
Paper ID: 1570943499

Paper Title: Exploring Variations in Vascular Angles Around Basilar Artery Bifurcation
classified by Aneurysm Locations

Authors: Fangjia Pan (Tohoku University, Japan); Shunji Mugikura (Tohoku University Hospital, Japan); Naoko Mori (Akita University Hospital, Japan); Philippe Bijlenga (Geneva University Hospital, Switzerland); Makoto Ohta and Hitomi Anzai (Tohoku University, Japan)

Email: pan.fangjia.r3@dc.tohoku.ac.jp

Abstract

Vascular bifurcation sites has been identified as preferential locations for intracranial aneurysm presence. The distal bifurcation of the basilar artery (BA) is known for its intricate geometry and frequent association with basilar aneurysms. Previous research on BA apex angles and BA aneurysms primarily focused on BA tip aneurysms. Additionally, the angles between the posterior cerebral artery (PCA) and the superior cerebellar artery (SCA) received limited attention. Our study aimed to address this lack of information and explore potential variations in BA angles across different types of BA aneurysms (basilar tip and basilar trunk aneurysms). The study group comprised 33 patients, selected through a retrospective analysis of patient data from the AneuX project - a multicenter intracranial aneurysm database. These patients were categorized into basilar trunk and basilar tip aneurysm subgroups, as well as a non-BA aneurysm subgroup, each consisting of 11 patients. We investigated the angles among PCA, PCA-SCA, and SCA-BA in all patients. Significant differences were observed in PCA and PCA-SCA angles between basilar trunk and basilar tip aneurysm groups. Notably, the angles in the non-BA group fell within the range of the basilar tip and basilar trunk groups. Although the relatively small sample size necessitates further investigation, these findings suggest that angles around the BA apex might imply the positioning of BA aneurysms. As part of our conclusions, we propose a classification scheme for BA aneurysms and the consideration of PCA-SCA angles when investigating the correlation between BA angles and aneurysm presence.
