Right Aortic Arch Related to Kommerell Diverticulum and Internal Carotid Artery Agenesis

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A 31-year-old woman presented with blood pressure somewhat lower on the left compared with the right arm, hyposthenia, and left arm claudication. A vascular ultrasound examination demonstrated the absence of internal left carotid associated with left subclavian artery stenosis. A multidetector computed tomography using a 64-row scanner (Figure 1) confirmed the echographic results and revealed the presence of an aneurysm of origin of the subclavian artery (Kommerell diverticulum) in right aortic arch. The patient underwent hybrid percutaneous embolization treatment of the diverticulum and surgical reimplantation of the subclavian artery on the common carotid artery (Figure 2).

Internal left carotid agenesis is extremely rare. Most patients are asymptomatic because there is a sufficient cerebral circulation supplied by anastomosis in the circle of Willis and intracavernous and external carotid artery anastomosis. Kommerell diverticulum is a congenital abnormality of the aortic arch that is present in up to 60% of patients with an aberrant subclavian artery.1 Aberrant right subclavian artery occurs in ≈0.5% to 1.0% of the population.2 The aneurysmal diverticulum, in most cases, passes through the retroesophageal space, causing dysphagia, dyspnea, stridor wheezing, cough, recurrent pneumonia, obstructive emphysema, or chest pain by structure compression.2,3

References

Disclosures
None.

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(Circ Cardiovasc Imaging. 2009;2:e6-e7.)

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Circ Cardiovasc Imaging is available at http://circimaging.ahajournals.org

DOI: 10.1161/CIRCIMAGING.108.797159
Figure 1. A and B, Preoperative computed tomography angiography showing the Kommerell diverticulum (1) at the base of the left aberrant subclavian artery (2), the left common/external carotid artery (3), and the right aortic arch (4).

Figure 2. Postoperative computed tomography angiography showing the diverticulum percutaneous platinum coil embolization and the anastomosis between the left subclavian artery and the left common/external carotid artery.
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Circ Cardiovasc Imaging. 2009;2:e6-e7
doi: 10.1161/CIRCIMAGING.108.797159
Circulation: Cardiovascular Imaging is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 1941-9651. Online ISSN: 1942-0080

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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