

Vascular Surgical Anatomical Notes Related to The Insular Lobe

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Opinion

There is a close relationship between MCA and insula which is deeply located in the brain and such position and relationship, make surgical access to it to be more restricted. MCA supplies blood to the insular cortex. M1 part of the MCA via the lateral lenticulostriate arteries, supplies the underlying internal capsule and basal ganglia. M2 part of the MCA supplies the actual insular cortex.

Branches of the distal M1 and opercular M3 parts of the MCA, occasionally supply the insular cortex either. Avoiding to compromise the M2 part, is of surgical importance because it would be in the central sulcus and would supply it and also the precentral and postcentral gyri.

Vascular injuries during insular surgery in some parts, can cause motor deficit without directly affecting and causing lesions to the internal capsule. Primary motor-sensory cortex vascular compromise can be the result of the injury to central sulcus artery [1-4]. Hemiparesis due to a vascular capsular insult, can be seen in the lateral lenticulostriate arteries compromise, because the lateral lenticulostriate arteries which would arise from M1 part of the MCA, would supply the internal capsule either.

M2 part of the MCA has some perforating branches. These branches supply the insular cortex and underlying extreme capsule in most of the cases. Some of these branches will go further to the extreme capsule and claustrum. Few of the perforating branches will go further to reach the corona radiata and the internal capsule. Injuries to such arteries during surgery, can cause some deficits [4-8].

Having knowledge about such vascular anatomies and paying enough attention to avoid causing injuries to such vessels during surgery of the insula, is of great importance to reach best surgical results with lowest possible complications.

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