

FENESTRATIONS OF POSTERIOR BRAIN CIRCULATION

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Introduction: A fenestration is defined as a single artery with two luminal channels. There is a spectrum of appearances, from a tiny island of tissue separating the two channels to actual duplication of a long segment of the involved artery. The aim of this study was to describe the fenestrations of the posterior brain circulation and to emphasize their clinical significance.

Materials and methods: We examined radiographs of 103 patients who had CT angiography undertaken for a variety of clinical reasons, performed as a part of their medical treatment at the University Clinic for Radiology in Skopje, R. Macedonia. The study population included 103 patients, 58 male and 45 females, age range from 25 - 82, mean age 58.4 years.

Results: In four patients (3.88%) we found fenestrations of posterior brain circulation, three fenestrations (2.91%) was on the basilar artery and one fenestration (0.97%) was on the vertebral artery. Two fenestrations of the basilar artery were located in the proximal portion and one fenestration in the middle portion of the basilar artery. Fenestration of the vertebral artery was at the level of first and second cervical vertebrae. No collateral branches originated from the two limbs of the fenestration. The fenestration of the posterior brain circulation wasn't associated with aneurysm.

Conclusion: Fenestrations of the posterior brain circulation have rare occurrence, but they can pose significant risk for vascular injury during surgical and endovascular interventions.

Key words: fenestration, anatomy, CT angiography, posterior brain circulation