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Commentary: How do we deal with a freak of nature?

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CENTRAL MESSAGE

How should we deal with a freak of nature? Total endovascular or hybrid approach? Sometimes, an extension of the proximal landing zone with a hybrid approach could decrease the risk of endoleaks.

The earliest reported description of an anomalous right subclavian artery was by Hunald in 1735.[1] The word *lusoria* comes from the Latin phrase *lusus naturae*, meaning "freak of nature," which refers to the anomalous course of the artery. The typical aortic arch branching pattern consists of the brachiocephalic trunk, left common carotid artery, and left subclavian artery (LSA), but in 0.4% to 2% of cases, an aberrant right subclavian artery (ARSA) arises directly from the descending thoracic aorta.[2] It is not rare that aneurysm of ARSA, at the level of origin, known as the Kommerell diverticulum, may occur and in some cases in a more complicated picture of acute type B aortic dissection.[3] Although few cases have been reported, there are various approaches, from hybrid—as shown in the series reported by Dong and colleagues[4]—to totally endovascular.[2] In most cases, hybrid procedures were chosen.[5-8]

Actually, Zhou and colleagues[2] reported 13 cases of type B aortic dissection, either acute or chronic, with ARSA where a total endovascular treatment was performed. In 6 cases, in the presence of at least a 15-mm landing zone, a simple thoracic endovascular aortic repair was chosen with coverage of ARSA ostium. In the remaining 7 cases without an adequate proximal landing zone, the patients were split into those with a dominant left vertebral artery, where the LSA is preserved with chimney procedure, and with bilateral balanced vertebral arteries where either ARSA periscope or LSA chimney were used.

So the question remains: How do we deal with this freak of nature? Is a total endovascular or hybrid approach better? A comparative study may offer the paramount answer to this, but given the low prevalence of cases, it seems challenging to perform such a comparison. Actually, a careful preoperative imaging assessment may offer the basis on which we should tailor the best procedure for each patient. In this sense, 2 anatomical features potentially associated with ARSA should be considered; that is, the sharp aortic curvature that is often associated with this anatomical variant may cause a bird-beak configuration, leading to type I endoleaks. On the other hand, most of these patients' right vertebral arteries were nondominant. In these cases, an appropriate extension of the proximal landing zone with a hybrid approach could decrease the risk of developing bird-beak configuration and endoleaks.

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