

A Rare Case of Acute Esophageal Necrosis precipitated by Klebsiella Pneumoniae

Lekha Yadukumar, MD¹; Hunain Aslam, MD¹; Khalid Ahmed, MD¹; Khadijah Sajid, MD¹; Kristina Tanovic, MD¹

1. The Wright Center for Graduate Medical Education, Scranton, PA

Introduction

- Acute esophageal necrosis (AEN), is a rare ischemic condition diagnosed on endoscopy by ischemic and black appearance of the esophagus
- AEN is associated with advanced age, malnourishment, diabetes mellitus, cardiomyopathy and debilitated states ^{1,2}

Case Presentation

- An 88 year-old male with no significant past medical history presented following a syncopal episode
- Vitals showed tachycardia and positive orthostatic vital signs
- Physical exam was notable for decreased air entry in the left lung base, laceration over forehead, spinal tenderness with decreased range of motion of neck
- Labs showed WBC 16.47 K/uL, 81.8% neutrophils; Se. Na 114; Lactate 1.9 and BNP 444 pg/ml
- Chest X-Ray: Airspace opacities in the left lower lobe. CT Head and Spine: Bilateral cervical C6 spine fracture. MRI Spine: Epidural hematoma at the level of C2-C3 with posterior CSF leak. CTA neck showed 50% occlusion of left cervical ICA.
- Supportive therapy was initiated. Over the next three days, he developed coffee ground emesis, productive cough and altered mental status.
- IV PPI and IVF were initiated. NG tube was placed. Emergent EGD performed showed multiple plaques in the proximal esophagus 25 cm from the gastroesophageal junction with circumferential “black esophagus” (Figure 1).

- Biopsy revealed necrotic esophageal squamous mucosa with associated acute inflammation and necrotic debris
- Bronchial aspirate resulted positive for Klebsiella pneumonia, treated with ceftriaxone
- Unfortunately, hospital course was complicated by acute hypoxic respiratory failure with no improvement in clinical status. Eventually, the patient passed away.

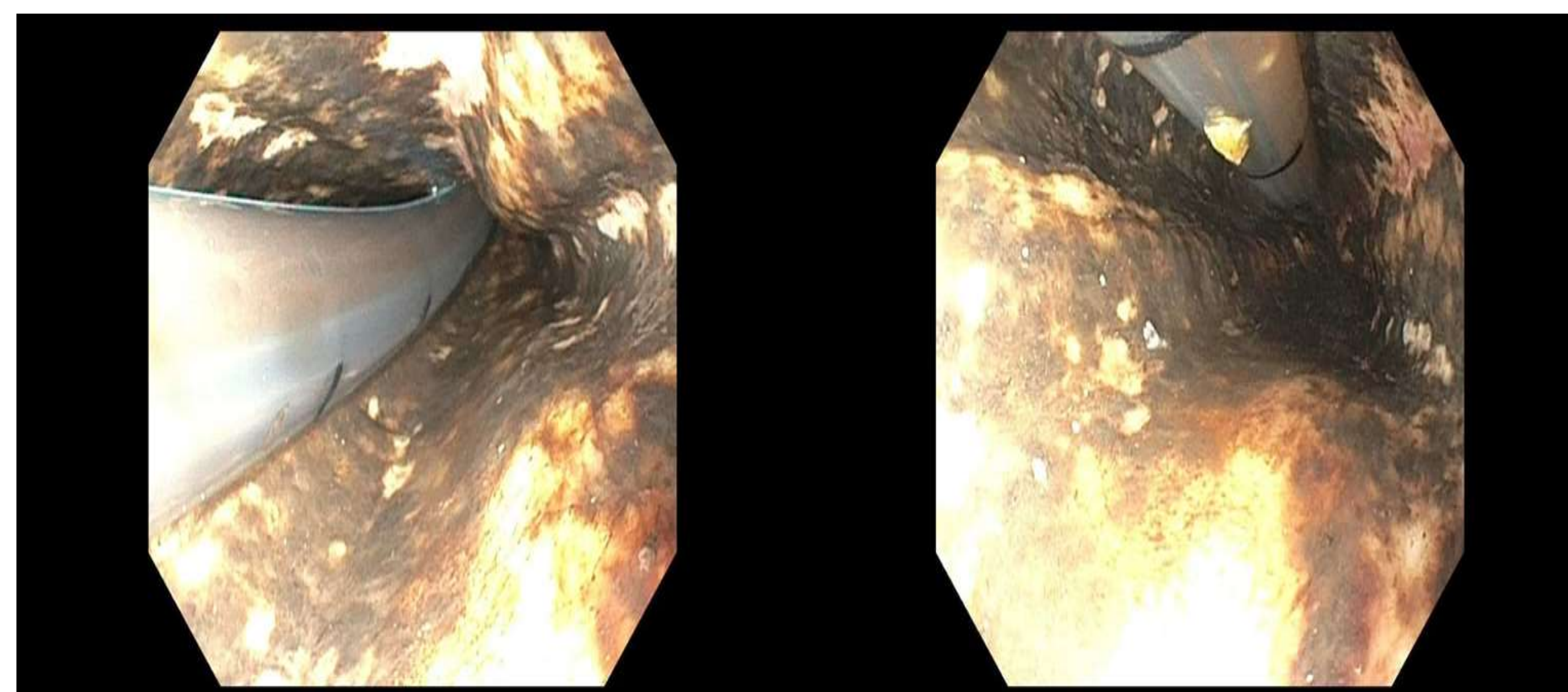


Figure 1: Endoscopy showing lower and middle third of esophagus

Discussion

- AEN is also known as "black esophagus" or "Gurvit syndrome"
- Diagnosed endoscopically by diffuse black appearing distal esophagus, with abrupt transition point at the gastroesophageal junction and variable proximal extension
- Infection is a risk factor. Reported pathogens include Klebsiella Pneumoniae, Strongyloides Stercoralis, CMV, HSV, Candida and other fungal species.
- Dissemination of underlying infection can precipitate AEN
- Lower esophagus with many watershed zones is predisposed

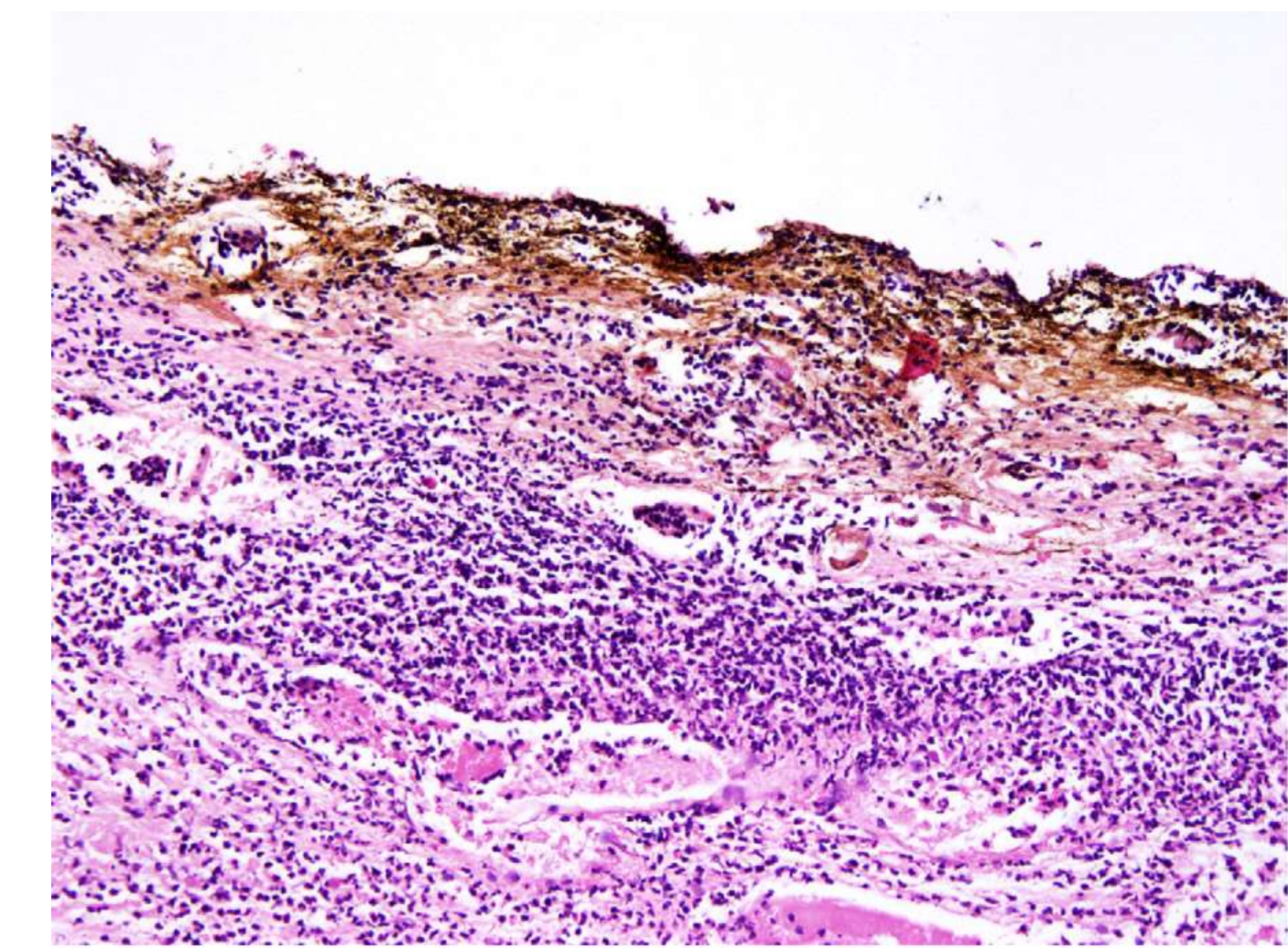


Figure 2: Histopathology of Acute esophageal necrosis. Image source: <https://pubmed.ncbi.nlm.nih.gov/25311465/>

- Necrosis is confined to the mucosal and submucosal area; 10% of occurrences extend to muscularis propria of the distal esophagus (Figure 2)
- Management is via supportive therapy including IV PPI and IV hydration with treatment of underlying etiology
- Contrary to our case, NG tube should be avoided due to risk of perforation
- Surgery is usually reserved for complicated AEN

Conclusion

- AEN remains a complex pathology, associated with high mortality and is diagnosed endoscopically
- Early recognition of AEN is important for timely initiation of appropriate treatment, as it is associated with better outcomes
- Although rare, it should be considered as differential diagnosis for patients presenting with upper GI bleeding

References

1. Gurvits GE, Shapsis A, Lau N, Gualtieri N, Robilotti JG: Acute esophageal necrosis: a rare syndrome. J Gastroenterol. 2007, 42:29-38. 10.1007/s00535-006-1974-z
2. Gurvits GE, Cherian K, Shami MN, et al.: Black esophagus: new insights and multicenter international experience in 2014. Dig Dis Sci. 2015, 60:444-453. 10.1007/s10620-014-3382-1