M1 segment of the middle cerebral artery

MCA from origin to bifurcation (horizontal segment on AP angiogram). A classical bifurcation into relatively symmetrical superior and inferior trunks is seen in 50%, no bifurcation occurs in 2%, 25% have a very proximal branch (middle trunk) arising from the superior (15%) or the inferior (10%) trunk creating a “pseudo-trifurcation”, a pseudo-tetrafurcation occurs in 5%

● lateral fronto-orbital and prefrontal branches arise from M1 or superior M2 segment of the middle cerebral artery trunk

● precentral, central, anterior and posterior parietal arteries arise from a superior (60%), middle (25%), or inferior (15%) trunk

● the superior M2 trunk does not give any branches to the temporal lobe

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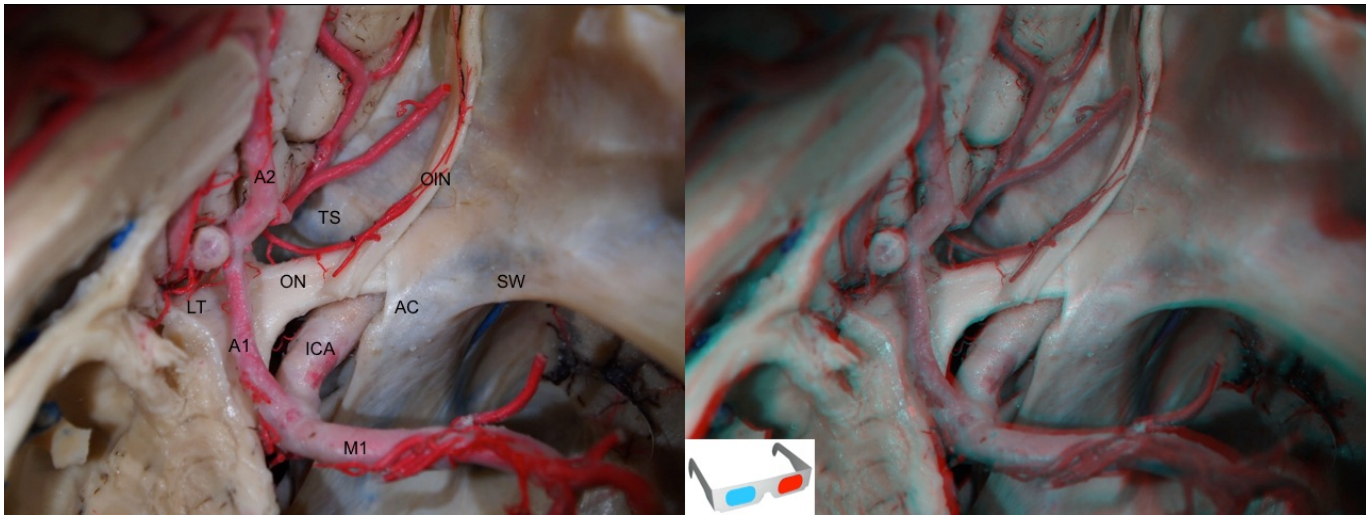
It is highly important to know the anatomy of the M1 segment, as well as of the arterial branches that arise from it, since causing its damage during dissection or occlusion of an aneurysm may determine the neurological sequelae.



AC: anterior clinoid process; ICA: internal carotid artery; LT: lamina terminalis; ON: optic nerve; OIN; olfactory nerve; SW: sphenoid wing; TS: tuberculum sellae; A1: A1 segment of the Anterior Cerebral Artery; A2: A2 segment of the Anterior Cerebral Artery; M1: M1 segment of the Middle Cerebral Artery

M1 segment of the middle cerebral artery from the origin to bifurcation/trifurcation (the limen insulae); also known as horizontal or sphenoidal segment.

It measures between 3 and 30 mm, being an average 15 mm long.

Among the early branches, the most frequent are the temporopolar artery, the anterior temporal artery and the orbitofrontal ones. In addition to this, and of minor caliber, are the perforating arteries that irrigate the basal ganglia region.

As it passes laterally, the stem gives off a series of six to twelve long, small diameter, penetrating

vessels that travel directly upward to supply the basal ganglia and much of the internal capsule. These are called the lenticulostriate arteries.

Middle cerebral artery M1 segment aneurysm

see Middle cerebral artery M1 segment aneurysm