

European Stroke 2020: Fenestration of the vertebrobasilar junction detected with multidetector computed tomography angiography.

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Blood supply to the hindbrain via the paired vertebral arteries (VA) can be compromised resulting in sign and symptoms of posterior circulation stroke (PCS). PCS account for approximately 20% of all stroke and transient ischemic attack and they remain a significant cause of patient morbidity and mortality. There are several factors that may compromise VA blood flow in which presence of morphological variation in the course of the VA may play a major role. The complex embryonic origin of the vertebrobasilar system may result in a wide range of anatomical variations. Fenestration of the vertebrobasilar system is a rare congenital anatomical variation that involves a luminal division of the artery, that has a single origin into two separate and parallel channels which are rejoined distally. Fenestration has been identified as risk factor for PCS due to irregularities in the lateral and medial wall structure which may alter the hemodynamics of blood flow at the proximal and distal end of the fenestrated segment causing transient ischemic attacks. Vascular fenestration has also been associated with aneurysms, arteriovenous malformations, neuralgia, and vertebrobasilar ischemia. We report on three cases of fenestration at the vertebrobasilar junction in one female and two male patients, respectively, using multidetector computed tomography angiography. Our report is clinically important as the presence of this anatomical variation may influence the management of cervical and intracranial pathologies including PCS. Increased awareness of the prevalence of anatomic variation will contribute to the advancement of noninvasive imaging capabilities. Blood supply to the hindbrain via

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