

Simplified hybrid repair with true lumen recycling for retrograde renovisceral perfusion in a complex chronic aortic dissection

Ricardo Castro-Ferreira, MD,^{a,b} Paulo Gonçalves Dias, MD,^a Sérgio Moreira Sampaio, MD,^{a,c} José Fernando Teixeira, MD,^a and Mario Lachat, PhD,^d Porto, Portugal; and Zürich, Switzerland

ABSTRACT

A 59-year-old man was referred with complicated chronic type B aortic dissection. Despite the false lumen's being dominant in terms of caliber and limb perfusion, visceral arteries originated in a 9-mm true lumen. A staged approach was performed: open aortobi-iliac bypass with preservation of both lumens to the infrarenal aorta, with reinforcement of the aorta and anastomosis with Dacron (wrap technique); exclusion of the dissection by endografting all of the false lumen with three successive thoracic endoprostheses; and maintenance of true lumen perfusion using two periscopes with self-expanding nitinol stents. The patient remains asymptomatic after 1 year of follow-up. (*J Vasc Surg Cases and Innovative Techniques* 2018;4:226-30.)

Keywords: Chronic type B aortic dissection; Parallel grafts; Periscope; Hybrid repair; Thoracoabdominal aneurysm

Aggressive medical therapy and close surveillance of the aorta remain the foundation of management of chronic type B aortic dissection (CTBAD).¹ Recent European Society for Vascular Surgery guidelines highlight that the development of symptoms and maximal aneurysm diameter >50 mm mandate immediate evaluation for surgery.¹ At present, the best management of CTBAD remains elusive as there have been no randomized controlled trials comparing the available techniques—open repair, thoracic endovascular aortic repair, and branched or fenestrated endovascular aneurysm repair (B/F-EVAR).² Furthermore, the sheer complexity of some CTBAD cases makes a standardized approach impossible. We describe a particularly challenging case of type B aortic dissection in which a novel and creative stepped approach was successfully undertaken. The patient has consented to the publication of this manuscript.

CASE REPORT

A 59-year-old man with a history of acute type A dissection underwent open repair of the aortic arch with Dacron with reimplantation of the supra-aortic arteries 18 years ago. Early in 2016, he was referred with a CTBAD complicated by type I thoracoabdominal aortic aneurysm, thrombosed right common iliac artery aneurysm (60-mm thoracic aorta and 50-mm abdominal aorta; 40 mm in the right common iliac artery), and thrombosed left internal iliac and right renal arteries (Fig 1). The dissection had an apparent origin in the Dacron-descending thoracic aorta anastomosis. Despite that the false lumen (FL) was dominant in terms of caliber and limb perfusion, all remaining visceral arteries—left renal, mesenteric, and celiac—originated in the true lumen (TL), which had a diameter of just 9 mm (Fig 1). Clinically, the patient had severe claudication of the right limb (Rutherford class 3), erectile dysfunction, and episodic lumbar pain. There were no pulses in the right leg, and the ankle-brachial index was 0.4.

A stepped approach treatment was performed. In the first step, infrarenal aortic replacement was undertaken with the aortic anastomosis about 4 cm distal from the distal left renal artery and with local resection of the dissection membrane for preservation of flow to both aortic lumens. In addition, the native aorta in between the left distal renal artery and the graft was reinforced with a collar of Dacron graft surplus (wrap technique). The Dacron wrap was fixed by simple stitches to both the juxtarenal aorta and the bypass distal to the anastomosis (Figs 2 and 3). Revascularization of the right limb was achieved by anastomosis of the graft limb to the external iliac artery. Theoretically, this step would exclude the right common iliac artery aneurysm and revascularize the right limb, reinforce the aorta, and secure access for the next step. The second step consisted of the endovascular part of the hybrid procedure. The dissection was excluded by endografting the entire FL with three successive thoracic endoprostheses (34 mm × 34 mm × 20 cm, 34 mm × 34 mm × 20 cm, and 34 mm × 34 mm × 15 cm

From the Serviço de Angiologia e Cirurgia Vascular, Centro Hospitalar de São João, Porto^a; Departamento de Cirurgia e Fisiologia, Unidade de Investigação Cardiovascular,^b and Centro de Investigação em Tecnologias e Serviços de Saúde,^c Faculdade de Medicina da Universidade do Porto, Porto; and Universitätsspital Zürich, Zürich.^d

Author conflict of interest: none.

Correspondence: Ricardo Castro-Ferreira, MD, Faculdade de Medicina da Universidade do Porto, Physiology and Cardiothoracic Surgery, Alameda Prof Hernâni Monteiro, 4200-319 Porto, Portugal (e-mail: cferreira.ricardo@gmail.com).

The editors and reviewers of this article have no relevant financial relationships to disclose per the Journal policy that requires reviewers to decline review of any manuscript for which they may have a conflict of interest.

2468-4287

© 2018 The Author(s). Published by Elsevier Inc. on behalf of Society for Vascular Surgery. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.jvscit.2018.03.006>

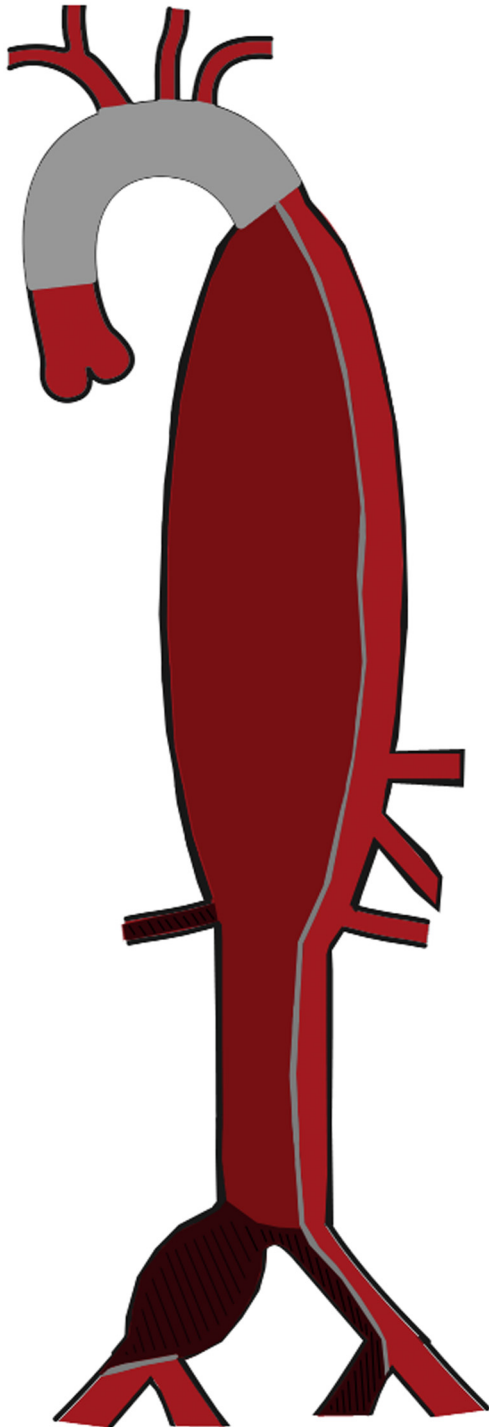


Fig 1. Schematic image of the imaging findings when the patient was referred to the vascular department: type I thoracoabdominal aortic aneurysm, thrombosed right common iliac artery aneurysm (60-mm thoracic aorta and 50-mm abdominal aorta; 40 mm in the right common iliac artery), and thrombosed right renal and left internal iliac arteries. The dissection had an apparent origin in the Dacron-descending thoracic aorta anastomosis. The false lumen (FL) was dominant and compressed the true lumen (TL), which had just 1-cm diameter. All remaining visceral arteries—left renal, superior mesenteric, and celiac—originated in the TL.

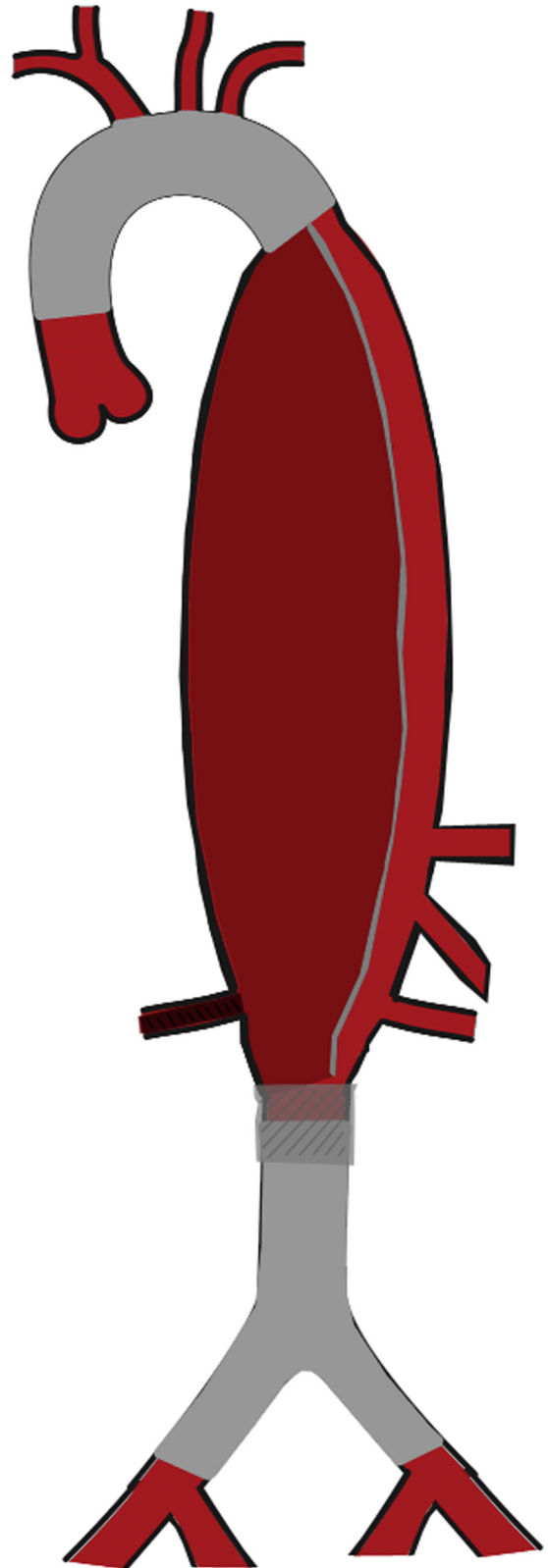


Fig 2. Schematic image of the first step in treatment—open aortoiliac bypass with preservation of both lumens in the infrarenal aorta, with additional reinforcement of the infrarenal aorta and anastomosis with Dacron (wrap technique).

Download English Version:

<https://daneshyari.com/en/article/10130060>

Download Persian Version:

<https://daneshyari.com/article/10130060>

[Daneshyari.com](https://daneshyari.com)