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EDITORIAL COMMENTARY

“RESCUE me”: Sweet music for patients with aortic transection

Grayson H. Wheatley III, MD

See related article on pages 155-61.

The treatment paradigm for blunt thoracic aortic injury (BTAI) has evolved rapidly during the last several years as a result of the introduction of new endovascular aortic stent-graft options. In this issue of the *Journal of Thoracic and Cardiovascular Surgery*, Khoynezhad and colleagues¹ report the 1-year results of the RESCUE trial involving thoracic endovascular aortic repair for BTAI with the Valiant Captivia Thoracic Stent-Graft System (Medtronic, Inc, Minneapolis, Minn). From 2010 to 2012, a total of 50 patients were enrolled across 20 sites. The 30-day outcomes were previously reported,² and this report details the 1-year

follow-up of this cohort of patients to further understanding of the outcomes beyond the 30-day treatment window.

One of the unresolved issues related to endovascular treatment of BTAI is the management of the left subclavian artery (LSA). In this study, 40% of the patients (20/50) had the LSA totally covered with an aortic stent-graft; in another 18% (9/50), the LSA was partially covered. Three patients required elective LSA bypass because of left arm claudication on days 8, 36, and 103. There were no stroke-related or other ischemia-related events, and all patients had successful resolution of left arm claudication. This provides valuable insight into how best to handle the LSA when it is totally covered. Although this issue remains subject to controversy, Khoynezhad and colleagues¹ document that no serious adverse events happened in this subset of patients relating to covering the LSA. Frequently, patients with BTAI have other serious medical and surgical issues and cannot immediately tolerate LSA bypass. With the RESCUE trial data, it can be inferred that many of these patients can undergo LSA bypass at a later time if the clinical need arises. In the absence of a double-blinded, prospective, randomized trial on this topic, the results of this trial will be useful.

Current guidelines recommend endovascular repair of grade II and higher injuries and of grade I BTAI in patients with head injuries for whom elevated cerebral perfusion

From the Division of Cardiovascular Surgery, Temple University School of Medicine, Philadelphia, Pa.

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Address for reprints: Grayson H. Wheatley III, MD, Temple University School of Medicine, 3401 N Broad St, 3rd Floor, Zone C, Suite 301, Philadelphia, PA 19147 (E-mail: grayson.wheatley@tuhs.temple.edu).

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pressure is requested by neurosurgical colleagues.³ In this study, 18% of the patients sustained a grade I injury and were treated with an aortic stent-graft. The outcomes from this subset of patients were unremarkable and without complication. The decision to treat patients with grade I BTAI is somewhat controversial, because many of these patients will have healing of the intimal disruption without intervention. In the subset of patients in this study with grade I BTAI, however, there were no 30-day or 1-year complications or adverse events. Including these patients in the study may reflect real-world practices. Longer-term follow-up and additional studies are needed to assess for subsequent potential sequelae in this subset of patients.

In conclusion, the RESCUE study demonstrates that at 1-year follow-up, the cumulative all-cause mortality of patients with BTAI treated with an endovascular aortic stent-graft was 12%, which compares favorably with other published studies. There were no device-related concerns, although there was 1 non-clinically significant device migration, and no cases of aortic dilation were observed. Despite coverage or partial coverage 58% of the LSAs in

the study population, there were no adverse events and a small proportion needed elective left arm revascularization. This study highlights the ongoing need for close surveillance of patients with BTAI treated with an endovascular aortic stent-graft and for increasing the total number of patients with rigorous follow-up. Nevertheless, technical and 1-year outcome results are encouraging and help substantiate the success of the endovascular paradigm for treating BTAI.

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