

ABSTRACT

NEUROANGIOGRAPHY PATTERNS AND ANOMALIES OF THE MIDDLE
CEREBRAL ARTERY FROM 554 CEREBRAL ANGIOGRAPHY RESULTS
IN Dr. SOETOMO ACADEMIC MEDICAL CENTER HOSPITAL

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Objective: As the largest and most complex of cerebral arteries, Middle Cerebral Artery (MCA) patterns and anomalies are not thoroughly reported. Moreover, there is still some confusion on the criteria of these different subtypes. The study of MCA patterns and anomalies is important as their variants such as accessory branches or duplications represent a substantial risk for misadventure during endovascular embolization or blind navigation during treatment of ischemic stroke. The aim of this study is to review the neuroangiography patterns and anomalies of the MCA which have never been done in Indonesia.

Methods: Total 554 cerebral angiography data from 300 subjects were included in the study from dr. Soetomo Academic Medical Center Hospital during 2014-2018 period. Analysis and interpretation regarding the MCA patterns and variations/anomalies were done. Estimation of MCA patterns and anomalies in the population and association between MCA patterns/anomalies and aneurysm/AVM as well as between MCA patterns and anomalies also were described.

Results: The mean diameter and length of the MCA (M1) from our study was 2.39 mm and 15.56 mm, respectively. The proportion of early branching from our study was 6%. The most frequent length type of the MCA was short segment

(40.6%). The most frequent branching pattern of the MCA was medial bifurcation (46%). There were only two MCA anomalies found in this study, MCA accessory (1.1%) and duplication (3.1%).

Conclusions: The proportion of length types, branching patterns, accessory subtypes, and duplication subtypes of the MCA which, according to the best of our knowledge, never have been published in the english literature were described in this study.

Keywords: middle cerebral artery, neuroangiography, pattern, anomaly