

Treatment Effect and Hemorrhage in Esophageal Adenocarcinoma

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Introduction

Esophageal adenocarcinoma most commonly develops in the setting of Barrett's esophagus and chronic GERD. [1]

- Typically arises in the distal esophagus and gastric cardia
- Predominantly affects white males in western countries
- Presents with dysphagia, weight loss, or upper GI bleeding
- Treatment related changes may complicate pathologic evaluation [2]

Clinical History

A white male in his late 60's received neoadjuvant chemoradiation for metastatic esophageal cancer. He had a significant family history of esophageal and lung cancer. A severe episode of hematemesis, melena, and resultant syncope prompted the need for emergent surgery.

Emergency EGD Findings:

Full visualization of the stomach was **not** possible due to the volume of clotted blood occupying the lumen.

Gross Examination

Specimen: Disrupted esophagogastrectomy [16.0 cm (L) x 4.8-7.0 cm (D)] with attached perigastric adipose.

Morphology: The consequences of chemoradiation contributed to the rigid, necrotic appearance of the outer surface and the mucosa.

Mass: Tan-brown, firm, and eroded with an ill-defined cut surface. (5.0 x 4.0 cm raised to a max height of 1.0 cm)

Additional findings: 18 lymph nodes ranging from tan, rubbery-firm to chalky-white-translucent.

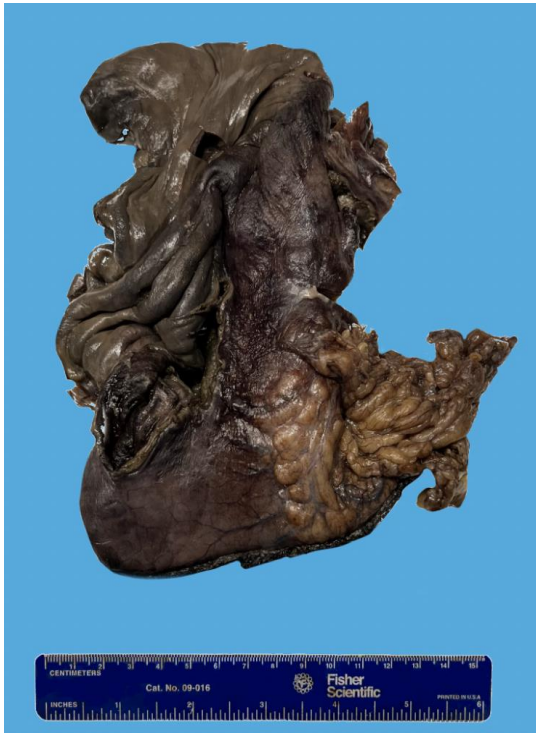


Fig 1. Esophagogastrectomy specimen received disrupted with distal margin stapled.

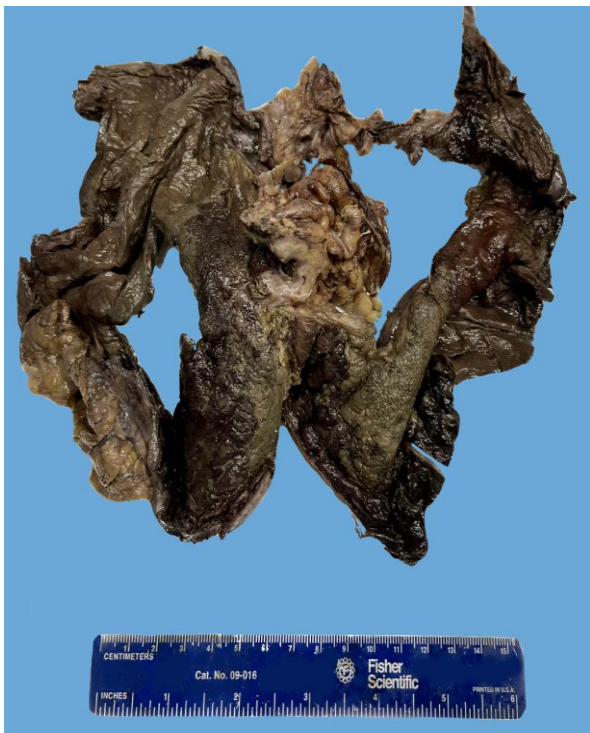


Fig 2. Specimen opened to reveal an eroded, raised mass surfacing perigastric adipose.



Fig 3. Tumor bed with underlying perigastric lymph nodes.

Histologic Examination

Extensive treatment effect within a tumor bed characterized by necrosis, hemorrhage, and fibrosis was identified. Acellular mucin extended into muscularis propria, lymphovascular spaces, and surrounded perineural structures. (**ypT2**) 7 out of 18 lymph nodes displayed residual metastatic carcinoma in the form of scattered single cells and rare small clusters. (**pN3a**)

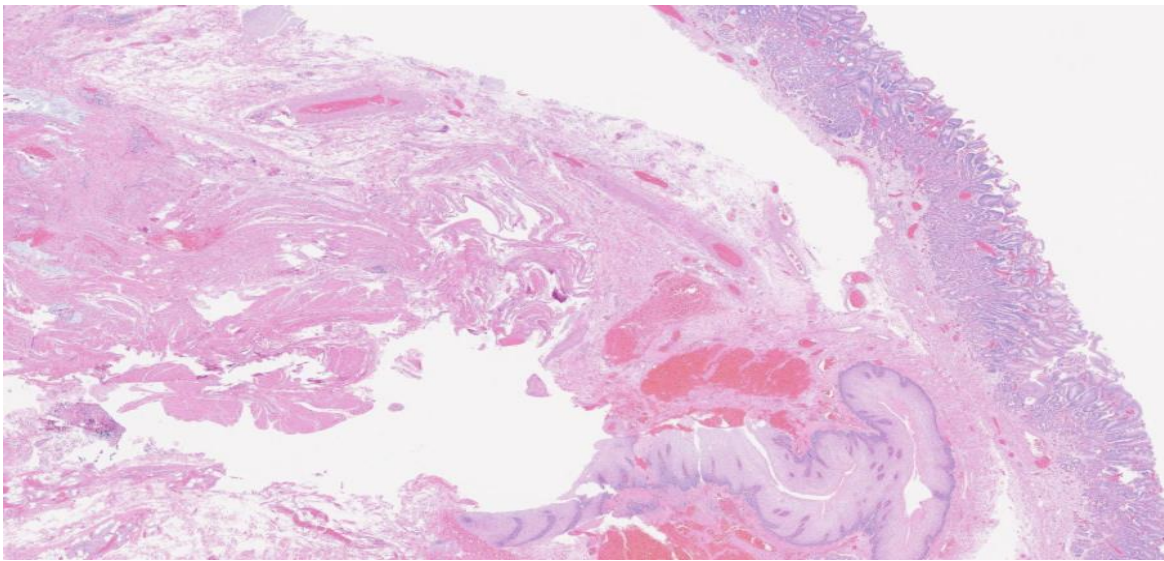


Figure 4. Proximal section of mass demonstrating esophageal and gastric mucosa.

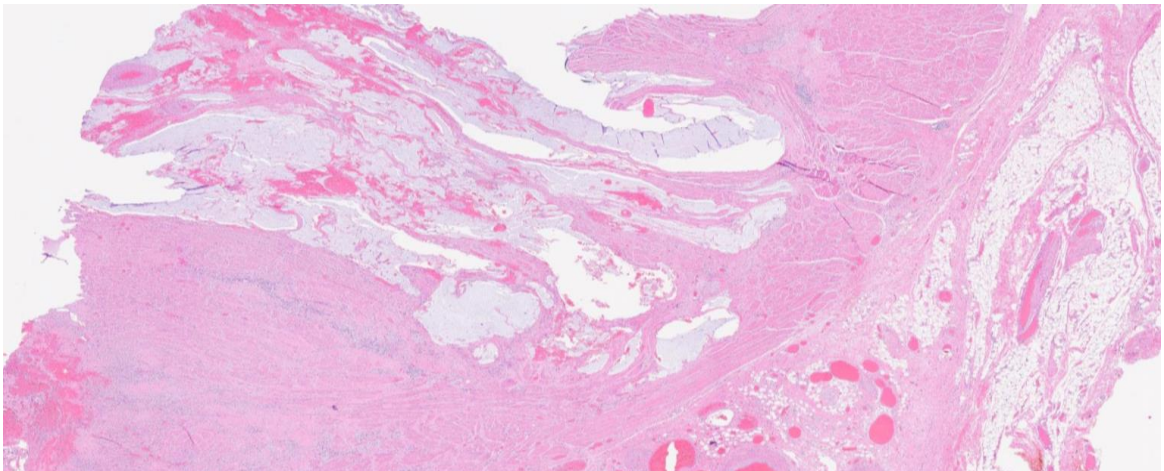


Figure 5. Acellular mucin lakes extending into muscularis propria with underlying hemorrhage.

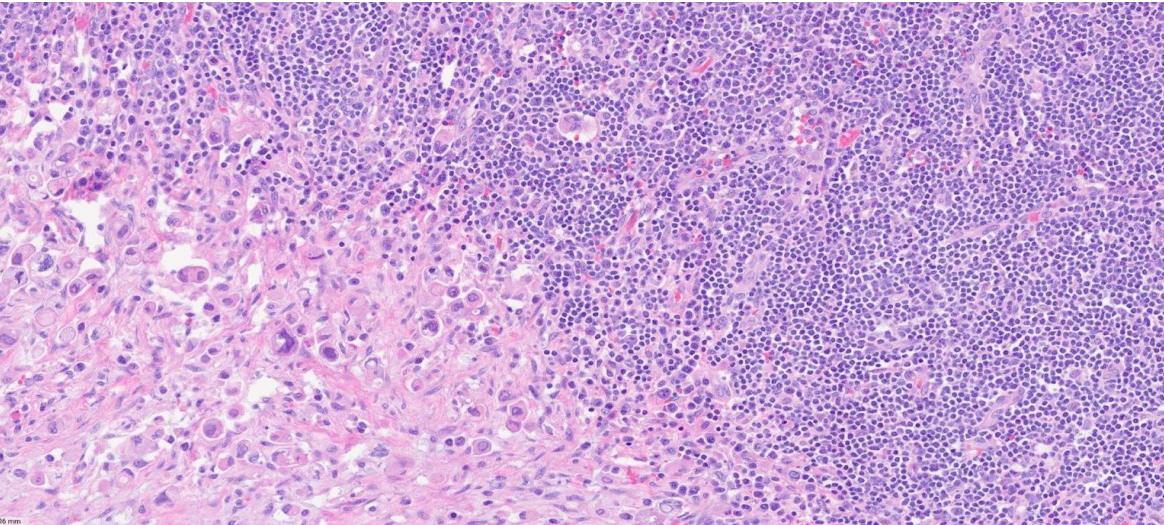


Figure 6. Tumor-lymph node interface with scattered signet ring cells and small clusters.

Final Diagnosis & Conclusion

- **Histologic type:** Adenocarcinoma
- **Histologic grade:** GX, post-treatment status
- **pT category:** ypT2.
- **pN category:** pN3a

This case highlights the importance of adaptability and anatomical knowledge when specimens deviate from typical appearance either from a pathologic process or surgical disruption. As Pathologists' Assistants, it is important to navigate these challenges with precision and expertise for the Pathologist to render an accurate diagnosis and provide high-quality patient care.

Acknowledgements

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References

1. Kumar V, Abbas AK, Aster JC. The gastrointestinal tract. In: Kumar V, Abbas AK, Aster JC, eds. *Robbins & Cotran Pathologic Basis of Disease*. 10th ed. Elsevier; 2020.
2. Kwon G, Pendse A. Adenocarcinoma of the esophagus and GE junction. *Pathology Outlines*. Updated January 7, 2025.