

First Known Case of Esophageal Parakeratosis Associated with a Severe SARS-CoV-2 Infection

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Introduction

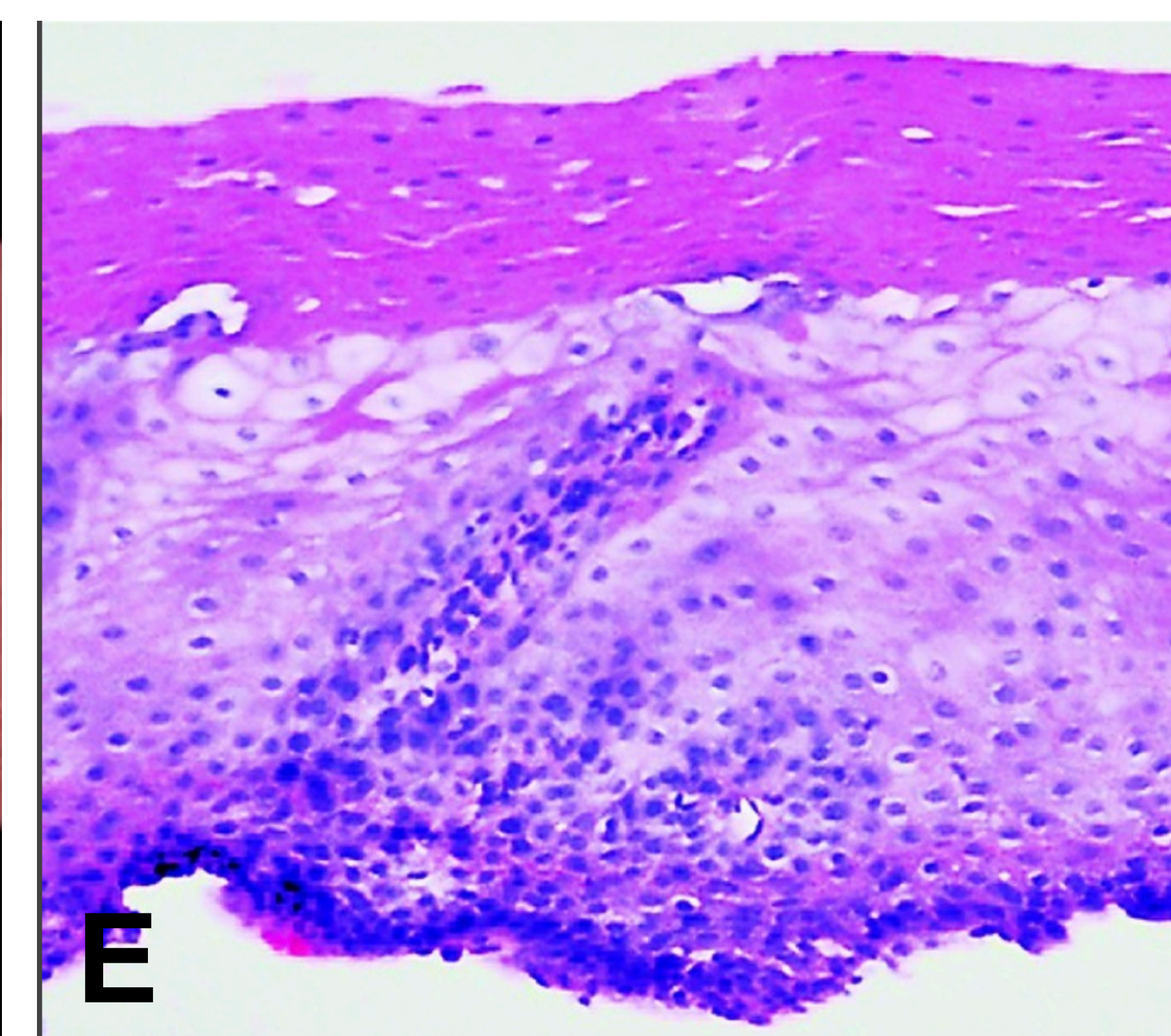
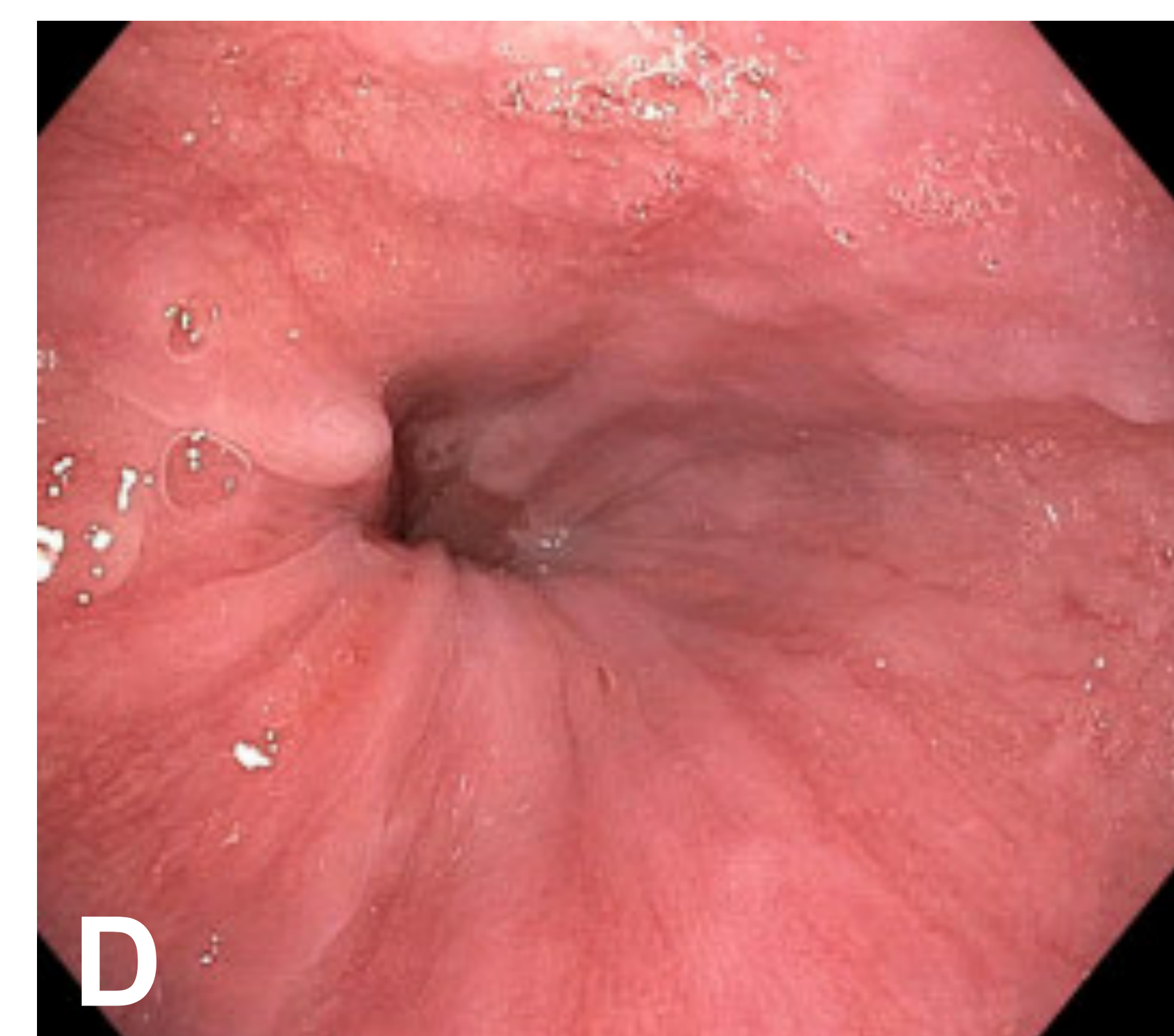
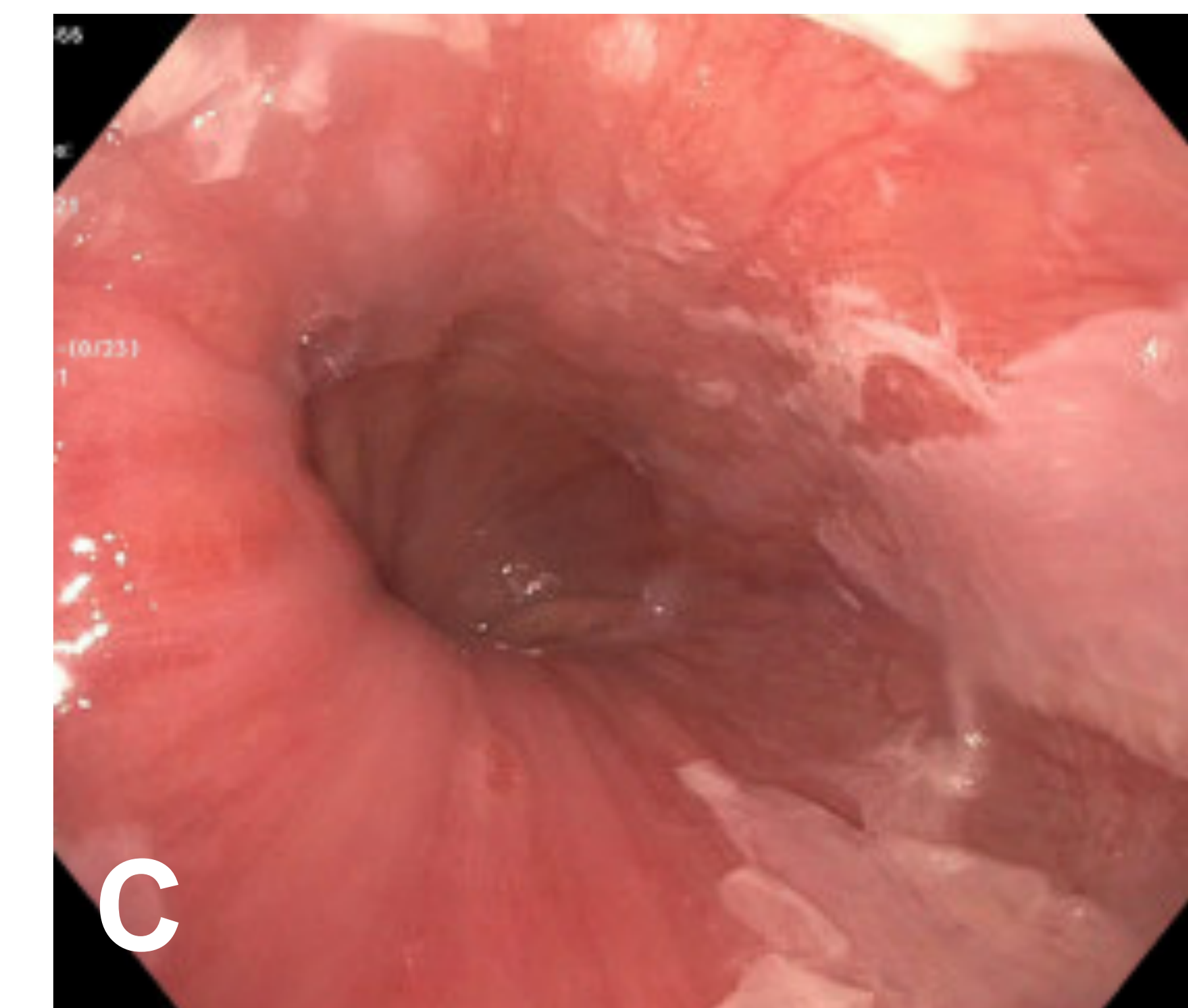
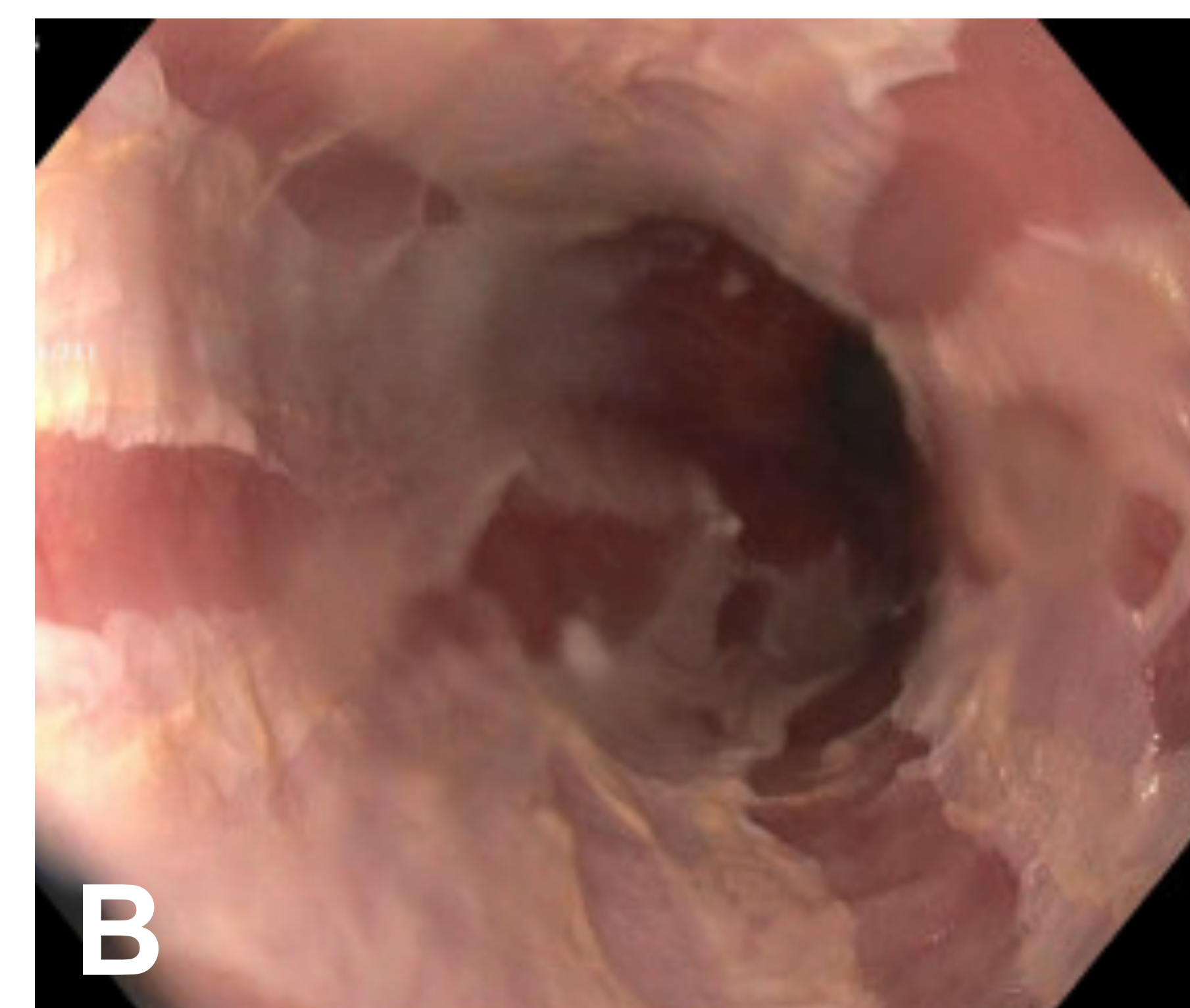
Esophageal parakeratosis is a rare, benign condition that is associated with vitamin deficiencies as well as squamous cell carcinoma of the head and neck or upper gastrointestinal tract. Symptoms include dysphagia, odynophagia, and heartburn. Here we describe a patient diagnosed with esophageal parakeratosis in the setting of a recent, severe SARS-CoV-2 infection as his only associated condition.

Case Presentation

A 79 year old man presented for an outpatient endoscopy for history of a gastric mass. He had been worked up for this presumed gastrointestinal stromal tumor (GIST) with endoscopic and surgical biopsies that were unrevealing. During that time he developed a severe case of SARS-CoV-2 with prolonged hospitalization and was started on anticoagulation for bilateral pulmonary emboli. He developed hematemesis and endoscopy revealed a large ulcer at the same site of the previously noted mass. He was now presenting again for endoscopic workup with EGD as an outpatient for follow up. Subsequent endoscopy revealed only chronic gastritis but no evidence of a mass or an ulcer. However, the entire esophageal mucosa was abnormal with diffuse sloughing. Brushings were taken and he was empirically started on antifungal treatment for presumed candida esophagitis as well as proton pump inhibitor twice daily. Histology revealed esophageal parakeratosis without dysplasia and without candida. He returned for a repeat EGD and was found to have a normal esophagus at that time. All vitamin levels checked were within normal range including zinc at 78 ug/dL. There were no other known active malignancies at the time and imaging revealed no residual evidence of mass. His only other association during this time was the recent, severe SARS-CoV-2 infection.

References

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Discussion

Esophageal parakeratosis needs to be differentiated from other conditions such as candida and eosinophilic esophagitis. It should raise suspicion for head and neck malignancies and has been found in the nearby esophageal mucosa of 90 percent of patients with esophageal cancer in one study. Other associated conditions with esophageal parakeratosis include tylosis and alcohol abuse. The temporal relationship of the severe SARS-CoV-2 infection likely causing some degree of immunosuppression in this patient could have been the precipitating factor that led to the development of his esophageal parakeratosis. More studies are needed to elucidate the relationship between the immunocompromised state during SARS-CoV-2 infection and esophageal parakeratosis.

A. Computed Tomography images with 1.8cm gastric mass suspicious for GIST. Endoscopy images from that admission were not available but were not consistent with GIST. Biopsy results showed chronic, inactive gastritis with focal hyperplastic changes and extensive intestinal metaplasia. No evidence of dysplasia or malignancy was seen. **B and C.** Follow-up EGD to examine CT gastric wall findings revealed these images showing hyperparakeratosis along the esophagus. Esophageal brush biopsy showed reactive squamous cell changes with hyperparakeratosis and no evidence for Candida infection. **D.** Prior to biopsy results, patient was treated empirically with antifungals. Image here shows resolution of surface hyperparakeratosis on subsequent EGD. **E.** Histological example of the upper esophagus revealing a dense layer of parakeratosis covering the normal-appearing squamous epithelium.