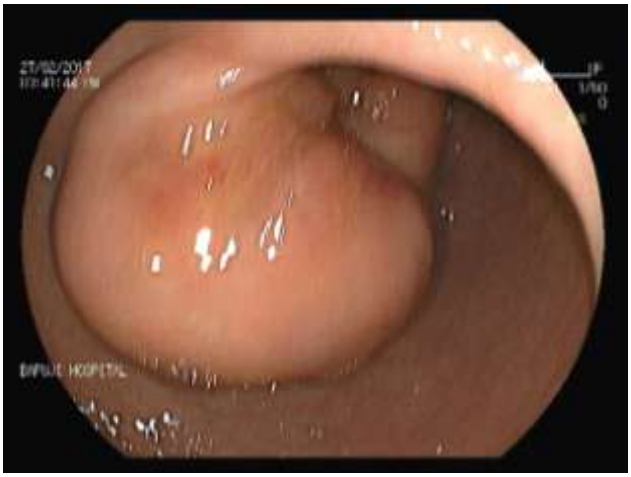






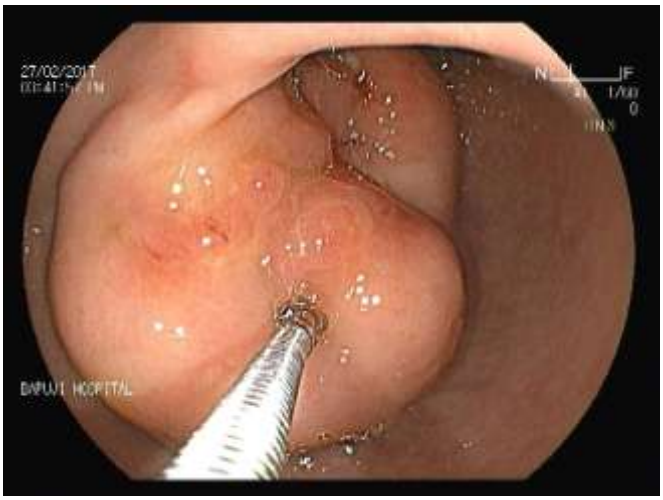
**Laboratory Investigations**
Patient had microcytic hypochromic anaemia with Hb-9.6gm/dl. All other routine laboratory investigations – Haemogram Liver Function Tests and Renal Function Tests were normal including serum electrolytes.

**Upper Gi Endoscopy**



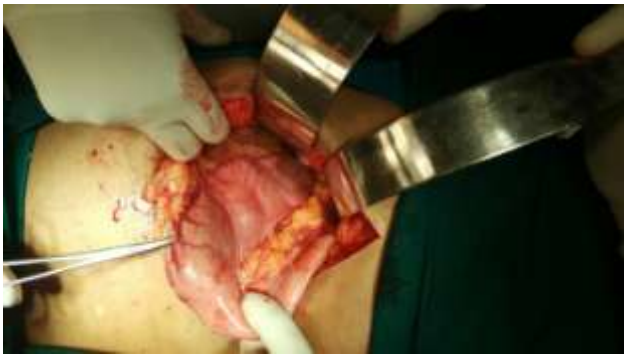
On upper GI endoscopy a globular shaped swelling was noted in the antral region

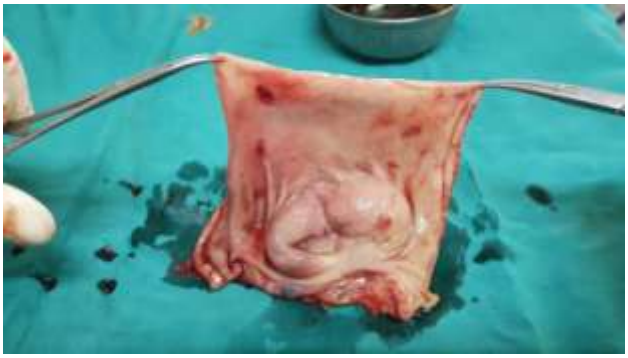
**Tissue Diagnosis**

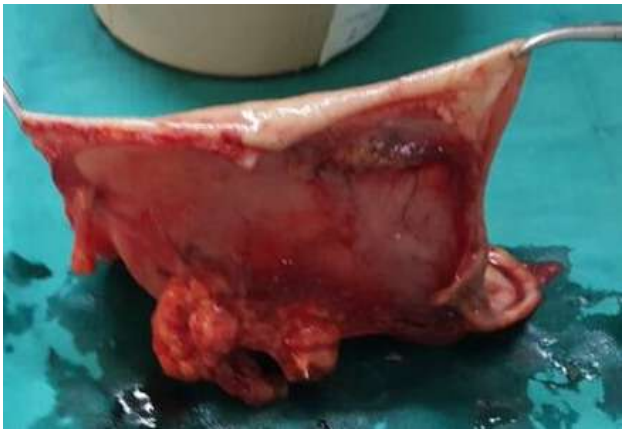


Biopsy was taken on upper GI endoscopy and was sent for tissue diagnosis which came as foveolar hyperplasia lined by columnar mucinous cells, lamina propria shows oedema with no e/o H pylori intestinal metaplasia or malignancy.

**Treatment**
The patient was electively posted for surgery. Distal gastrectomy with end to end gastroduodenostomy was done.
A mass measuring 5*5*8 cm was found in the antrum extending to pylorus and first part of duodenum







## 3. Histopathology

**Macroscopy**
Single nodular elevated mucosal growth measuring 7*5*2.8cm. no ulceration seen on surface. Cut section shows multinodular submucosal growth, no necrosis haemorrhage or calcification. The growth is 1.5 to 3.5cm away from resection margins all around.omentum to greater and lesser curvature revealed 12 lymphnodes measuring 1.5 to 2 cm.

**Microscopy**
Lobulated tumor in submucosa with focal involvement of lamina propria composed of nodular masses surrounded by fibrous stroma. These are composed of spindle cells in fascicles with focal palisaded arrangement.

Other areas show epitheloid cells with clear cytoplasm and oval to round nuclei with small nucleoli. Focal hyalinase/fibromyxoid stroma seen. Spindle cells with eosinophilic fibrillary cytoplasm and oval nuclei. Mitoses <5 per 50 HPF.

No necrosis seen. Overlying gastric mucosa show features of chronic non atrophic gastritis with focal large ulcerated areas overlying the tumor, i.e., site of previous biopsy. Muscularis propria appear non remarkable. Inked circumferential radial resection margins are free of tumor.

Duodenal segment shows features of duodentitis. No angiolymphatic tumor invasion seen.

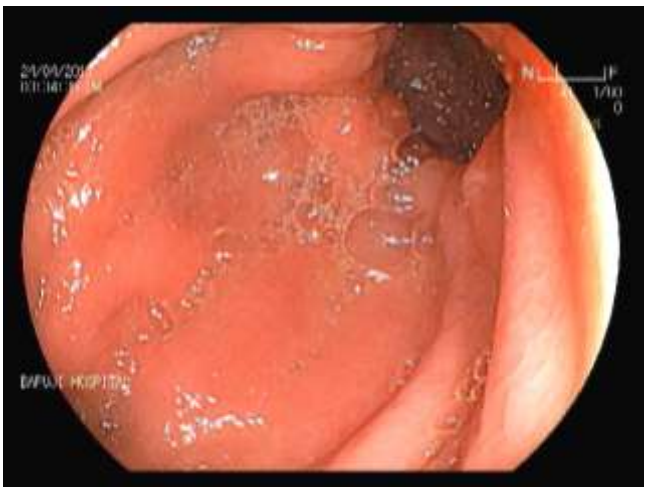
12 lymphodes show no evidence of metastasis.

**Interpretation**
Low grade spindle cell tumor favours Gastrointestinal stromal tumor.

Confirmed by IHC C-kit Dog1 Ki-67 SMA CD117 and CD 34

**Postoperative Recovery**

POD1 patient was extubated and shifted to stepdown ICU.
POD2 patient was orally allowed clear liquids and he tolerated it with no features of vomiting.
POD3 patient was orally allowed semi solids and he tolerated it.
POD4 drain was removed and patient was tolerating orally.
POD7 abdominal sutures removed and no e/o gaping or wound infection.
POD21 Upper GI Endoscopy was done to visualize gastroduodenal stoma .



## 4. Discussion

**GISTs** are many a times a missed/incidental diagnosis as with our case, the patient was treated for acid peptic disease with proton pump inhibitors, was referred to us for Upper GI endoscopy.

Endoscopy revealed a mucosal growth, but endoscopic biopsy report was inconclusive, CT scan showed gastric carcinoma involving antrum pylorus and first part of duodenum. This created a diagnostic dilemma as the entire surgical line of treatment changes for GIST and Ca stomach.
The standard therapy for GIST is complete surgical resection with safety margin of 1 to 2 cm. Patient can achieve complete remission when thorough surgical resection is performed.[7]

On histopathological examination diagnosis of GIST was made confirmed by immuohistochemistry with no significant mitoses that indicates the surgery was the adequate treatment of choice.
Hence CT scans are not always helpful in specifying the origin and extent of mass. In several cases reported in literature mass was misdiagnosed of arising from head of pancreas.[8] As local and regional lymphnode is rare in GIST, routine lymphnode dissection is not advocated and outcome depends upon pathological features of the tumor and completeness of surgical resection.[8] Large tumors with high mitotic counts behave much worse than small tumors with low mitotic counts, which are considered benign.[8]

## 5. Conclusion

Gastroduodenal stromal tumors presenting as gastric carcinoma pose a challenging problem for the surgeon to decide the treatment modality, in such cases intraoperative decision regarding type of surgery determines the further outcome of the disease. Upper GI endoscopy in an elderly male with anaemia of occult etiology helps to find out small GISTs. Thus adequate surgical resection is still the treatment of choice in the era of imatinib therapy.

## References

[1] Pidhorecky I, Cheney RT, Kraybill WG, Gibbs JF. Gastrointestinal stromal tumors: current diagnosis,biologic behavior, and management. *Ann Surg Oncol 2000;7:705-12*.
[2] Miettinen M,Lasota J. Gastrointestinal stromal tumors: review on morphology,molecular pathology,prognosis and differential diagnosis. *Arch Pathol Lab Med 2006;1301466-78.*\
[3] Tran T, Davila JA, EL-Serag HB. The epidemiology of malignant gastrointestinal stromal tumors: an analysis of 1458 cases from 1992 to 2000. *Am J gastroenterol 2005;100:162-8.*
[4] Mehta C, Gumaste W, Leytin A, Walfish A: An unusual cause of upper gastrointestinal bleeding:duodenal GIST. A case report and literature review. *Acta Gastroenterol Belg 2011, 74(2):347-351.*
[5] Machado NO, Chopra PJ, AL-Haddabi IH, AL-Qadhi H: Large duodenal gastrointestinal stromal tumor presenting with acute bleeding managed by whipple resection.A review of surgical options and the prognostic indicators of outcome. *JOP 2011, 12(2): 194-199.*
[6] Poves I, Burdio F, Alonso S, Seoane A, Grande L: Laproscopic pancreas-sparing subtotal duodenectomy. *JOP 2011, 12(1): 62-64.*
[7] Bauer S, Rutkowski P, Hohenberger P, Miceli R, Fumagalli E, Siedlecki JA, Nguyen BP, Kerst M, Fiore M, Nyckowski P, Hoiczyk M, Cats A, Casali PG,Treckmann J, van Coevorden F, Gronchi A: Long term follow up of patients with GIST undergoing metastectomy in the era of imatinib- analysis of prognostic factors (EORTC- STBSG collaborative study. Eur J Surg Oncol 2014, 40(4): 412-419.

[8] Kwon SH, Cha HJ, Jung SW, Kim BC, Park JS, Jeong ID, Lee JH,Nah YW, Bang SJ, Shin JW, Park NH, Kim DH: A gastrointestinal stromal tumor of the duodenum, masquerading as a pancreatic head tumor. World J Gastroenterol 2007, 13(24): 3396-3399

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