



Male sex, hypotension, and older age are risk factors for stricture formation in acute esophageal necrosis

INTRODUCTION: Acute esophageal necrosis (AEN), or ‘black esophagus’, is an uncommon endoscopic finding occurring in the context of ischemia, often in combination with other risk factors such as esophagitis, sepsis, or alcohol use. We sought to examine other risk factors for long-term complications, including stricture formation.

METHODS: A literature review was conducted using PubMed for cases of acute esophageal necrosis and stricture formation. Risk factors, treatments, and outcomes associated with stricture formation were extracted from articles.

RESULTS: Out of 69 screened articles, 17 articles were included (19 cases plus our own). Patients with strictures were older (median age 61.5 years), male (70%), or with shock or severe hypotension (80%) (Table 1). Perforation and death occurred in 10% of cases.

CONCLUSION: In addition to known risk factors, **male sex, hypotension, and older age are associated with stricture formation in AEN** and **may help identify higher risk patients.** Further research is needed

Risk Factor	n (%) out of available data	Management	n (%) out of available data
Age	Median 61.5 Interquartile range (24): 55.5 - 79.5	Proton Pump Inhibitor	16/17 (94%)
Male Sex	14/20 (70%)	Sucralfate	5/14 (36%)
Hypertension	8/12 (67%)	Antimicrobials	11/13 (85%)
Hyperlipidemia	5/10 (50%)	Total Parental Nutrition	11/12 (92%)
CAD/MI/PVD	4/8 (50%)		
Diabetes Mellitus	7/14 (50%)	Outcomes	n (%) out of available data
Cirrhosis	5/17 (29%)	Dilation	17/20 (85%)
GERD	5/6 (83%)	Stenting	4/20 (20%)
NSAID Use	0/7 (0%)	Esophagectomy	7/20 (35%)
Alcohol Use Disorder	10/11 (91%)	Perforation	2/20 (10%)
Hypotension/Shock	16/17 (94%)	Death	2/20 (10%)
Sepsis	6/18 (33%)		

Table 1: Characteristics of Patients with AEN and Esophageal Stricture

Legend: GERD (Gastroesophageal Reflux Disease), NSAID (Non-Steroidal Anti-Inflammatory Drugs), CAD (Coronary Artery Disease), MI (Myocardial Infarction), PVD (Peripheral Vascular Disease)

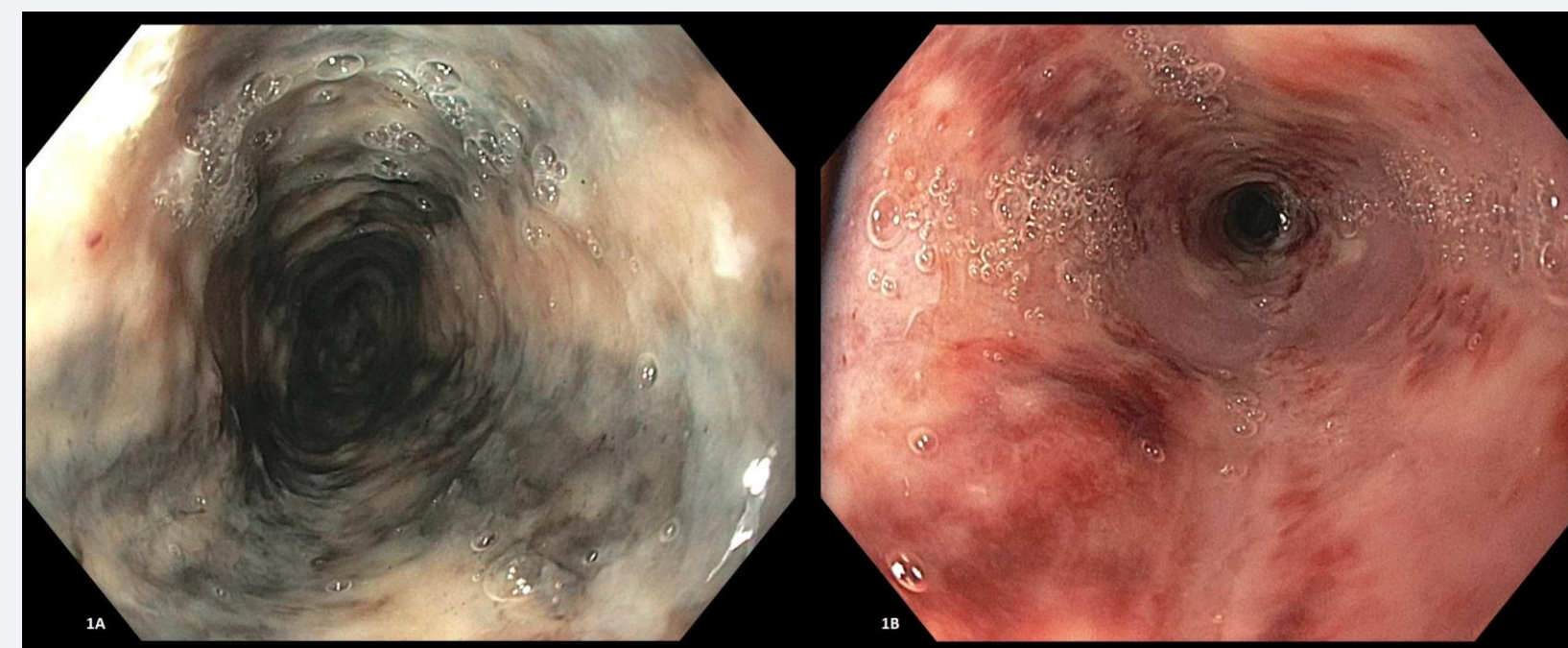


Image 1A: Acute esophageal necrosis with black eschar Image 1B: Severe esophagitis with stricture formation at follow-up endoscopy

Our Case:

- A 59-year-old man with history of alcohol use disorder, gastroesophageal reflux disease, and cardiovascular disease presented with epigastric pain and emesis and was found to be hypotensive.
- He was diagnosed with acute pancreatitis and managed conservatively with clinical improvement. During his hospitalization, he reported new-onset dysphagia and odynophagia.
- Barium esophagram demonstrated narrowing of the distal esophagus, and an endoscopy showed circumferential esophagitis with black eschar spanning the entire esophagus (Image 1A).
- He was started on a proton pump inhibitor and sucralfate. Endoscopy 8 weeks later revealed Los Angeles grade D esophagitis without bleeding and a lower esophageal stricture measuring 1 cm in diameter x 12 cm in length (Image 1B).
- In the context of severe esophagitis, dilation was deferred in favor of continued observation.
- The patient died 3 months later due to unrelated complications.