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Research Article

Recurrent Iron Deficiency Anemia- Be Aware of Carcinoma Stomach

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Abstract: ***Introduction*** Most patients with gastric cancer are symptomatic. Weight loss and persistent abdominal pain are the most common symptoms at initial diagnosis. Approximately 25 percent of patients with gastric cancer have a history of gastric ulcer. Iron deficiency anemia (IDA) is a common, often early, sign of gastric cancer, affecting roughly 40%–58.7% of patients at diagnosis, frequently caused by chronic occult gastrointestinal bleeding or tumor-related nutrient malabsorption. It is highly associated with stomach cancer, especially in men and individuals over 80. Grossly thickened stomach has many differential diagnoses, including both benign and malignant and in latter adenocarcinomas are most common. **Case report:** We present a sixty- two -year- old female, not a known case of any chronic illness, presented with generalized fatigue four years back and on evaluation was found to be having iron deficiency anemia, for which she was transfused parenteral iron. It led to symptomatic improvement but it remained for few months only. After a gap of six months, she again developed same symptoms and iron deficiency anemia which was again treated with parenteral iron therapy. In last four years, six episodes occurred of recurrent iron deficiency anemia which were treated in same manner. At this point of time, she reported in our department and on work up again iron deficiency anemia was detected. On probing in detail, she admitted that she intermittently was passing blackish-brownish stools, which persisted even after stopping oral iron therapy. She told that all his past private practitioners attributed this to oral iron therapy. The rest of biochemical investigations including liver & renal function test, celiac profile, thyroid profile, blood sugar, viral screen and ultrasonogram abdomen was essentially normal. The upper gastro-intestinal endoscopy showed two lesions. First one was ulcer-polypoidal, just after crossing GE junction and second one was polypoidal lesion in body. The biopsy on histopathological examination confirmed it to be adenocarcinoma. The Computed tomography scan showed thickened stomach walls with polypoidal lesion in body. The PET-CT scan showed FDG avid intraluminal lobulated lesions arising from body of stomach which were suggestive of neoplastic etiology. The patient was referred to oncosurgeon and is being worked up for surgery. Our case report case has two distinct points, first is recurrent iron deficiency anemia should not be taken lightly that too in old age when other causes are not pin-pointed. The other uncommon thing was two lesions at two different sites of stomach which is very important in deciding the type of surgery and extent of resection in the patient.
Conclusion: Iron deficiency anemia, that too recurrent in old age should be evaluated in detail and gastro-intestinal malignancies should be ruled out. For the same, upper gastro-intestinal endoscopy and colonoscopy should mandatory be included in the work-up.
Keywords: Iron-deficiency anemia, Endoscopy, Carcinoma stomach, CT scan abdomen, PET Scan

INTRODUCTION

Gastric cancer is the sixth most common cancer and the fourth most common cause of cancer-related death in the world [1]. Gastric cancer was once the second most common cancer in the world. In most developed countries, however, rates of stomach cancer have declined dramatically over the past half century due to widespread use of refrigeration, which led to increased consumption of fresh fruits and vegetables; decreased intake of salt, which had been used as a food preservative; and decreased contamination of food by carcinogenic compounds arising from the decay of unrefrigerated meat products. Salt and salted foods may damage the gastric mucosa, leading to inflammation and an associated increase in DNA synthesis and cell proliferation. Other factors likely contributing to the decline in stomach cancer rates include lower rates of chronic Helicobacter pylori infection, due to improved sanitation and use of antibiotics, and increased screening in some countries [2]. Environmental factors implicated in the development of gastric cancer include diet, helicobacter pylori infection, previous gastric surgery, pernicious anaemia, adenomatous polyps, chronic atrophic gastritis, radiation exposure and smoking. Worldwide, however, gastric cancer rates are about twice as high in men as in women [2]. Unexplained iron deficiency anemia (IDA), especially in older adults, should prompt evaluation for gastrointestinal cancers, including gastric cancer, through upper endoscopy. A 2018 study found 58.7% of gastric cancer patients were anaemic, with 40% meeting the criteria for IDA at diagnosis. While IDA is a common symptom, it is also associated with a 2.73-fold higher risk of developing gastric cancer in men over 80. IDA is commonly caused by chronic, small-volume blood loss from the tumor

itself. Additionally, IDA may be linked to accelerated Helicobacter pylori-induced gastric carcinogenesis, with affected individuals potentially at higher risk of cancer. Early disease usually has no associated symptoms; however, as disease advances, then patient may develop indigestion, nausea or vomiting, dysphagia, postprandial fullness, loss of appetite, melena, hematemesis, weight loss. Late complications include pathologic peritoneal and pleural effusion, obstruction at gastric outlet, gastroesophageal junction, or small bowel, jaundice and cachexia [6]. The median age at gastric cancer diagnosis is 68 years; fewer than 2% of cases occur in persons younger than 35 years [5]. The gastric cancers that occur in younger patients may represent a more aggressive variant or may suggest a genetic predisposition to development of the disease. Gastric cancer remains difficult to cure, primarily because most patients present with advanced disease and even who present in the most favorable condition and who undergo curative surgical resection often experience recurrent disease. However, advances in adjuvant therapy are resulting in improved survival [3]. Around 40% of cancers develop in the lower part, 40% in the middle part, and 15% in the upper part; 10% involve more than one part of the organ. Gastric cancer may often be multifactorial, involving both inherited predisposition and environmental factors [4].

Case Report

We present a sixty- two -year- old female, not a known case of any chronic illness, presented with generalized fatigue four years back and on evaluation was found to be having iron deficiency anemia, for which she was transfused parenteral iron. It led to symptomatic improvement but it remained for few months only. After a gap of six months, she again developed same symptoms and iron deficiency anemia which was again treated with parenteral iron therapy. In last four years, six episodes occurred of recurrent iron deficiency anemia which were treated in same manner. At this point of time, she reported in our department and on work up again iron deficiency anemia was detected. On probing in detail, she admitted that she intermittently was passing blackish-brownish stools, which persisted even after stopping oral iron therapy. She told that all his past private practitioners attributed this to oral iron therapy. The rest of biochemical investigations including liver & renal function test, celiac profile, thyroid profile, blood sugar, viral screen and ultrasonogram abdomen was essentially normal. The upper gastro-intestinal endoscopy showed two lesions. First one was ulcer-polypoidal, just after crossing GE junction and second one was polypoidal lesion in body. The biopsy on histopathological examination confirmed it to be adenocarcinoma. The Computed tomography scan showed thickened stomach walls with polypoidal lesion in body. The PET-CT scan showed FDG avid intraluminal lobulated lesions arising from body of stomach which were suggestive of neoplastic etiology. The patient was referred to oncosurgeon and is being worked up for surgery. Our case report case has two distinct points, first is recurrent iron deficiency anemia should not be taken lightly that too in old age when other causes are not pin-pointed. The other uncommon thing was two lesions at two different sites of stomach which is very important in deciding the type of surgery and extent of resection in the patient.

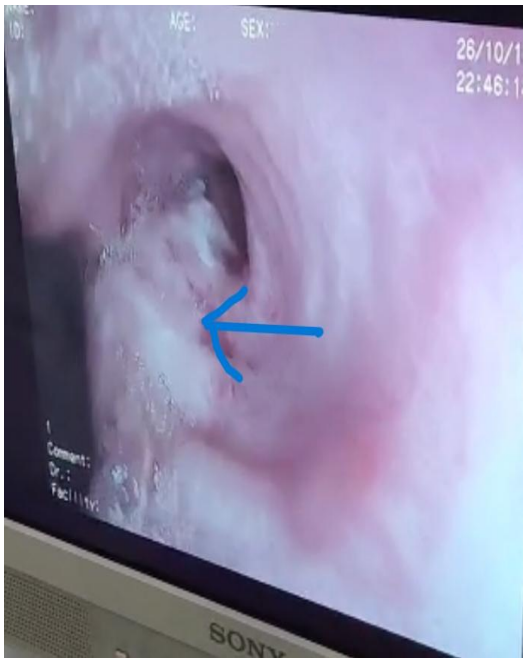

Figure 1- Endoscopy showing lesion at GE junction (blue arrow)

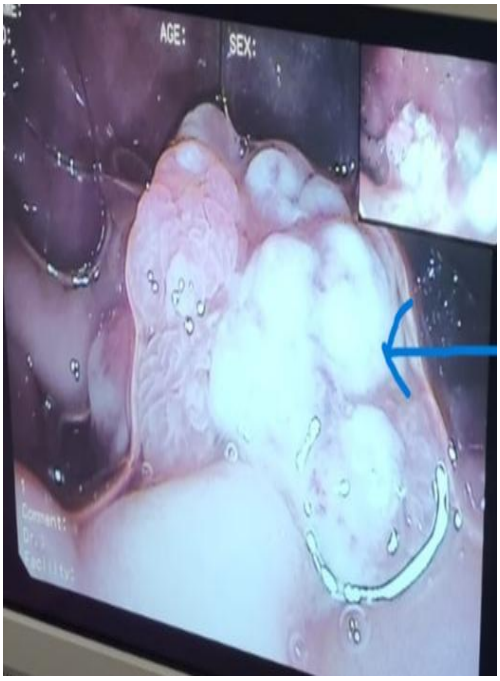

Figure 2- Endoscopy showing in body polypoidal lesion (blue arrow)

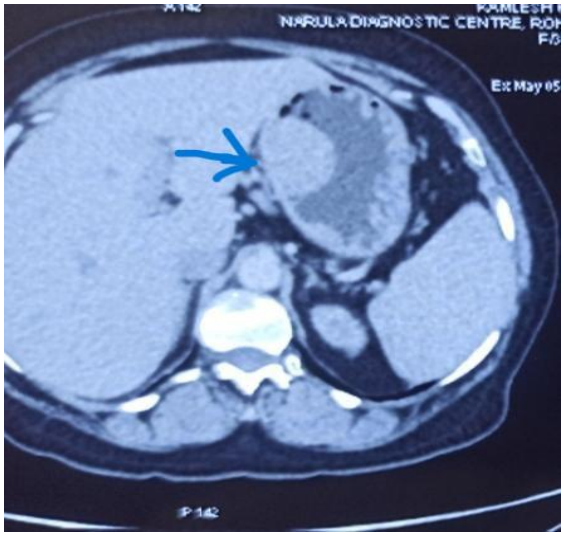

Figure 3- CECT scan abdomen showing thickened stomach with lesion (blue arrow)

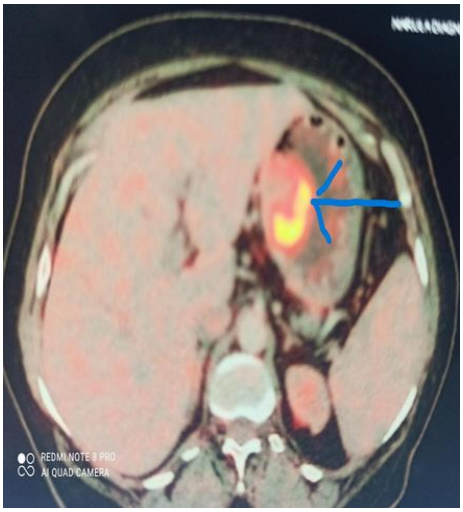

Figure 4- PET CT Showing hypermetabolic lesion in stomach (blue arrow)

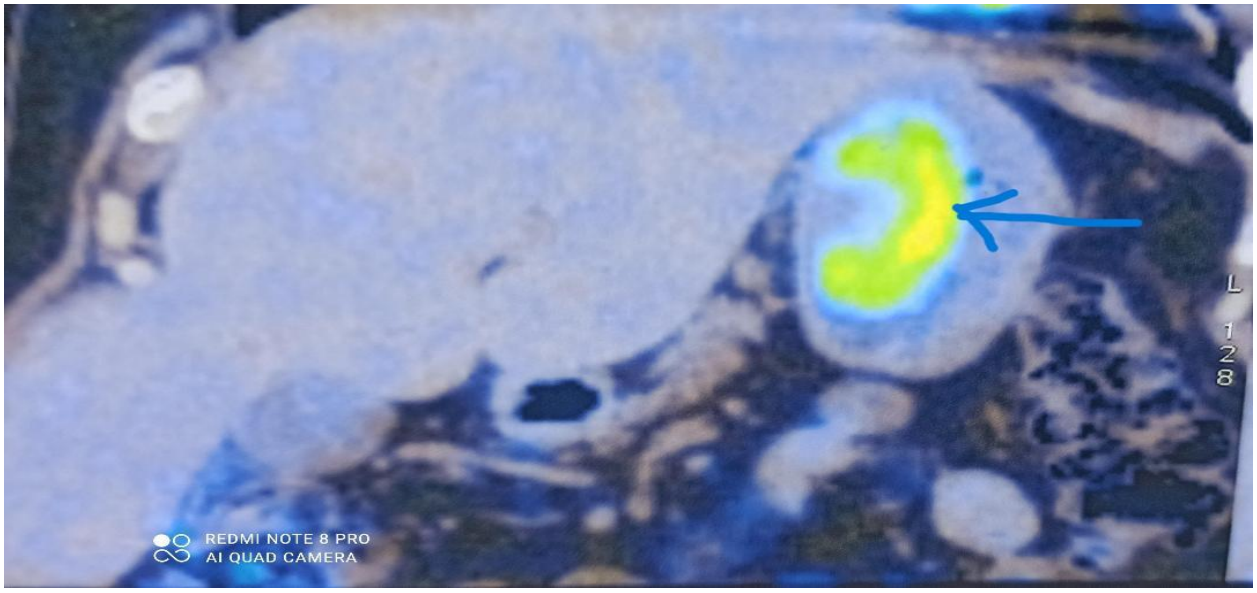

Figure 5- PET CT showing hypermetabolic lesion in stomach in different view

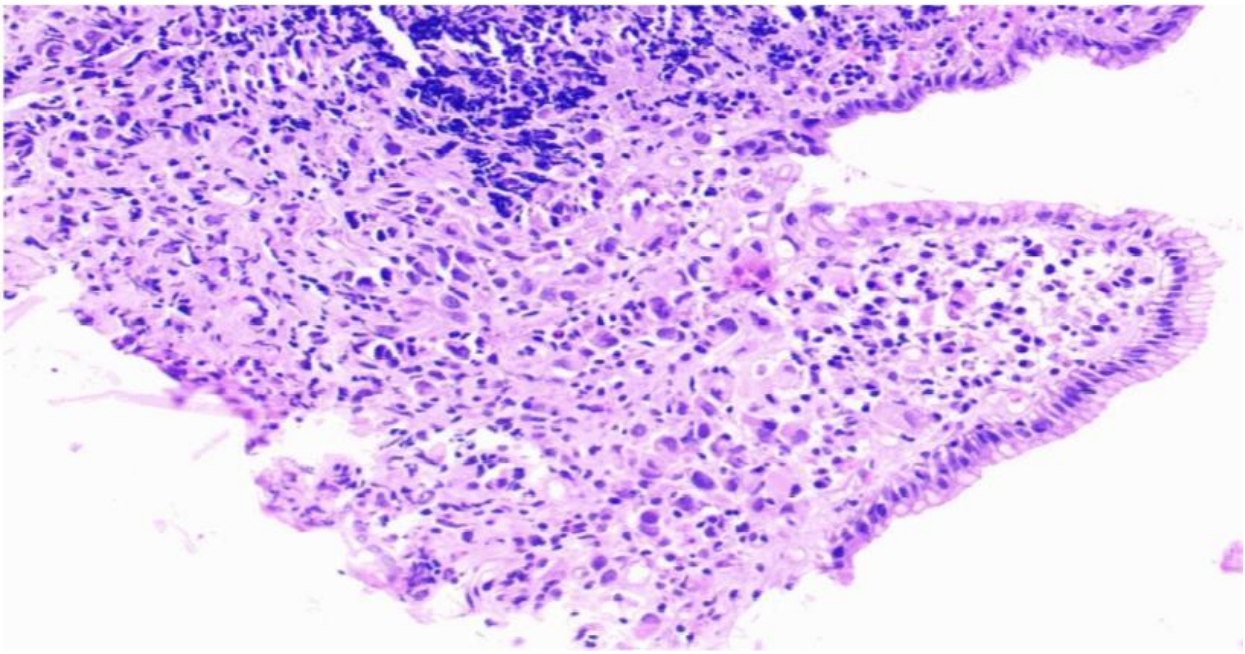

Figure 6- Histopathology section showing adenocarcinoma stomach

DISCUSSION

Iron deficiency anemia (IDA) is the most common form of anemia globally, resulting in a high global burden of disease. It is caused by a decreased availability of iron for erythropoiesis. The WHO defines IDA as a reduction of the hemoglobin (Hb) concentration in the blood below the age- and sex-specific normal values of 12 g/dL in women or 13 g/dL in men [7]. Evidence suggests that IDA may be involved in the development, progression, and treatment of cancer, particularly in the gastrointestinal tract [8-10]. For instance, Kepczyk and Kadakia [11] reported a relatively high prevalence of gastrointestinal cancer of 14% among patients undergoing endoscopy for IDA. The differential diagnosis of a thickened stomach wall includes a wide range of both benign and malignant conditions. Benign causes include inflammatory conditions like gastritis, peptic ulcer disease, crohn's disease, and menetrier's disease, eosinophilic & granulomatous gastritis, tuberculosis, amyloidosis, zollinger ellison syndrome while malignant causes include gastric adenocarcinoma and lymphoma. Other less common causes include granulomatous gastritis, amyloidosis, and metastasis to the stomach. Gastric adenocarcinoma is a common cause of malignant thickening, which can be focal or diffuse (e.g., Borrmann type 4, also known as linitis plastica). Lymphoma can present as a focal, irregular mass or as a segmental/diffuse, symmetric thickening, sometimes with homogeneous enhancement. Gastrointestinal stromal tumours (GISTs) are less common but can cause a mass-like thickening. Metastatic Cancer from other primary sites can involve the stomach secondarily, causing wall thickening. Our case report case highlights two distinct points, first is recurrent iron deficiency anemia should not be taken lightly that too in old age when other causes are not pin-pointed. The other uncommon thing was two lesions at two different sites of stomach which is very important in deciding the type of surgery and extent of resection in the patient.

CONCLUSION

Iron -deficiency anemia, that too recurrent in old age should be evaluated in detail and gastro-intestinal malignancies should be ruled out. For the same, upper gastro-intestinal endoscopy and colonoscopy should mandatory be included in the work-up.

Conflict of Interest- Authors declare that there was no conflict of interest and no financial support was taken for publication of this case report and same was published after due consent from the patient.

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