Section: General Surgery

Case Series

RARE PRESENTATIONS OF CARCINOMA STOMACH: A CASE SERIES

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ABSTRACT

Background: Gastric Carcinoma (GC) is the fifth deadliest cancer globally. It usually manifests in advanced-stage and presents with gastric outlet obstruction (GOO), early satiety, and vomiting. Some patients may initially present with rare or extra-digestive features that masquerade the diagnosis which could result in missing timely diagnosis and intervention. Such presentations are rarely documented and often misunderstood. **Objectives:** The objective was to detail and evaluate a group of patients suffering from gastric carcinoma and examine the clinical features that characterized the presentation as unconventional and largely outside the expectation of the gastrointestinal ensemble of symptoms.
Materials and Methods: This case series was carried out in the Departments of General Surgery and Gastroenterology at Tertiary Care Medical College for a period of six months extending from January 2025 to June 2025. The study population comprised eight adult patients with histologically confirmed gastric carcinoma who presented with atypical initial complaints. Relevant data were gathered via clinical records, appropriate imaging, endoscopic procedures, laboratory testing, and complete and pathologic reports. Patients who presented with GOO or dyspepsia were excluded.
Results: The cohort consisted of eight patients, three of whom were female. All of them were aged from 55 to 75 years. Some unusual presentations included pulmonary embolism, obstructive jaundice, ascites, deep vein thrombosis, altered mental status, bradycardia with heart block, recurrent syncope, and upper GI bleeding without vomiting. Endoscopic and imaging evaluation in all patients demonstrated malignancy of the stomach, predominantly situated in the antral or pyloric region. The histopathological examination showed moderately to poorly differentiated adenocarcinoma with signet ring and poorly cohesive subtypes. The majority were metastatic on presentation and most were treated with palliative intent. There was high mortality due to late diagnosis.
Conclusion: Gastric carcinoma can have many different and unusual symptoms. Clinicians should use inhomogeneous presentations of the disease, particularly in elderly patients, for timely diagnosis, which would improve the prognosis of the disease.
Keywords: Gastric cancer, rare presentation, gastric outlet obstruction, deep vein thrombosis, ascites, adenocarcinoma, endoscopy.

INTRODUCTION

Gastric cancer remains one of the most populous health issues in the world, being one of the most frequently diagnosed cancers. Most gastric cancers tend to have classical features such as weight loss, early satiety, or even gastric outlet obstruction. Some variants can present with atypical features which delay timely diagnosis, leading to advanced stages with poor prognosis. Schulz et al. said, “rare neoplasms of the stomach often mimic benign conditions or other malignancies, making early recognition a clinical challenge”.[1]
Like with other types of cancer, the stomach could contain a wide range of tumors and even some rare

epithelial and mesenchymal neoplasms. Wang and Chetty (2012) emphasize, "selected unusual tumors of the stomach can show overlapping features radiologically and histologically with more common entities, requiring thorough evaluation".[2] This means that the radiological clues could have a chance of being subtle or misleading. As put by Lin et al. (2017): "unusual gastric tumors often require a combination of imaging, histology, and endoscopic assessment for accurate diagnosis".[3]

In select individuals, gastric carcinoma may masquerade as submucosal lesions, mimicking gastrointestinal stromal tumors (GISTs) or lymphomas. Shin et al., (2015) provided evidence where "advanced gastric carcinoma closely resembled malignant GISTs on imaging and endoscopy, necessitating biopsy for confirmation.".[4]

Even benign-appearing gastric lesions necessitate careful evaluation. As remarked by Kashyap et al., (2011) "'an unusual submucosal lesion may be the harbinger of a more sinister underlying pathology".[5]

Heightened concern should be attributed to atypical upper GI bleeding, obstructive jaundice, or even paraneoplastic syndromes. Leung et al., (2008) emphasized "early signs of malignancy may be extra-gastric or non-specific, which often delays diagnosis in early-stage disease".[6]

Grasping the range of gastric tumors' pathologies is critical. Carneiro and Lauwers (2013) argued, "accurate histological subtyping provides essential prognostic and therapeutic guidance, especially in rare gastric tumors".[7] "Rare epithelial gastric cancers pose a diagnostic dilemma and require individualized treatment strategies, noted Petrillo et al. (2025).[8] Clinicians are required to have a high index of suspicion. Yang and Lu (2019) wrote, "malignancy must always be considered when evaluating a gastric submucosal tumor due to its potential for rapid progression".[9] "Non-neoplastic and neoplastic gastric conditions can overlap clinically, mandating endoscopic biopsy and correlation with imaging," concluded Ma et al. (2014).[10]

MATERIALS AND METHODS

This case series was performed in the Department of General Surgery at Tertiary Medical College and Hospital for a duration of six months, from July 2024 to June 2025. The purpose of the study was to describe and evaluate the distinct or unusual early signs in patients later diagnosed with gastric carcinoma.

The patients participating in this study were adults aged 18 years and older with histologically confirmed gastric cancer. Only patients with an initial presentation of atypical clinical features, which included ascites, deep vein thrombosis (DVT), pulmonary embolism, obstructive jaundice, altered mental status, cardiac symptoms, or upper gastrointestinal bleeding were included. Classical presentations of early satiety, vomiting, or dyspepsia with gastric outlet obstruction were not included.

Every patient received an initial diagnostic workup consisting of a clinical exam, blood work including a complete blood count and serum CA 19-9 levels, and CECT imaging of the chest and abdomen. Each patient also underwent upper gastrointestinal endoscopy with biopsy which necessitated histopathological confirmation prior to inclusion. In a few cases, further tests such as Doppler ultrasound or diagnostic paracentesis were performed, based on the clinical scenario.

Both retrospective and prospective cases were included in the study. For retrospective cases, participants were only included if their hospital records indicated the availability of comprehensive data. Prospective participants were recruited only after providing written and informed consent. Ethical clearance was obtained from the institutional ethics committee prior to study commencement, and all patient data was de-identified to protect confidentiality.

The primary objective of this series is to describe the clinical presentation of gastric cancer with more emphasis on its atypical features that may pose diagnostic difficulties in order to foster earlier detection in clinically similar future cases.

CASE REPORT 1

Clinical Presentation

A 56-year-old man arrived at the emergency department complaining of suddenly worsening shortness of breath lasting one day. He also reported a marked decrease in appetite over the preceding month. On examination, he was visibly anxious and struggled to speak in full sentences, with a respiratory rate of 26 breaths per minute.

Imaging Findings

Contrast CT of the abdomen showed asymmetrical, irregular thickening of the gastric wall at the antrum and pylorus, measuring 7.6 cm long and up to 1.7 cm thick. This lesion partially obstructed the lumen and caused notable proximal gastric expansion. A separate CT pulmonary angiogram revealed a filling defect in segmental branches of the right lower-lobe artery, diagnostic of pulmonary embolism. Mild left-sided pleural effusion was also present.

Gastroscopy Findings

An upper gastrointestinal endoscopy identified an ulcerative and partly obstructive mass in the gastric body and antropyloric region.

Biochemical Analysis

Blood tests indicated a D-dimer level of 2600 ng/mL, CA 19-9 of 900 U/mL, a prothrombin time of 45 seconds, and a fibrinogen concentration of 50 mg/dL, all pointing to a hypercoagulable state.

Histopathology

A biopsy of the gastric lesion showed moderately differentiated adenocarcinoma.

Current Status

The patient has died.

CASE REPORT 2

Clinical Presentation

A seventy-five-year-old woman arrived in the emergency department with progressive abdominal enlargement over the preceding ten days and worsening nausea, vomiting, and constipation noted during the last five days. Her vital signs revealed tachypnea at twenty-two breaths per minute, though room-air oxygen saturation remained at 95 percent. Physical examination confirmed a tense, uniformly distended abdomen, and shifting dullness suggested moderate to large-volume ascites.

Imaging Findings A contrast-enhanced computed tomography scan of the abdomen showed irregular, circumferential thickening of the distal gastric body, antrum, and pylorus. The involved segment measured approximately six centimetres in length and up to nine millimetres in thickness, causing mild narrowing of the gastric lumen. The study also demonstrated free, loculated fluid throughout the peritoneal cavity.

Gastroscopy Findings During esophagogastroduodenoscopy, an ulceroproliferative mass was noted in the body and antropyloric region of the stomach, with edges that bleeded easily on contact. The lesion was biopsied.

Biochemical Analysis: Analysis of straw-coloured, turbid ascitic fluid obtained by paracentesis showed a serum-ascites-albumin gradient of 1.1 g/dL; total protein 3.9 g/dL; LDH 216 U/L; pancreatic amylase 15 U/L; and ADA 7.4 U/L. Serum CA 19-9 concentration was markedly elevated at 1723 U/mL.

Histopathology Microscopic examination of endoscopic biopsies revealed poorly differentiated adenocarcinoma, with features consistent with gastric origin.

Current Status The patient died three weeks after presentation, despite palliative measures.

CASE REPORT 3

Clinical Presentation

A fifty-eight-year-old man was referred for evaluation of persistent dyspepsia and newly noted jaundice of four weeks duration. He described dark urine and light-colored stools that appeared one week before admission. Appetite and weight remained stable; there was no vomiting or abdominal distension. He had well-controlled hypertension and type 2 diabetes, both managed with oral medications. On physical examination, mild epigastric tenderness was detected in the right upper quadrant, but no organomegaly or palpable mass was identified.

Imaging Findings

Contrast-enhanced abdominal computed tomography demonstrated an irregular exophytic lesion involving the gastric antrum and pylorus, with circumferential infiltration into the first part of the duodenum and the head and uncinate process of the pancreas. This advanced disease obstructed normal gastric drainage and caused marked dilatation of the common bile duct, both intra- and extra-hepatic biliary radicals, the cystic duct, and the main pancreatic duct. Additionally, a moderate volume of peritoneal fluid consistent with malignant ascites was observed.

Gastroscopy Findings

Flexible upper endoscopy confirmed a fungating mass at the pylorus, which produced a partial gastric outlet obstruction. Biopsies were obtained for histological evaluation of the lesion.

Biochemical Analysis

Serum carbohydrate antigen 19-9 level was < 1.4 U/mL, providing no support for pancreaticobiliary malignancy.

Intraoperative Findings

During surgery, a firm mass was found at the antropyloric area of the stomach, causing the rest of the organ to balloon. Surgeons noted several small tumor nodules in the transverse mesocolon and the pouch of Douglas. Additional deposits pulled the small bowel mesentery short, and there was a moderate amount of fluid in the abdominal cavity. A gastrojejunostomy was completed to bypass the obstruction, and the patient was later sent home with outpatient palliative chemoradiotherapy scheduled.

Histopathology

Tissue samples analyzed under the microscope showed a moderately differentiated adenocarcinoma.

Current Status

Despite treatment, the patient expired shortly afterward.

CASE REPORT 4

Clinical Presentation

A 65-year-old male had a chronic cough and hoarseness of the voice for three weeks, which was also associated with weight loss and fatigue. There were no complaints of vomiting, abdominal pain, or gastrointestinal bleeding. He had no history of tobacco or alcohol use.

Examination Findings

Mild pallor was noted on general examination. Voice was hoarse; however, there was no palpable cervical or supraclavicular lymphadenopathy. Mild epigastric tenderness was noted.

Imaging Findings

Contrast CT scan of the chest and abdomen showed asymmetric wall thickening of the lesser curvature and fundus of the stomach with an enlargement of the left para-aortic lymph nodes containing left recurrent laryngeal nerve which might explain the voice changes.

Gastroscopy Findings

Upper gastrointestinal endoscopy revealed an ulcerative lesion in the gastric fundus which extends toward the cardia.

Biochemical Analysis

Anemia was present with hemoglobin of 8.4 g/dL. Serum CA 19-9 was elevated at 413 U/mL.

Histopathology

The biopsy revealed a poorly differentiated adenocarcinoma.

Current Status

The patient was referred for palliative chemoradiotherapy.

CASE REPORT 5

Clinical Presentation

A 70-year-old female patient presented with a two-week history of mental status changes and episodic

confusion. Family members reported increased sedentary behavior alongside reduced dietary intake. There were no gastrointestinal symptoms.

Examination Findings

The patient exhibited temporal and spatial disorientation. Neurological examination showed no focal deficits. The abdominal examination revealed mild hepatomegaly.

Imaging Findings

CT scan of the brain did not show any abnormalities. Contrast-enhanced CT of the abdomen showed diffuse thickening of the gastric wall and several hepatic metastases. PET scan showed hypermetabolic lesions in the stomach and multiple hypermetabolic hepatic lesions.

Gastroscopy Findings

Endoscopic examination revealed a thickened infiltrating lesion which was extending over the body and antrum of the stomach.

Biochemical Analysis

Moderate liver dysfunction with elevated serum ammonia of 134 µmol/L and increased CA 19-9 of 627 U/mL was noted.

Histopathology

Biopsy results of the gastric lesion were consistent with signet ring cell carcinoma.

Current Status

The Patient received supportive care. She passed away within one week.

CASE REPORT 6

Clinical Presentation

A 60-year-old male patient with no significant past medical history presented with swelling of the left lower limb for four days, along with low-grade fever. He had no abdominal complaints and no history of recent travel, surgery, or prolonged sitting.

Examination Findings

There was marked swelling, warmth, and tenderness in the left leg, which also showed a positive Homan's sign. Abdominal examination was normal.

Imaging Findings

Extensive thrombosis of the left femoral and popliteal veins was noted on Doppler ultrasound of the lower limb. A contrast enhanced CT scan of the abdomen revealed circumferential thickening of the pyloric region of the stomach with several enlarged para-aortic lymph nodes.

Gastroscopy Findings

Upper gastrointestinal endoscopy revealed an ulcero-proliferative lesion located in the pyloric canal.

Biochemical Analysis

D-dimer and Serum CA 19-9 were noted to be elevated at 1980 ng/mL and 290 U/mL respectively.

Histopathology

A moderately differentiated adenocarcinoma of the stomach was confirmed through biopsy.

Current Status

Anticoagulation therapy was commenced and the patient was sent for further oncological evaluation.

CASE REPORT 7

Clinical Presentation

A previously healthy 55-year-old female presented to the emergency department with multiple episodes of syncope. During her evaluation, she was found to have bradycardia. There was no reported history of chest pain, gastrointestinal symptoms, or palpitations.

Examination Findings

Her heart rate was 42 beats per minute and blood pressure was 100/60 mmHg. There were no focal neurological deficits.

Imaging Findings

ECG demonstrated complete heart block, and she was started on temporary pacing. Additionally, a CT scan of the thorax and upper abdomen incidentally demonstrated a gastric mass which was compressing the celiac plexus and there was also perigastric lymphadenopathy.

Gastroscopy Findings

Endoscopy has shown a polypoidal growth at the cardia and the proximal body of the stomach.

Biochemical Analysis

CA 19-9 was elevated to 519 U/mL, while serum potassium and thyroid function tests were normal.

Histopathology

Biopsy of the lesion on the stomach showed poorly cohesive carcinoma.

Current Status

She had a permanent pacemaker fitted. Chemotherapy was palliatively planned.

CASE REPORT 8

Clinical Presentation

A 62-year-old man reported recurrent episodes of upper gastrointestinal bleeding for the past three months. This was accompanied by fatigue which progressively worsened over time. There were no episodes of vomiting blood.

Examination Findings

He was noted to be pale. Examination revealed hypotension with 100/70 mmHg blood pressure and tachycardia with 94 bpm. Abdominal examination showed a non-tender and soft abdomen.

Imaging Findings

CT abdomen with contrast showed an ulcerated lesion in the fundus of the stomach with erosion into the short gastric vessels, revealing skeletal remains of a necrotic ghost ship within. Notable was the absence of hepatic metastases.

Gastroscopy Findings

Upper gastrointestinal endoscopy showed a large bleeding ulcer with a necrotic base located in the fundus of the stomach.

Biochemical Analysis

Hemoglobin level was 6.9 g/dL. CA 19 -9 antigen was noted to be elevated at 156 U/ml.

Histopathology

An intestinal type adenocarcinoma was diagnosed on biopsy.

Current Status

Endoscopic hemostasis was carried out. The patient received three packed red blood cell units. He was subsequently referred for surgery.

DISCUSSION

Gastric cancer most often shows classic upper gastrointestinal signs; still, a smaller group of patients comes in with unusual symptoms, making the diagnosis slower and treatment harder.

Because these outlier cases can look like safe, inflamed spots on scans, doctors must piece together images with clinical and lab data. Virmani and colleagues (2012) remind us that "neoplastic stomach lesions and their mimickers demonstrate a wide spectrum of imaging findings, often indistinguishable from non-neoplastic processes".[11]

Obscure subtypes such as small cell gastric cancer already have a reputation for ruthless behavior. Matsui and his team (1991) pointed out that "small cell carcinoma of the stomach is associated with early dissemination and poor prognosis despite its rarity".[12]

For tumors that sit below the surface, brushing the inner lining with an endoscope may miss the diagnosis. Voinchet and others (1972) therefore warned that "gastric non-epithelial tumors often lack characteristic features on endoscopy, necessitating histopathological confirmation".[13]

Rare malignancies can also sneak up on younger patients, dressing in guises that seem harmless. Lu and co-workers (2015) reviewed one case where "a rare gastric tumor in a young woman that initially appeared benign on imaging but was later confirmed malignant".[14]

Surgical reviews routinely note the special intraoperative difficulties rare gastric tumors create. Mazzeo and the team observed that surgery for uncommon gastric cancers must be customized to the tumors unique growth pattern and surrounding anatomy.[15]

Even growths that look harmless can hide malignant features. Geis and colleagues warned that otherwise benign-appearing lesions sometimes need full resection, because malignancy may arise later or because symptoms steadily worsen.[16]

Accurate separation of benign from malignant submucosal masses usually calls for several diagnostic tools. Goh and Lenzi recommended combining clinical history, endoscopic ultrasound, and cross-sectional imaging so that each case receives the best treatment plan.[17]

Some submucosal tumors quietly grow behind intact mucosa and avoid early discovery altogether. Wang and coworkers pointed out that lesions confined to the deeper wall layers can remain symptom-free until they reach an advanced, hard-to-manage stage.[18]

Patients with higher CA 19-9 levels often fare worse; for example, one patient with a markedly elevated CA 19-9 of 519 U/mL stabilized after pacemaker insertion and went on to receive palliative chemotherapy, demonstrating that high marker levels do not invariably predict immediate mortality. By contrast, one patient with extensive biliary obstruction as well as peritoneal carcinomatosis was found to have undetectable CA 19-9 (< 1.4 U/mL) levels. He deteriorated rapidly and succumbed shortly after surgical bypass. These observations are important in understanding that although CA 19-9 is an excellent marker in assessing tumor burden, other factors (comorbid conditions, baseline performance status, nutritional reserve, and the anatomic extent of disease) are equally critical determinants of outcome.[19]

Older studies repeatedly remind clinicians that gastric cancers do not always follow classic signs. As early as 1959, Marshall and Adamson found cases where malignant stomach tumors presented only vague systemic complaints, urging broad-minded diagnostic thinking.[20]

Non-carcinomatous growths must also remain in any working differential list for gastric masses. Thompson and Oyster noted that lymphomas, gastrointestinal stromal tumors, and other rare lesions can look like, or even coexist with, conventional adenocarcinoma.[21]

Table 1: Summary of Eight Clinically Diverse Cases of Gastric carcinoma

Case	Age/Sex	Key Symptoms	CT Findings	Gastroscopy Findings	CA 19-9 (U/mL)	Histology	Outcome
1	56/M	Sudden dyspnea, anorexia	Gastric wall thickening at antrum/pylorus; PE in RLL artery	Ulcerative obstructive mass in gastric body/antrum	900	Moderately differentiated adenocarcinoma	Expired
2	75/F	Abdominal distension, vomiting, constipation	Gastric wall thickening; loculated ascites	Ulceroproliferative mass in gastric body/antrum	1723	Poorly differentiated adenocarcinoma	Expired (3 weeks post presentation)
3	58/M	Jaundice, dyspepsia	Gastric/pancreatic infiltration; biliary and pancreatic duct dilation	Fungating pyloric mass	<1.4	Moderately differentiated adenocarcinoma	Expired
4	65/M	Cough, hoarseness, weight loss	Thickening of lesser curvature/fundus; para-aortic LN	Ulcerative lesion in fundus/cardiac region	413	Poorly differentiated adenocarcinoma	Palliative chemoradiotherapy

			with nerve involvement				
5	70/F	Confusion, lethargy	Diffuse gastric thickening; hepatic metastases	Infiltrating lesion in body and antrum of stomach	627	Signet ring cell carcinoma	Expired (1 week)
6	60/M	Left leg swelling, low-grade fever	Pyloric thickening; para-aortic lymphadenopathy	Ulceroproliferative lesion in pyloric canal	290	Moderately differentiated adenocarcinoma	Sent for oncological evaluation
7	55/F	Syncope, bradycardia	Gastric mass compressing celiac plexus; perigastric lymphadenopathy	Polypoidal growth at cardia/proximal body	519	Poorly cohesive carcinoma	Permanent pacemaker + palliative chemo
8	62/M	Upper GI bleeding, fatigue	Ulcerated fundal lesion with erosion into vessels	Bleeding necrotic ulcer in fundus	156	Intestinal type adenocarcinoma	Referred for surgery

CONCLUSION

The global burden of cancer-associated mortality places gastric cancer as the fifth most lethal cancer. Patients frequently present with early satiety; in more advanced stages, gastric outlet obstruction symptoms may develop. In developing countries such as India, patients tend to present much later in the illness, usually with obstructive features. Still, some patients may show rare forms of presentation devoid of typical gastrointestinal signs. Clinical features such as ascites, pulmonary embolism, and DVT indicate advanced disease and palliative care stands as the mainstay of treatment.

In such atypical presentations, gastric carcinoma should be kept in mind as a differential diagnosis. Earlier diagnosis will lead to better outcomes. In cases of unexplained DVT, thorough history taking, clinical examination, peripheral blood smear, complete blood count, and laboratory work to rule out primary thrombophilia should be performed. Imaging studies such as chest X-ray and abdominal ultrasound ought to be done to exclude any malignancy.

Especially for adults, obstructive jaundice must be investigated rigorously to exclude malignant biliary obstruction, including that from gastric carcinoma. In patients with known gastric cancer, jaundice must be investigated for lymphadenopathy of the hepatoduodenal ligament, direct invasion through the gastroduodenal junction ‘dreaded’ circle, bile duct wall thickenings, and hepatic metastasis. The manner of progression and metastasis —either expansile mass-like growth with lymphadenopathy or diffuse infiltrative spread— may indicate the histological grade, with the latter often worse in prognosis.

The condition of ascites should be diagnosed and evaluated, particularly in a case where multiple risk factors exist, as it can be difficult to diagnose. Moreover, even in the absence of gastrointestinal complaints or notable findings on cross-sectional imaging, one should not rule out gastric cancer as a potential diagnosis. Patients should be encouraged to undergo periodic endoscopies when presenting with vague or mild symptoms for early diagnosis and better clinical outcomes.

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