Leptomeningeal collateral circulation

The leptomeningeal collateral circulation (also known as leptomeningeal anastomoses or pial collaterals) is a network of small blood vessels in the brain that connects branches of the middle, anterior and posterior cerebral arteries (MCA, ACA, and PCA), with variation in its precise anatomy between individuals. During a stroke, leptomeningeal collateral vessels allow limited blood flow when other, larger blood vessels provide inadequate blood supply to a part of the brain.

Pediatric Moyamoya disease patients have greater patency and a greater ability to establish good Leptomeningeal collateral circulation (LMC) status than adult patients, and poor LMC status has a strong correlation with severe clinical symptoms and poor postoperative outcomes. LMC status may be an important factor in the differences in clinical characteristics and prognosis between pediatric and adult MMD patients [1].

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Liu ZW, Han C, Wang H, Zhang Q, Li SJ, Bao XY, Zhang ZS, Duan L. Clinical characteristics and leptomeningeal collateral status in pediatric and adult patients with ischemic moyamoya disease. CNS Neurosci Ther. 2020 Jan;26(1):14-20. doi: 10.1111/cns.13130. Epub 2019 Apr 13. PubMed PMID: 31875482.