

Congenital left common carotid artery absence with internal and external carotid aberrancy

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A 78-year-old man was seen in consultation for concern for carotid occlusion after a duplex ultrasound scan failed to identify the left internal carotid artery (ICA). This prompted a computed tomographic angiogram of the neck. The computed tomographic angiogram revealed aberrant carotid anatomy with absence of the left common carotid artery (CCA). The left ICA originated from the proximal left subclavian artery, the left external carotid artery (ECA) from the right innominate artery (A and B). For image clarity, the vertebral arteries were not included in the three-dimensional image reconstructions. The right carotid artery anatomy was normal.

Absence of the CCA is rare, with fewer than 50 reports in the literature.¹ This anomaly is typically recognized as an incidental finding on imaging or at autopsy. The anomalous origins of the internal and external carotid arteries in this case are particularly uncommon. In the absence of a left CCA and the left ICA and ECA generally arise directly from the aortic arch.² In cases of absence of a right-sided CCA, the right ECA usually arises from the brachiocephalic artery and the right ICA from the right subclavian artery.³ In the case reported here, left-sided CCA absence was seen with the pattern of aberrant anatomy that more frequently occurs on the right side. The presence of these anomalies likely stems from abnormal development or involution of the third aortic arch.⁴ Although typically asymptomatic, the aberration may lead to special challenges during diagnostic workup or therapeutic procedures.

The patient consented to the use of his images for publication.

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