

**Four Different Pathologic Conditions of the Descending Aorta – One Hybrid Solution:  
Thoracic Endovascular Aortic Repair with Partial Debranching of the Aortic Arch.**

**A Series of 6 Cases**

Horațiu Moldovan<sup>1,2,3</sup>, Lucian Călmăc<sup>1,2</sup>, Marian Broască<sup>1,2</sup>, Maria Sabina Safta<sup>1,2</sup>,  
Bogdan Severus Gașpar<sup>1,4</sup>, Claudia Nica<sup>2</sup>, Andrada Guță<sup>2</sup>, Liliana Mirea<sup>1,2</sup>, Cristian Voica<sup>2</sup>,  
Costin Minoiu<sup>1</sup>, Aida Badea<sup>2</sup>, Elena Nechifor<sup>5</sup>, Silvia Preda<sup>1,2</sup>, Mircea Robu<sup>1,6</sup>, Alexandru Zăman<sup>2</sup>  
and Andrada Bogdan<sup>1,2</sup>

<sup>1</sup>Faculty of Medicine, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Cardiovascular Surgery, Clinical Emergency Hospital Bucharest, Romania

<sup>3</sup>Academy of Romanian Scientists, Bucharest, Romania

<sup>4</sup>Department of General Surgery, Clinical Emergency Hospital, Bucharest, Romania

<sup>5</sup>Department of Cardiovascular Surgery, Sanador Clinical Hospital, Bucharest, Romania

<sup>6</sup>Department of Cardiovascular Surgery, Prof. Dr. C.C. Iliescu Emergency Institute for Cardiovascular Diseases, Bucharest, Romania

**Abstract**

*Introduction:* We report our experience of six patients admitted to our hospital during January - July 2023 with complex aortic conditions treated with a two-stage hybrid procedure, consisting of surgical debranching - bypass grafting - of the supra-aortic branches off-pump and stent graft placement for Thoracic Endovascular Aortic Repair (TEVAR).

*Clinical features:* The clinical cases we present highlight the use of TEVAR in both chronic (Type B aortic dissections, pseudoaneurysms, and penetrating aortic ulcers) and acute conditions (traumatic aortic transections and ruptured aortic aneurysms). TEVAR is a less invasive surgical approach for management of these critical patients, having as benefits: smaller incisions, avoiding operative risks associated with the classical procedure, shorter recovery time after the intervention and lower hospitalization costs.

*Conclusions:* TEVAR offers an alternative to open surgery, showing better immediate and mid-term results, as well as providing the chance to solve a variety of both chronic and acute cases that would be otherwise classified as too high risk for classic open surgery.

**Keywords:** Thoracic Endovascular Aortic Repair (TEVAR), distal surgical debranching, blunt traumatic thoracic aortic injury, traumatic rupture of aortic isthmus; pseudoaneurysm, type B aortic dissection, penetrating aortic ulcers