compression by the diverticulum or even late aneurysmal dilatation of the diverticulum with rupture or dissection, are known to occur.³⁻⁵

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EDITORIAL COMMENTARY

Rare but relevant

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Even though the anomaly discussed in this issue of the *Journal* is rare, vascular rings are common problems for congenital heart surgeons. Right aortic arch (RAA) with aberrant left *innominate* artery, though extremely rare, is very similar anatomically and pathophysiologically to the more common RAA with aberrant left subclavian artery (ALSCA) and posterior ligamentum. We should therefore make note of Drs Ranney, Andersen, and Jaquiss' successful surgical management.

A Kommerell diverticulum (KD) represents persistent dilation or enlargement of the base of the subclavian artery, or in this case innominate artery, after having accommodated half of the cardiac output during fetal life. Although the KD may become aneurysmal later in life, it need not be aneurysmal to cause problems. Because of its location between the spine and the esophagus, it may be a cause of dysphagia and other swallowing difficulties before or after division of the ligamentum.

For patients with a vascular ring secondary to RAA, ALSCA, KD, and posterior ligamentum who have swallowing difficulties, one should strongly consider complete removal of the KD from the descending aorta with translocation of the ALSCA to the left common carotid artery (Figure 1). For an excellent discussion of the technique,

Mirror-image arch branching produced after translocation of the ALSCA (*) to the LCCA (+).

Central Message

Swallowing difficulties caused by a Kommerell diverticulum can be addressed by removing the diverticulum and translocating the ALSCA.

See Article page e37.

one may refer to the article of Backer and colleagues¹ referenced in the bibliography.

To translocate the aberrant left innominate artery, the authors wisely chose an anterior approach through a sternotomy for optimal exposure of the distal ascending aorta. This rare anomaly represents one of the few situations in which left thoracotomy or thoracoscopy is not the best approach for treatment of a vascular ring. A limited left posterolateral 3rd interspace thoracotomy provides excellent exposure. Anticoagulation with heparin and monitoring of left cerebral near infrared spectroscopy, technical details not mentioned in the article, are useful for increased safety. Transection of the diverticulum flush

FIGURE 1. Mirror-image arch branching produced after translocation of the aberrant left subclavian artery (*asterisk*) to the left common carotid artery (*cross*).

with the descending aorta is important, and use of the KD in small children simplifies the anastomosis to the LCCA. If ductal closure has resulted in stenosis or atresia of the origin of the ALSCA, the KD is completely resected. The surgical result is mirror-image anatomy that rarely produces symptoms unless the descending aorta is in the midline.

Vascular rings frequently cause respiratory or gastrointestinal symptoms in childhood, and often there is a delay in diagnosis. RAA with ALSCA is the most common vascular ring and is typically characterized by the presence of a KD. Division of the ligamentum alone is often unsatisfactory and may not be therapeutic. In particular, when patients have swallowing difficulties, consideration should be given to KD removal and translocation of the ALSCA.

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