

## Background

- Acute esophageal necrosis (AEN), or black esophagus, is a rare condition (0.01-0.28% incidence) that manifests as black mucosa of the distal esophagus with an abrupt transition at the gastroesophageal junction<sup>1, 2</sup>
- AEN typically presents as an upper gastrointestinal bleed<sup>2</sup>
- Risk factors: male sex, advanced age, diabetes, coronary artery disease, pulmonary disease, gastroesophageal reflux, malignancy, and malnutrition in the setting of hemodynamic instability<sup>2, 3, 4</sup>
- Treatment: management of underlying conditions, intravenous proton pump inhibitor therapy, nutrition, fluid resuscitation, and bowel rest. High mortality rates (32%) have been demonstrated but many patients can recover with supportive care<sup>2, 6</sup>

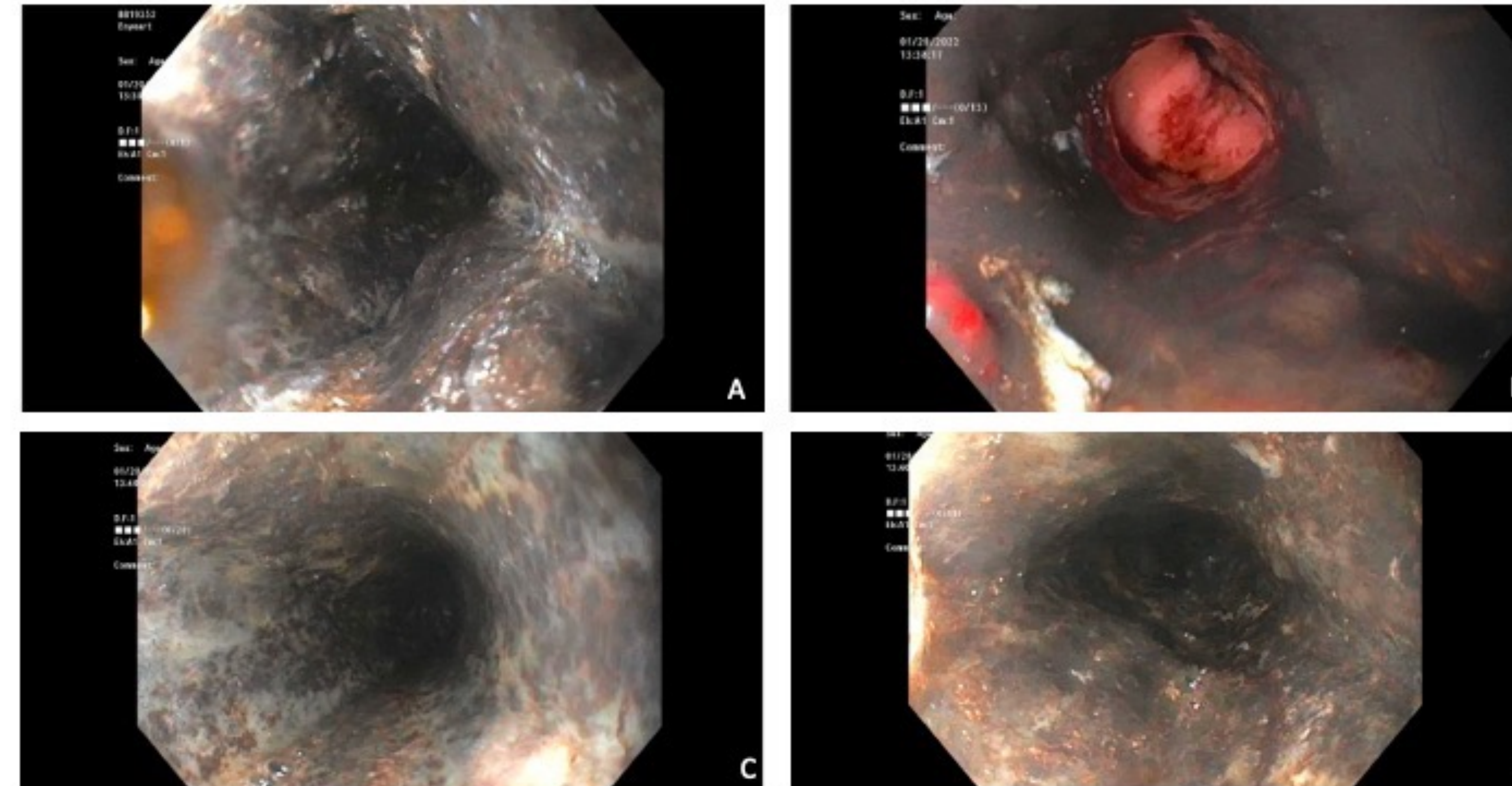
## Case Presentation

- 67-year-old male with chronic obstructive pulmonary disease, peripheral vascular disease, and hypertension presented as a transfer for escalation of care of acute on chronic respiratory failure and triple vessel coronary artery disease. Patient presented intubated and with cardiac support from intra-aortic balloon pump. Extubated after seven days of mechanical ventilation with subsequent oropharyngeal dysphagia noted. Enteral access with dobhoff tube placement was attempted by multiple providers without success, prompting gastroenterology consult for endoscopic enteral feeding tube placement. Patient denied abdominal pain, nausea, vomiting, melena, or hematochezia
- Vitals:** Heart rate 110 BPM, temperature 96.7 F, blood pressure 108/79, oxygen saturation 99% on 4 L O<sub>2</sub>
- Labs:**

BMP		LFT		CBC	
Na	133 mmol/L	Total protein	5.2 g/dL	WBC	16.23 K/uL
K	3.5 mmol/L	Albumin	2.3 g/dL	Hgb	12.1 g/dL
Cl	99 mmol/L	Calcium	8.6 mg/dL	PLT	266 K/uL
CO2	24 mmol/L	Total bilirubin	0.9 mg/dL		
BUN	12 mg/dL	Alkaline phosphatase	72 U/L		
Cr	0.64 mg/dL	AST	92 U/L		
		ALT	163 U/L		

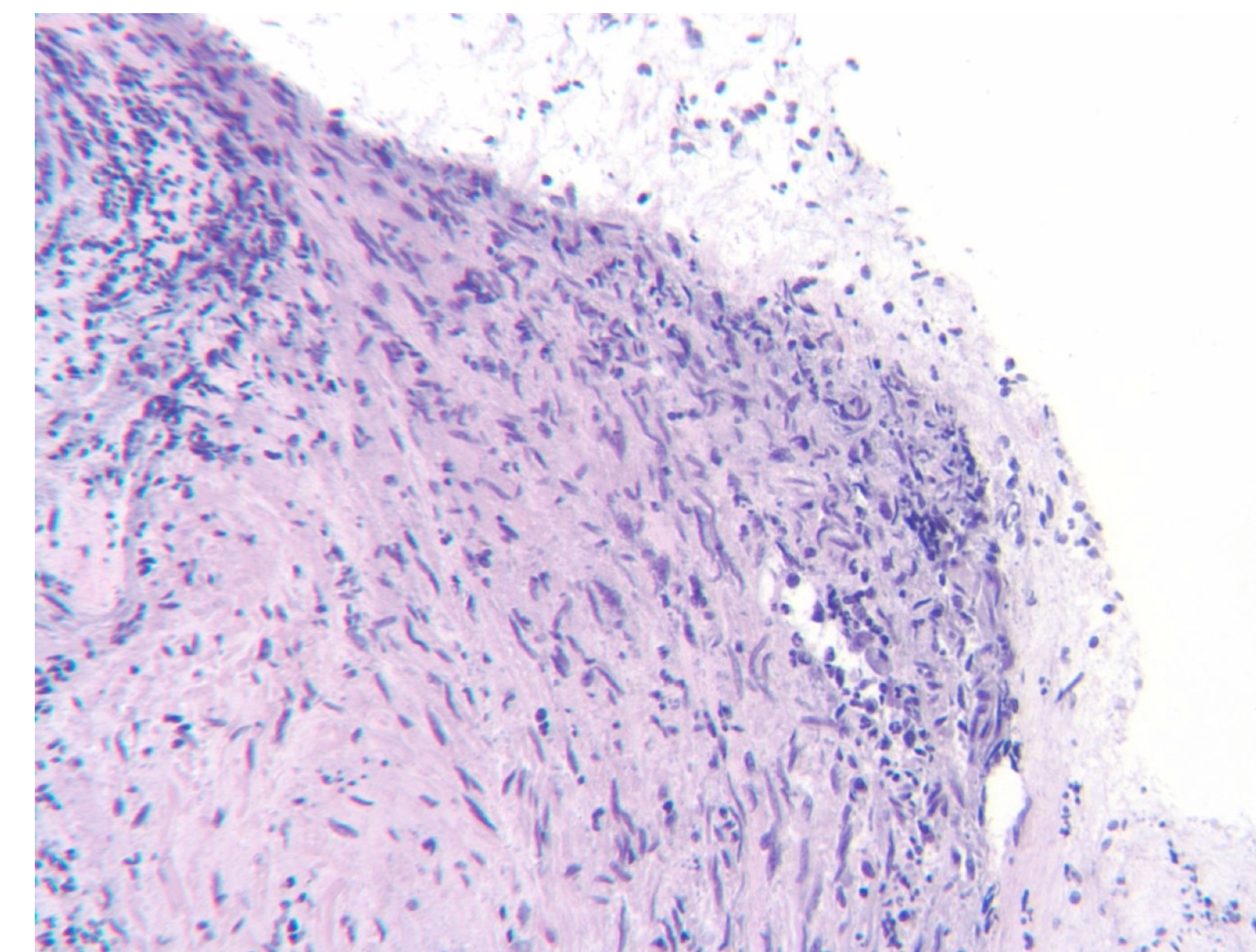
## Endoscopic Images and Histology

### Figure 1: Endoscopic Images



A, C, D) black, necrotic appearing distal third of esophagus  
B) black distal esophagus with healthy appearing, pink gastric mucosa seen distally

### Figure 2: H+E stain distal esophagus



## Case Presentation Cont.

- Endoscopic findings:** Normal upper third of the esophagus, black mucosa in the middle-lower third of the esophagus, small (5 cm) hiatal hernia, and congested gastric mucosa, biopsied (Figure 1)
- Biopsy results:** Multiple pieces showing ulcer exudate and granulation tissue, with acute inflammation. No viral inclusions, dysplasia or malignancy (Figure 2). Stains for CMV, HSV, and fungal organisms are negative. Gastric biopsy with nonspecific gastritis, mucosal prolapse features
- Hospital course:** Patient remained with nothing by mouth and total parenteral nutrition was initiated. A do not resuscitate order was later placed and patient unfortunately expired from a ventricular arrhythmia four days later

## Discussion

- Given endoscopic findings and patient characteristics, AEN was diagnosed after ruling out alternate etiologies such as infection (Candida albicans, CMV, HSV, Klebsiella)
- This case is atypical of AEN given the patient presented with oropharyngeal dysphagia in the absence of upper gastrointestinal bleeding
- This patient's critical illness, age, and multiple medical comorbidities most likely contributed to his AEN
- Given the complication of perforation in these patients, it would be contraindicated to pass an enteral tube in an AEN patient. This presents a challenge given this case had an atypical presentation without evidence of gastrointestinal bleeding, and dobhoff tubes are routinely placed for this indication otherwise
- Although the patient unfortunately passed away from cardiac complications, it is noted that with appropriate supportive care, healing and recovery are possible for patients with this condition

## Conclusion

- This case highlights the importance of maintaining a broad differential diagnosis for dysphagia in critically ill patients. It also highlights the need to evaluate the acute onset of dysphagia in this patient population prior to enteral tube placement, given high risk of perforation

## References

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