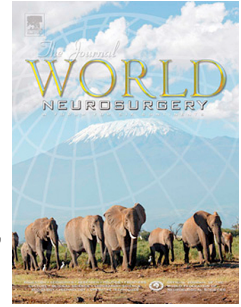


Accepted Manuscript

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PII: S1878-8750(16)00236-9

DOI: [10.1016/j.wneu.2016.02.024](https://doi.org/10.1016/j.wneu.2016.02.024)

Reference: WNEU 3718

To appear in: *World Neurosurgery*

Received Date: 3 January 2016

Revised Date: 4 February 2016

Accepted Date: 4 February 2016

Please cite this article as: Mavridis IN, Kalamatianos T, Koutsarnakis C, Stranjalis G, The Microsurgical Anatomy of the Orbitofrontal Arteries, *World Neurosurgery* (2016), doi: 10.1016/j.wneu.2016.02.024.

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Original article

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Abstract

Objective

The orbitofrontal (or frontobasal) arteries (OFAs) are the medial (MOFA) and lateral (LOFA) orbitofrontal artery, branches of the anterior (ACA) and middle (MCA) cerebral artery respectively. They supply the orbitofrontal cortex. The purpose of this microscopic cadaveric study was the detailed and precise anatomic identification of the OFAs along their course.

Methods

Twenty formalin-fixed, colored latex-injected cadaveric heads were studied with the aid of an operating microscope and microsurgical instrumentation. Following removal of the cerebrum from the cranial vault we examined these vessels' anatomy. Anatomic features of the MOFA and LOFA were investigated and assessed in relation to demographic and anthropometric variables.

Results

The MOFA supplies approximately 15 branches and LOFA almost 16 branches. The MOFA provides one branch to the olfactory bulb and four branches to the olfactory tract, and there are approximately two MOFA-LOFA anastomoses per hemisphere (novel finding). The MOFA origin is located approximately 7.9 mm anterior to the anterior communicating artery and 4.7 cm posterior to the anterior limit of the gyrus rectus. The LOFA origin is located approximately 11.1 mm far from the MCA bifurcation. Younger, shorter and lighter individuals have more MOFA-LOFA anastomoses. Finally, the number of MOFA branches for the olfactory bulb is positively correlated with the number of MOFA branches for the olfactory tract, as well as with the number of MOFA-LOFA anastomoses.

Conclusion

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