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Ricky Buckshaw DO

*Lehigh Valley Health Network, Ricky.Buckshaw@lvhn.org*

Ethan S. Stern DO

*Lehigh Valley Health Network, Ethan.Stern@lvhn.org*

Robert Andrews MD

*Lehigh Valley Health Network, Robert.Andrews@lvhn.org*

Frederic Stelzer MD

*Lehigh Valley Health Network, Frederic.Stelzer@lvhn.org*

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# Esophageal Necrosis: A Rare Complication of Diabetic Ketoacidosis – A Case Report

Ricky Buckshaw, DO,<sup>1</sup> Ethan Stern, DO,<sup>1</sup> Robert Andrews, MD,<sup>2</sup> Fredrick Stelzer, MD<sup>2</sup>

<sup>1</sup>Lehigh Valley Health Network, Department of Internal Medicine, <sup>2</sup>Lehigh Valley Health Network, Division of Gastroenterology

## INTRODUCTION

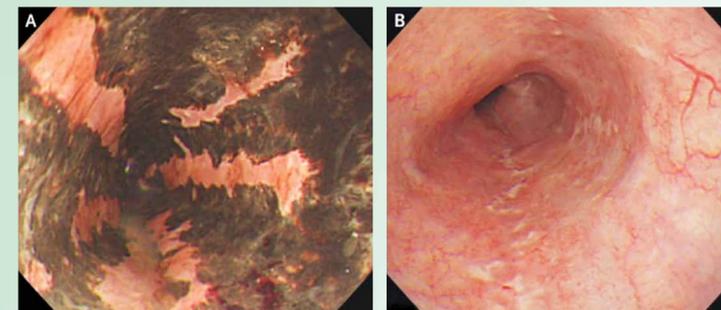
Diabetic ketoacidosis (DKA) is a common complication of uncontrolled diabetes mellitus. Rarely, DKA can be complicated by acute esophageal necrosis (AEN) with the hallmark finding of circumferential black distal esophageal mucosa seen with endoscopy. Common presentation of AEN includes upper GI bleeding, nausea, vomiting, dysphagia, and syncope. Most commonly AEN is associated with hemodynamic compromise and low flow states, like what is encountered with the profound dehydration in patients with DKA. Those considered at greatest risk for developing AEN are men over age 50 with comorbid conditions such as DM, malignancy, hypertension, alcohol abuse, and CAD.

## METHODS

A 50 year old male with past medical history of DM type I, gastroparesis, chronic pancreatitis, and Barrett's esophagus presented with non-radiating epigastric abdominal pain, coffee ground emesis, and nausea. He was vomiting frequently with severe pain for approximately two days. He denied any new medications, sick contacts, alcohol intake or intentional ingestions at the time. Arriving vitals were systolic BP 60's–70's, HR 98, GCS 12. Dried blood was present around the patient's mouth and tenderness in the epigastric area was present. He was given IV normal saline for volume resuscitation as well as emergent blood transfusions. He was started on empiric treatment for a GI bleed along with Zofran for persistent nausea. Initial lab work revealed hemoglobin 9.9, blood pH 7.34, lactate 3.7, glucose >1000, positive serum ketones, bicarbonate 14, and anion gap 39. CT scan of his abdomen and pelvis revealed esophageal wall thickening, gastric distention with dilated fluid-filled esophagus, fatty liver, and chronic pancreatitis. He was later admitted to the MICU due to his critical clinical status.

## RESULTS

A diagnosis of diabetic ketoacidosis was made and DKA treatment protocol with insulin infusion, electrolyte replacement and frequent labs was started. Gastroenterology consult with EGD revealed the distal 2/3 of the esophagus having black, necrotic appearing mucosa with abrupt transition at the GE junction. No biopsies were taken due to the nature of the patient's presentation and risk of perforation. The patient was subsequently started on IV PPI and Carafate with gradual improvement of his symptoms.



A: Esophageal Necrosis B- Normal Esophagus  
gpremed.com/images/366/acutesophagealnecrosis-esophagealnecrosis-egd-gi-clinical-nejm

## CONCLUSION

AEN is a rare complication of DKA and was discovered in this patient. Typical management involves fluid resuscitation, treatment of the underlying DKA, PPI, Carafate, and keeping the patient NPO. Although uncommon, AEN is an important condition to recognize as it is associated with mortality rates ranging from 15%–36%. Also, 15% of survivors develop long term complications such as esophageal strictures or stenosis. Many of the symptoms of AEN are common presenting symptoms of DKA so clinical suspicion and evaluation in the correct context could prevent morbidity and mortality.

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