

# Risk of Aortoesophageal Fistula Following TEVAR for Elective and Ruptured Descending Thoracic Aortic Aneurysms

Ahmad Tabatabaeishoorijeh, BS,<sup>1,2</sup> Maham Rahimi, MD, PhD<sup>2</sup>

<sup>1</sup>Texas A&M School of Engineering Medicine (ENMED), Houston, TX; <sup>2</sup>Department of Cardiovascular Surgery, Houston Methodist Hospital, Houston, TX;

## Introduction

- Aortoesophageal fistula (AEF) is a rare but serious complication of dTAA, with high morbidity and mortality. TEVAR may increase the risk of AEF, though the extent is unclear. Physicians should remain alert for AEF in patients with infection, GI bleeding, chest pain, or dysphagia after TEVAR for dTAA. Early recognition before SIRS or sepsis improves outcomes.

## Methods

- We conducted a retrospective analysis, dividing patients into two main groups. The first included elective dTAA patients, comparing those who underwent TEVAR to those who did not. The second included TEVAR recipients, comparing ruptured versus unruptured dTAA cases. Using the TriNetX database and propensity score matching, we evaluated esophageal perforation (EP) as the primary outcome at various intervals.

## Results

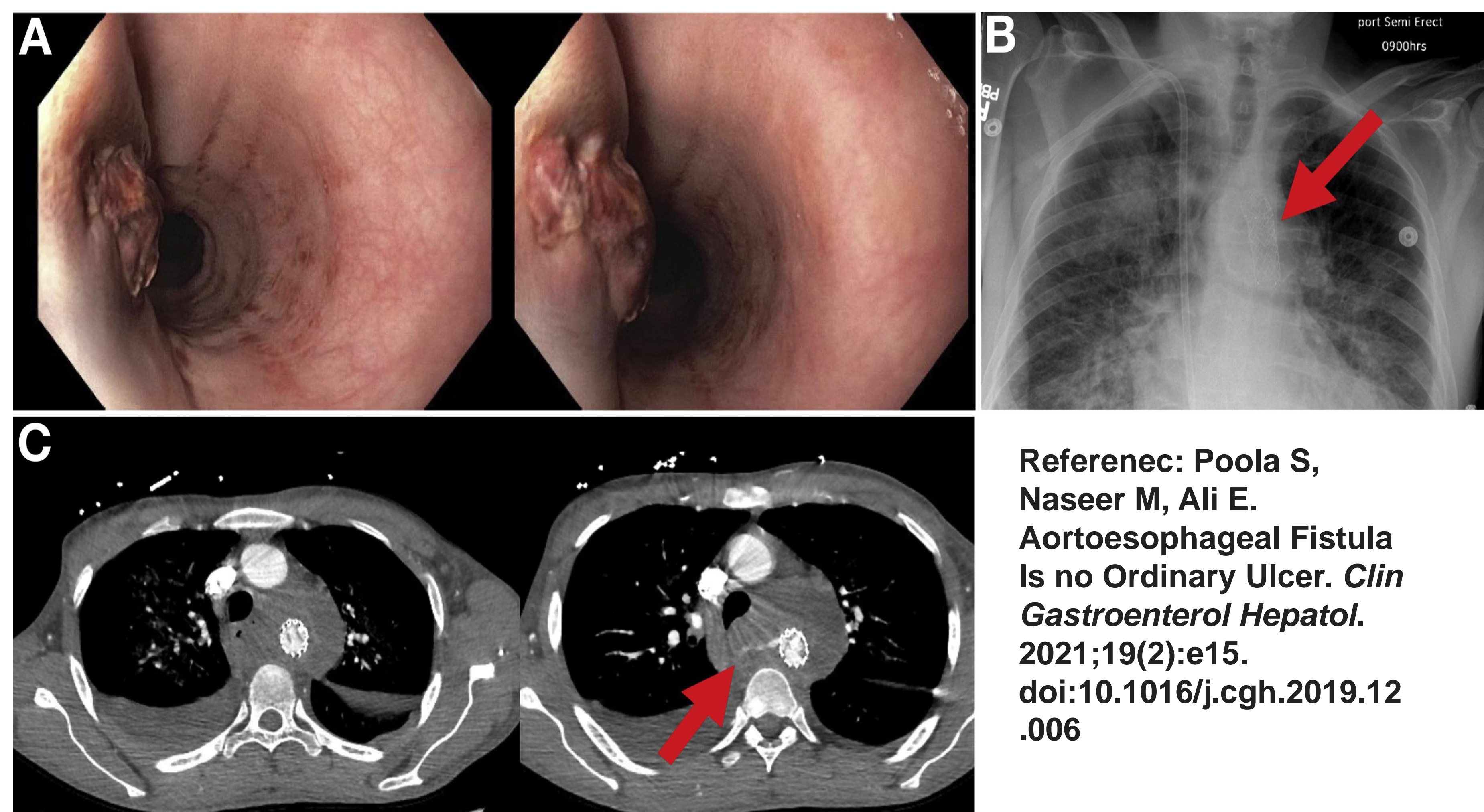
- A total of 175,468 patients with elective dTAA met the inclusion criteria for the first group. Among these, 4,600 (2.6%) were treated with TEVAR, while 170,868 (97.4%) received treatment without TEVAR. In the second group, 2,207 patients who were treated with TEVAR met the inclusion criteria. Of these, 339 (15.4%) underwent TEVAR for ruptured dTAA, and 1,868 (84.6%) underwent TEVAR for unruptured dTAA. After propensity score matching, 4,313 patients with elective dTAA—both with and without TEVAR—were matched in the first group, and 336 patients with ruptured and unruptured dTAA who were treated with TEVAR were matched in the second group. In the elective dTAA group, patients treated with TEVAR demonstrated a significantly higher rate of esophageal perforation at 6 months compared to those treated without TEVAR (0.3% vs 0%;  $P < .001$ ). However, among patients treated with TEVAR for either ruptured or unruptured dTAA, there was no significant difference in the rate of esophageal perforation at any interval up to 5 years (2.9% vs 2.9%;  $P = 1.0$ ).

## Conclusion

- Our findings show TEVAR for elective dTAA increases the risk of esophageal perforation (EP) within 6 months. Over 5 years, EP rates were similar between ruptured and unruptured dTAA patients. While AEF post-TEVAR is rare, outcomes improve with a high index of suspicion in symptomatic patients.

## Objective

- This study has two primary objectives: first, to assess the risk of AEF in patients with elective dTAA who have undergone TEVAR compared to those who have not; and second, to evaluate the risk of AEF in patients with ruptured versus unruptured dTAA following TEVAR.



Referenec: Poola S, Naseer M, Ali E. Aortoesophageal Fistula Is no Ordinary Ulcer. *Clin Gastroenterol Hepatol.* 2021;19(2):e15. doi:10.1016/j.cgh.2019.12.006