

Introduction

- Gastric cancer remains one of the most common malignancies worldwide, with significant variation based on genetic, ethnic, geographic, and socioeconomic factors.
- Common symptoms include abdominal pain, weight loss, early satiety, or anemia from occult gastrointestinal bleeding.
- Gastric linitis plastica, a diffuse type of gastric adenocarcinoma, results in proliferation of fibrous tissue in the submucosa and muscular layers of the stomach wall.
- Histopathology shows classic signet ring cells and/or poorly differentiated tumor cells.

Imaging

Figures A and B: upper endoscopy showing congested, erythematous, and friable gastric mucosa

Figure C: histopathology showing signet ring cells

Case Description

- A 54-year-old Caucasian male with a past medical history of end stage renal disease, hypertension, and type II diabetes mellitus presented to the hospital for fatigue and melena.
- His hemoglobin on admission was 7.3 g/dL, approximately 3 g/dL lower than his hemoglobin two weeks prior.
- Upper endoscopy showed a well-demarcated region of severely congested, erythematous, and friable mucosa with a reticular appearance, localized to the gastric cardia, fundus, and body (Figure A and B).
- Histopathology revealed intramucosal adenocarcinoma with high-grade signet ring features (Figure C), consistent with gastric linitis plastica. Staining for *Helicobacter pylori* was negative.
- Acid suppression was initiated.
- The patient had a prolonged hospital course complicated by hypoxic respiratory failure requiring intubation and eventual cardiac arrest resulting in his death.



Discussion

- Diagnostic upper endoscopy remains the gold standard for evaluation of gastric linitis plastica, but the lack of malignant mucosal infiltration decreases the yield of endoscopy and biopsy.
- Clinicians should maintain a high index of suspicion for this condition with findings of localized, congested gastric mucosa with distinct demarcation and regional non-distensibility of the gastric lumen.
- Deeper biopsies using “bite-on-bite” technique or endoscopic ultrasound guided fine needle biopsy should be considered.

References

1. Agnes A, Estrella JS, Badgwell B. The significance of a nineteenth century definition in the era of genomics: linitis plastica. *World J Surg Oncol.* 2017 Jul 5;15(1):123. doi: 10.1186/s12957-017-1187-3. PMID: 28679451; PMCID: PMC5498981.
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