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Commentary: The aberrant right subclavian artery is not so abhorrent: Central arch reconstruction for acute type B dissection

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In their article, Dong and colleagues¹ from Emory University demonstrate a technique to address aberrant right subclavian artery (ARSA) and acute type B dissection (ATBAD). They describe their single-center experience in 4 patients using 4-vessel central aortic arch replacement with thoracic endovascular aortic repair (TEVAR) to treat complicated ATBAD. The report is highlighted by a detailed surgical description of the techniques used to correct this very difficult problem. Thankfully, ARSA with ATBAD is a rare occurrence given the low prevalence of this anomaly, although ARSA is a risk factor for ATBAD.² As the authors concede, a less invasive option includes TEVAR with bilateral carotid-subclavian bypass, however this option is associated with risk of nerve injury, stroke, retrograde type A dissection, and type Ia endoleak if proximal fixation remains marginal.

The excellent operative outcomes achieved in this small series are certainly commendable. The authors observed very favorable aortic remodeling in all 3 patients who underwent complete arch reconstruction, the single patient with ascending replacement alone and hybrid repair did require additional aortic intervention in the form of open thoracoabdominal aneurysm repair 4 years later.³ The

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CENTRAL MESSAGE

Central 4-vessel aortic arch reconstruction with concomitant TEVAR is an effective strategy to treat aberrant right subclavian artery anatomy in the setting of acute complicated type B aortic dissection.

strength of this article is to describe a technique that can lead to definitive management in the setting of ARSA with ATBAD, especially if there is not sufficient landing zone for TEVAR with bilateral carotid-subclavian bypass.

Certainly, bilateral carotid-subclavian bypass and TEVAR should still be considered in patients who present critically ill from malperfusion or rupture, even if there is marginal though sufficient landing zone to achieve proximal seal. A central reconstruction can be performed later if seal is lost and the patient develops Ia endoleak, but at least will ideally not be performed in a patient who presents unstable from acute rupture or metabolic derangements from visceral malperfusion.

In this small series from an experienced aortic center, there were no early mortalities and no neurologic complications. However, open arch reconstructions carry risk of neurologic complications and prolonged recovery. Therefore, the techniques described in this series are extremely worthwhile to consider in patients with similar anatomy and complicated ATBAD. Given the ample proximal landing zone achieved by the described techniques in this article, one would predict very low endoleak rates. Wherever anatomically feasible however, TEVAR with bilateral carotid-subclavian bypass does remain a very appealing treatment option. Our center and others have reported technical success with this approach without mortality or spinal

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cord ischemia, but also the need for continued surveillance because there is a nontrivial rate of endoleak, some of which required reintervention.⁴

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