Commentary: Zoning out

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We commend Jakob and colleagues1 on their innovative single-stage repair of type I acute aortic dissection. They present six “first-in-man” cases that received a novel three-zone hybrid graft. The patient population was high risk in that all had significant malperfusion. Device deployment was successful in all, and the initial outcomes were gratifying, with one early death that was not device related. The follow-up period, averaging 19 months, demonstrated no entry tears at the site of the proximal anastomosis and no true lumen collapse. However, residual false lumen perfusion of the arch and distal aorta was present in most of the patients: aortic arch, 3 of 5; arch branch vessels, 3 of 5; proximal descending aorta, 2 of 5; and distal aorta, 4 of 5 patients.

So, what does this procedure accomplish above and beyond a standard hemiarch repair, which, even in the setting of preoperative radiographic false lumen collapse, will result in reconstitution of distal true lumen flow and resolution of malperfusion in most patients? Although the holy grail of type I dissection surgery is to treat the entire aorta with proximal therapy, the addition of a fixed elephant trunk adds risk to the procedure without necessarily eliminating the need for subsequent reoperations.2,3 After hemiarch replacement, the rate of requisite intervention during follow-up has been relatively low and, perhaps, not very different from that for fixed elephant trunk procedures.4 The most significant risk of fixed elephant trunk procedures is spinal cord injury5; however, one must also wonder what the lifetime risk of cerebral embolization is from having a wire mesh cross the origins of the brachiocephalic vessels.

A recent review of the Society of Thoracic Surgeons database showed that only 56% of centers had performed more than one case annually.6 Thus, for most surgeons, because many patients will be unstable, the best approach will be to restore true lumen flow and stabilize and resuscitate the patient using the most straightforward and expeditious method. Additional experience will determine whether this new technology will show a benefit over a hemiarch approach.

References