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RESEARCH ARTICLE

A RARE CASE OF EMPHYSEMATOUS GASTRITIS WITH PARTIAL GUT MALROTATION - MANAGED CONSERVATIVELY

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Abstract

Emphysematous gastritis (EG) was first reported by Fraenkel in 1889, and it is a relatively rare disease caused by gas-producing bacteria with a high mortality rate of 55.3%.Although the exact pathophysiology of emphysematous gastritis remains unclear, it is thought that pre-existing gastric ulcers or ischaemic lesions provide the nidus for bacterial infection, overgrowth and penetration into the gastric wall. The organisms produce gas after the penetration, and finally emphysematous gastritis develops. This uncommon but life-threatening condition is often confused with its relatively benign counterpart – gastric emphysema, which occurs when air enters the gastric wall usually following trauma to the gastric mucosa, and has an excellent prognosis even with no treatment. However in gastric emphysema, there is no associated infection, and patient does not present with acute abdomen.Diagnosis is challenging due to its rarity and nonspecific symptoms, including severe abdominal pain, coffee-ground emesis, fever, and signs of systemic infection. We present a case of a patient with signs and symptoms of EG, where prompt diagnosis and treatment were achieved, avoiding further complications. Surgical intervention was avoided due to the successful response to conservative treatment. These cases highlight the importance of early detection and intervention in improving patient outcomes and preventing complications associated with EG.

Introduction:-

Emphysematous gastritis (EG) is an uncommon and life-threatening medical condition characterized by gas within the stomach wall and subsequently the portal vein. EG represents a severe variant of gastritis primarily caused by gas-forming bacteria such as Streptococcus species, Escherichia coli, Enterobacter species, Clostridium species, Pseudomonas aeruginosa, Staphylococcus aureus, Candida species, and Mucor species being prominent culprits [4]. The risk factors for emphysematous gastritis include gastric surgery, corticosteroid uses, non-steroidal anti-inflammatory drug uses, ingestion of corrosive agents, stress, DM, immunodeficiency, high alcohol consumption, malnutrition and renal failure.

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In typical cases, a computed tomography scan reveals gas appearing non-linearly along the inner surface of the stomach wall [5]. Given its critical nature, EG necessitates immediate medical attention and management. Nevertheless, its rarity and the limited number of reported cases make it challenging for clinicians to diagnose and treat it effectively. Therefore, timely identification and appropriate intervention are essential to enhance patient outcomes and reduce the mortality associated with this condition.

History –
The patient is a 52 year old male, known case of type 2 diabetes mellitus, hypertension, and IHD, social drinker and non-smoker. He presented with history of acute onset of generalised abdominal pain (more in the epigastrium) since 2 days, colicky type, and of moderate intensity. It was associated with multiple episodes of vomiting, blood stained and containing bile and food particles. Patient also had history of malenasince 2 days.

Patient had past history of right sided Total Hip Replacement 4 years ago.

Cardiac history: 3 months ago, patient had complaints of left sided chest pain radiating to hand, diagnosed as Inferior wall MI, immediately thrombolysed with Inj. Elaxim(rTPA), followed by rescue PCI to RCA 1 day later and staged PTCA to LAD 4 days later. Patient was subsequently started on Tab Ecospirin 150 mg and Tab Clopidogrel 75mg along with other cardiac medications.

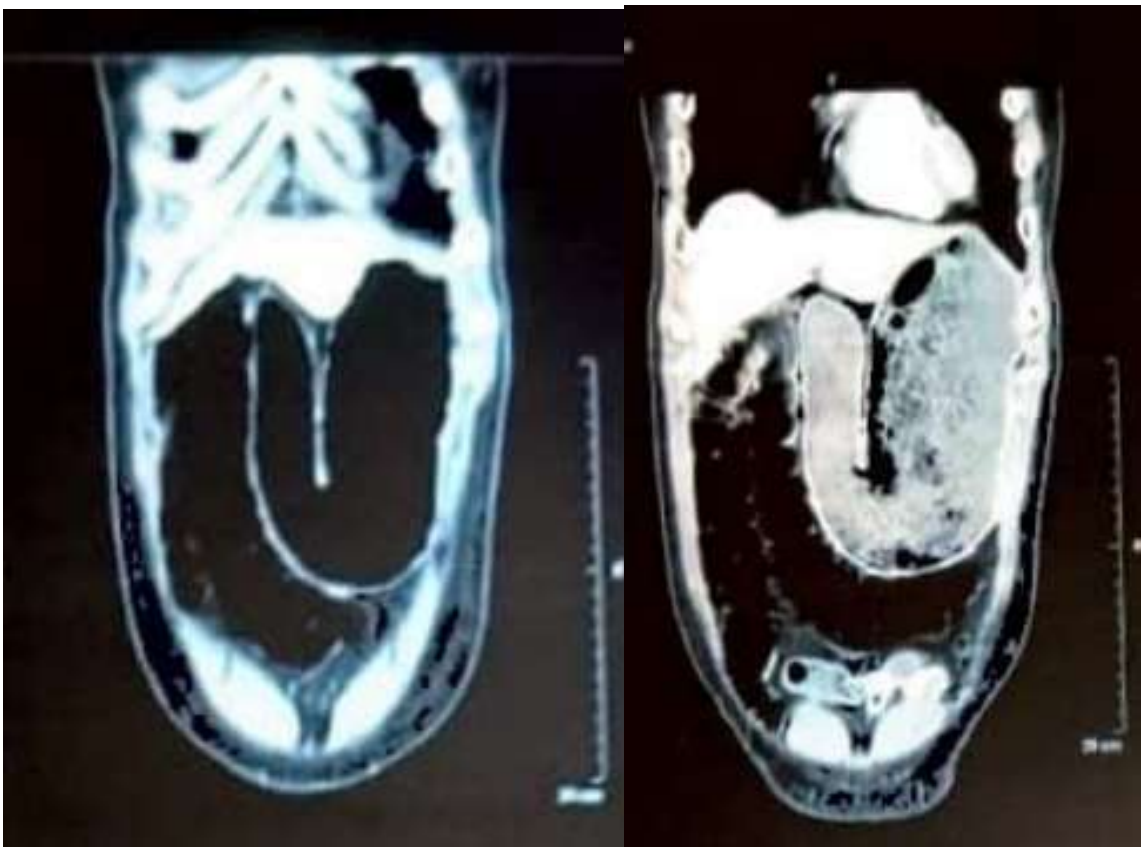
On examination: Patient was tachycardic with a pulse rate of 110/m, BP 140/90 mmHg, maintaining saturation on room air, and was visibly tachypnoeic and in pain.No pallor or icterus was noted.

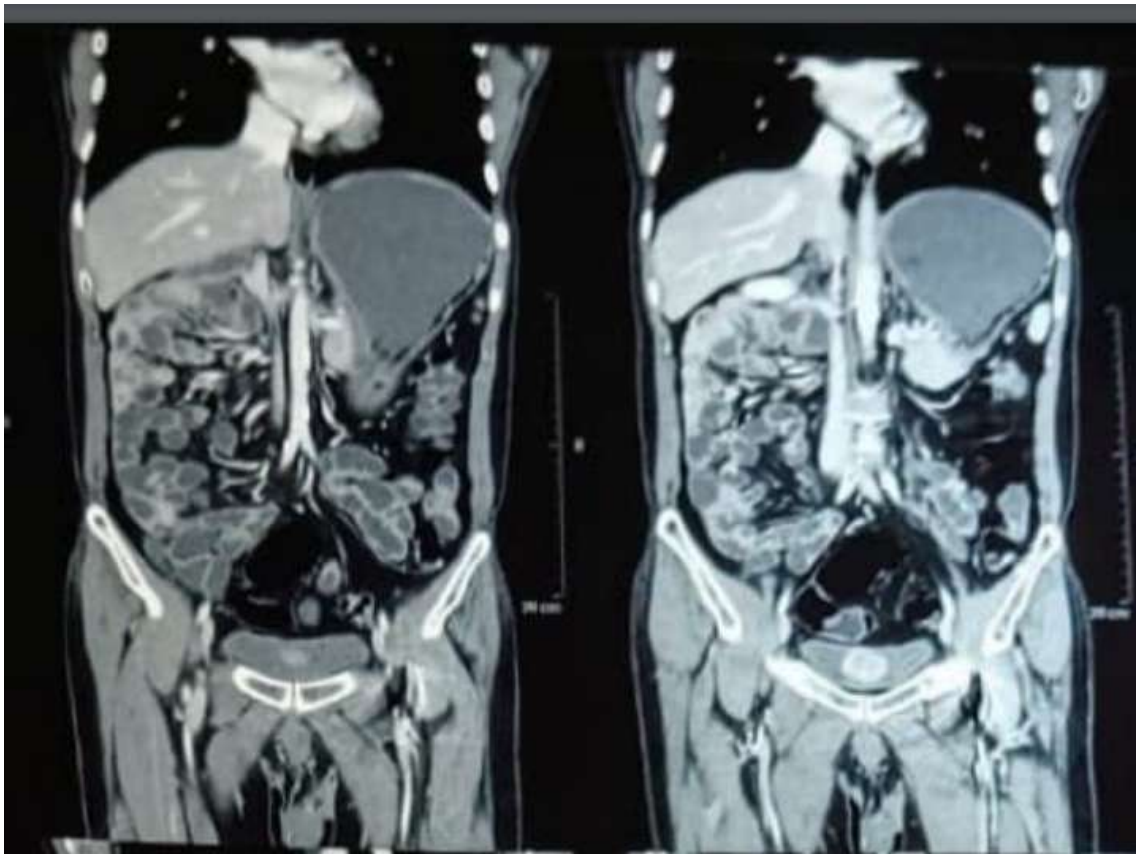
On per abdominal examination: The abdomen was uniformly distended. The entire abdomen was tender and the epigastrium was guarded. Bowel sounds were absent. There was no palpable mass, pulsations or peristalsis.

At casualty, the patient was resuscitated with IV fluids, antibiotics, and analgesics. Wide bore nasogastric tube was inserted which yielded around 600 cc of gastric content. Foleys was inserted and the patient was put on prophylactic O2 owing to a working diagnosis of mesenteric ischaemia.

On routine blood investigations, hemoglobin was 10.4, WBC counts were 4000, platelets were 84000. Random blood sugar was 278 mg/dL. Rest of the routine blood investigations were within normal limits.

CT scan was done from an outside hospital and brought with the patient.





Cardiology reference was taken in view of suspected NSAID induced gastritis (Aspirin). Advised to withhold aspirin and continue other cardiac medications

CT (A+P) reporting:
Stomach is well distended showing multiple air fluid levels, with non-enhancement of posterior wall of body of stomach with multiple tiny air foci in surrounding region (? intramural, air foci being in dependent position). It is seen displacing the transverse colon inferiorly. No evidence of collection in surrounding region.

Few air foci seen in liver and branches of left portal vein , suggestive of pneumatosis portalis

There is partial gut malrotation with jejunal loops seen in the right lumbar region. 3rd and 4th part of duodenum are not well appreciated with no crossing of duodenum to left and entire jejunal loops noted in the right side of the abdomen, likely possibility of right paraduodenal hernia

Upper GI endoscopy: multiple superficial gastric ulcers seen over entire gastric mucosa.

Diagnostic laparoscopy:
1. Enlarged stomach but grossly WNL
2. Jejunal loops present predominantly on the right side of the abdomen

After taking a cardiology consult in view of suspected aspirin induced gastritis, patient was started on double dose clopidogrel and aspirin was stopped. Diet was gradually resumed and patient tolerated feeds well. Patient was discharged on post op day 3 and advised to continue chilly and spice free diet.

At 3 months post op, patient is comfortable and asymptomatic.

Conclusion:-

Emphysematous gastritis is an unusual but critical diagnosis to consider in patients with abdominal pain and suggestive radiological findings. Early identification and prompt initiation of appropriate treatment are vital in managing this potentially life-threatening condition. Advances in imaging technology, such as CT scans, have significantly improved our ability to diagnose this condition, leading to better outcomes. The importance of our case series highlights that timely and appropriate management is essential to minimize the risk of these adverse outcomes, especially as delayed diagnosis or inadequate treatment can result in rapid disease progression and increased morbidity and mortality. Further research and the accumulation of clinical evidence are necessary to enhance the recognition and treatment of this rare condition.

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