

TEVAR and Delayed Left Subclavian Artery Chimney for Thoracic Aortic Transection

Mohamad Nogedat, Hashem Hayeq and Offer Galili

Department of Vascular & Endovascular Surgery, The Lady Davis Carmel Medical Center, Haifa, Israel

Keywords: Emergent TEVAR; Vascular Surgery Trauma; Vascular Surgery

Received: 5 November 2021; Accepted: 17 November 2021

The following photos describe the endovascular treatment of an unstable patient with a traumatic rupture of the thoracic aorta following blunt chest trauma.

A 57-year-old male presented to the Emergency Department with blunt trauma due to a high fall. On presentation the patient was unstable (systolic blood pressure 70, heart rate 120). The procedure was performed in two sessions. The first session was the emergency deployment of a Zenith Alpha (Cook Medical) thoracic endo-graft in the descending thoracic aorta

with intentional covering of the left subclavian artery. The patient was stabilized in ICU. Then, in the second session, due to left upper limb ischemia, a parallel “chimney” Be-Graft (Bentley) covered balloon expandable stent was deployed in the left subclavian artery (retrograde approach) after 24 hours from the index procedure. The patient was mobilized with complete recovery after 48 hours. Computed tomography angiography (CTA) revealed complete resolution of the thoracic rupture with the patent left subclavian “chimney” stent.

Corresponding author:

Offer Galili, Head of Vascular & Endovascular Surgery
Department, The Lady Davis Carmel Medical Center, Haifa, Israel.
Email: offerga@clalit.org.il

© 2021 CC BY 4.0 – in cooperation with Depts. of Cardiothoracic/
Vascular Surgery, General Surgery and Anesthesia, Örebro
University Hospital and Örebro University, Sweden

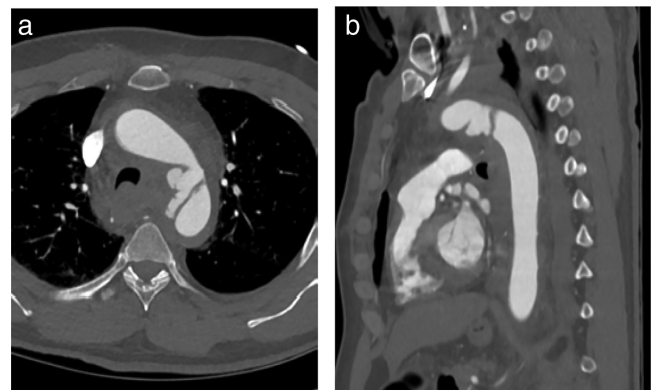


Figure 1 Preoperative chest CTA showing partial transection of the aorta (Grade III), 1.5 cm distal to the left subclavian artery. (a) Axial view. (b) Sagittal view.

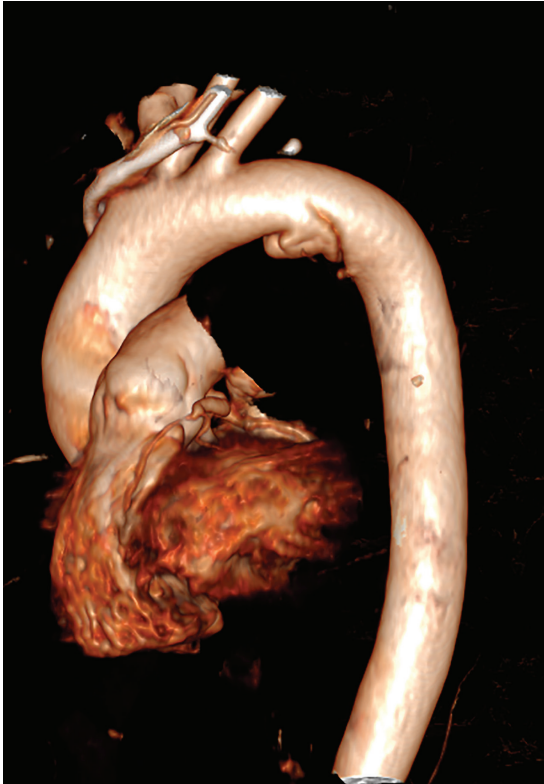


Figure 2 Three-dimensional CTA reconstruction of the descending aorta showing Grade III blunt aortic injury.

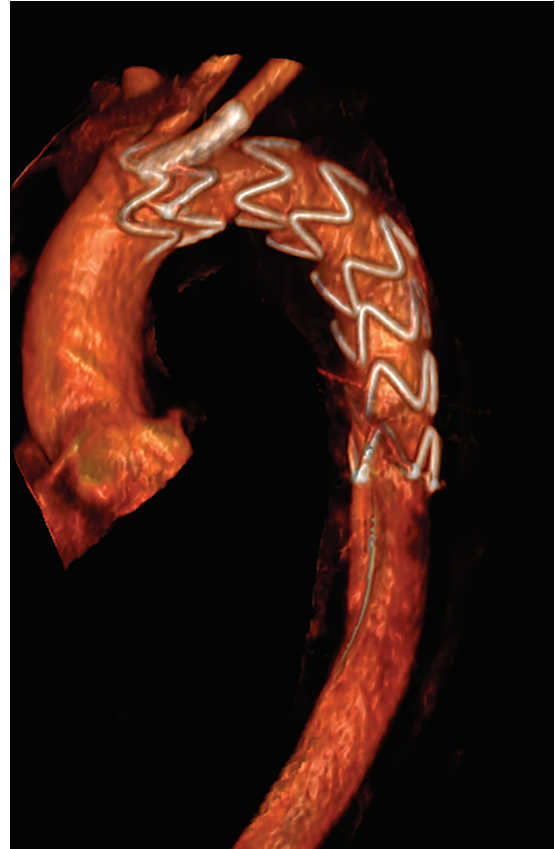


Figure 4 Three-dimensional CTA reconstruction of the aorta with parallel aortic stent graft and "chimney" graft in the left subclavian artery (72 hours after the index procedure).

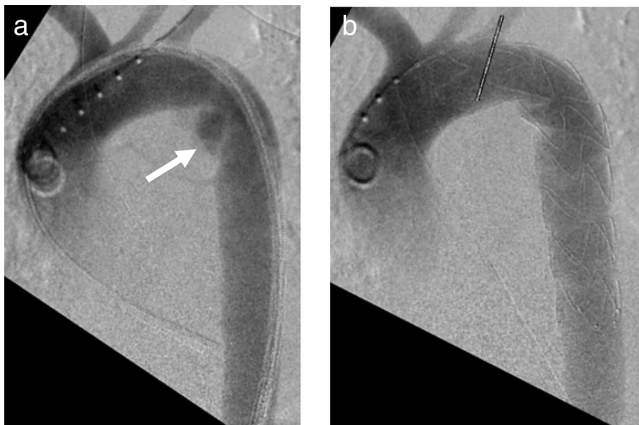


Figure 3 Intraoperative angiography. (a) Ruptured descending thoracic aorta (white arrow). (b) Deployed stent graft covering the left subclavian artery without any extravasation.

Ethics Statement

- (1) All the authors mentioned in the manuscript have agreed to authorship, read and approved the manuscript, and given consent for submission and subsequent publication of the manuscript.

- (2) The authors declare that they have read and abided by the JEVTM statement of ethical standards including rules of informed consent and ethical committee approval as stated in the article.
- (3) The images were published with permission from the patient.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Author Contributions

All authors contributed substantially to the study and writing of the manuscript.