

Basilar bifurcation aneurysm epidemiology

They constitute 5-8% of all [intracranial aneurysms](#).

[Basilar bifurcation aneurysms](#) are significantly associated with patients' age, female sex, wider bifurcation angles, and smaller vascular diameter at the BA bifurcation ¹⁾.

The purpose of a study of Zhang et al. from the Department of Interventional Therapy, Henan Provincial People's Hospital, Henan University, Department of Medical Research, Shijiazhuang First Hospital, Hebei Medical University, Henan Balance Medical Laboratory, [China](#), was to determine the association of BA bifurcation aneurysms with patient age, sex, bifurcation angle, and branch diameter.

Three-dimensional angiographic data of 195 patients were used, including 59 patients with BA bifurcation aneurysms and 136 control subjects. The angles formed between left and right [posterior cerebral artery](#) ($\phi 1$) and between posterior cerebral artery and BA (the smaller angle defined as $\phi 2$ and the larger one as $\phi 3$), arterial diameters, and BA bifurcation aneurysm geometric characters were examined.

Women of 40 to 70 years of age are more vulnerable to BA bifurcation aneurysm formation than men. The $\phi 1$ bifurcation angle significantly increased ($P < 0.0001$), whereas both $\phi 2$ and $\phi 3$ angles significantly decreased ($P < 0.0001$ and $P = 0.09$, respectively) with increase of patients' age. Statistically significant ($P < 0.0001$ and $P = 0.0002$, respectively) positive correlations were observed between BA bifurcation branch diameter and aneurysm size. The $\phi 1$ angle was significantly ($P < 0.0001$) wider in patients harboring BA bifurcation aneurysms than the control, whereas $\phi 2$ and $\phi 3$ angles in aneurysm group were significantly smaller than those in the control group ($P < 0.0001$). The BA bifurcation aneurysms were mostly deviated toward the smaller $\phi 2$ angle side between $\phi 2$ and $\phi 3$ angles and deviated toward the smaller-diameter daughter posterior cerebral artery branch.

BA bifurcation aneurysms are significantly associated with patients' age, female sex, wider bifurcation angles, and smaller vascular diameter at the BA bifurcation ²⁾.

1) , 2)

Zhang XJ, Gao BL, Li TX, Hao WL, Wu SS, Zhang DH. Association of Basilar Bifurcation Aneurysms With Age, Sex, and Bifurcation Geometry. *Stroke*. 2018 Jun;49(6):1371-1376. doi: 10.1161/STROKEAHA.118.020829. Epub 2018 May 3. PubMed PMID: 29724891.

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Last update: **2024/06/07 02:57**

