

Emphysematous gastritis: A rare diagnosis with unique presentation.

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Abstract

Introduction

The presence of air within the wall of hollow viscous is an unusual finding and the stomach is very rare site for presence of intramural case. Emphysematous gastritis is a rare and severe form of phlegmonous gastritis. We report a rare case of emphysematous gastritis.

Case report

A 19 year old male who presented with history of upper abdominal pain and vomiting. The patient's plain radiograph and CT scan showed presence of air in the stomach wall. Exploratory laparotomy showed gangrene of greater curvature of the stomach. He underwent sleeve gastrectomy.

Conclusion

Emphysematous gastritis is a severe and rare condition that requires early recognition and aggressive management. This condition is associated with high mortality.

Introduction

Emphysematous gastritis is a severe and rare variant of phlegmonous gastritis caused by mucosal disruption and is characterized by presence of gas in the stomach wall which is detected by imaging, in association with clinical sepsis^{1,2}. It may be secondary to local spread through mucosa or due to haematogenous dissemination from a distant foci³. The term emphysematous gastritis was first used and described by Frankel in 1889^{4,5,6} and its radiographic appearance was first described by Werns in 1946⁴. We report a case of young patient with emphysematous gastritis who survived this lethal condition.

Case report

A 19 year old male was referred to our institute with history of sudden onset of pain in the abdomen for the last 4 days. The pain was colicky in nature and was in the upper abdomen. It was non radiating. He also gave history of coffee coloured vomiting which was around 8-10 times per day. There was no history of fever, diarrhoea, jaundice or previous abdominal surgeries. There was no history of smoking or alcohol intake. His pulse was 90/min, blood pressure of 130/80mmHg and he was afebrile. The abdomen was tender in the epigastric and both hypochondric region. He also had guarding in these regions. There was no rigidity. His bowel sounds were normal. His x ray abdomen showed dilated stomach with air in the wall of the stomach. CT scan of the abdomen had revealed presence of air in the wall of the stomach [Figure 1] and in the portal vein. It was diagnosed to be an emphysematous gastritis. In view of worsening of the symptoms and signs, the patient was subjected to exploratory laparotomy which showed gangrenous changes [Figure 2] in the anterior wall of the stomach along the greater curvature with an impending perforation. There was around 250ml of contaminated peritoneal fluid. A sleeve gastrectomy along with feeding jejunostomy and peritoneal lavage was done. The patient also underwent a diagnostic laparoscopy to assess the status of residual stomach which appeared normal. His postoperative recovery was uneventful. Histopathological examination of the specimen revealed gastric necrosis.

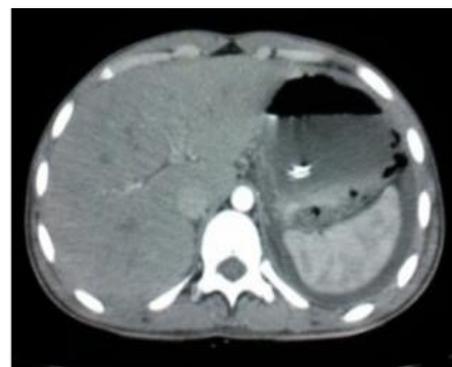


Figure 1: CT scan of the abdomen. Note the air in the wall of the stomach.



Figure 2: Intraoperative picture of gastric infarction over the region of greater curvature [arrow].

Discussion

The finding of air within the stomach is very rare and has a great clinical importance⁶. The stomach is a very uncommon site of involvement because of its acidity, abundant blood supply and an efficient mucosal barrier^{4,5}. There are 3 variants of gas within the wall of the stomach that has been described and they include interstitial gastric emphysema, cystic^{6,7}. Emphysematous gastritis is believed to be infectious in origin whereas gastric emphysema and cystic pneumatosis⁷. The common isolated organism in emphysematous gastritis is streptococci, e coli, enterobacter, pseudomonas, etc^{4,8}.

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Predisposing factors are gastroenteritis, NSAID's, diabetes, alcohol abuse, abdominal surgery, intake of corrosive substance, leukaemia and adenocarcinoma of the 4,7,8. Our patient did not have any of the above conditions. Patients with emphysematous gastritis present with an acute abdomen with symptoms like pain abdomen, vomiting, diarrhoea and haematemesis^{4,8}. The diagnosis is often made with a clinical presentation and imaging^{4,9}. It is important to differentiate gastric emphysema and emphysematous gastritis. Gastric emphysema has a relatively benign course and patients are usually asymptomatic. The plain radiograph shows linear thin lucencies in the stomach wall^{4,5}. In emphysematous gastritis, the radiograph shows an irregular mottled appearance with collection of gas in the stomach wall. CT scan shows thickened gastric mucosal folds with cystic pockets of air in the gastric wall and air in the^{4,5,9}. Early recognition is essential and the treatment includes broad spectrum intravenous antibiotics and vigorous fluid support⁹. Surgery is indicated in gastric infarction, perforation or failed medical management^{4,9}. The mortality from emphysematous gastritis is more than 60% and the non-lethal complication like gastric strictures in up to 25%⁴.

Conclusion

Intramural gastric is a rare finding and one needs to differentiate the 3 variants. Emphysematous gastritis is a lethal condition with high mortality. Early recognition and aggressive management is crucial for survival of the patient. What makes this case unique is that there is no association with any predisposing factors or any previous history of surgery or associated illness.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the

written consent is available for review by the Editor-in-Chief of this journal.

References

- 1-Wong YY, Chu WCW. Emphysematous gastritis associated with gastric infarction in a patient with adult polycystic renal disease. *AJR*. 2002;178:1291.
- 2-Yu HHY, Tsang S, Cheung TT, Lo CM. Surviving emphysematous gastritis after hepatectomy. *Case Reports in Hepatology*. 2013:1-3.
- 3-Akella J, Fuentes GD, Kaur S, Venkatram S. Emphysematous pyelonephritis associated with emphysematous gastritis and air in the portal vein. *Gastroenterology research*. 2011;4(2):76-79.
- 4-Hassan S, abbass K, Markert R, akram S. Emphysematous gastritis associated with ulcerative oesophagitis. *Eur Rev Med Pharmacol Sci*. 2011;15:1336-1338.
- 5-Loi TH, See JY, Diddapur RK, Issac JR. Emphysematous gastritis: a case report and a review of literature. *Ann Acad Med Singapore*. 2007;36:72-3.
- 6-Udassin R, Aviad I, Vinograd I, Nissan S. Isolated emphysematous gastritis in an infant. *GastrointestRadiol*. 1984;9:9-12.
- 7-Fidvi SA, Klein SA. Emphysematous gastritis. *Applied Radiology*. 2002;31(3):1-2.
- 8-Paul M, John S, Menon MC, Golewale NH, Weiss SL, Murthy UK. Successful medical management of emphysematous gastritis with concomitant portal venous air: a case report. *J Med Case Reports*. 2010;4:140.
- 9-Buyl L, Smeets P, Verstraete K. Infectious emphysematous gastritis in multiple sclerosis. *JBR- BTR*. 2003;86:148-149.
- 10-Harmse W, Smith V, Stoker A. Inframural gastric air- gastric pneumatosis or emphysematous gastritis. *SAJR*. 2007:57-58.