

# Small ruptured saccular intracranial aneurysm

To investigate the prevalence of ruptured saccular [small intracranial aneurysms](#) (sIA) in a Chinese cohort and to identify factors associated with rupture status of [saccular intracranial aneurysms](#) (sIAs).

Consecutive patients with confirmed sIAs by DSA from January 2015 to July 2019 were included. Demographic and aneurysmal features, including maximal diameter, location, irregularity (lobulated or with blebs), and [aspect ratio](#) (AR, defined as height divided by neck width) were recorded and analyzed. Mixed effect logistic regression was used in multivariate analysis.

They analyzed 1514 sIAs in a Chinese cohort of 1216 patients, including 651 ruptured and 863 unruptured sIAs. Median aneurysm size was 5.7 mm for ruptured aneurysms, with 66.1% <7 mm in maximal diameter, and 40.2% measuring <5 mm. The median [PHASES score](#) of ruptured sIAs was 5. In multivariate analysis, male sex, hypertension, locations other than the internal carotid artery, irregularity (lobulated or with blebs), and higher AR were independently associated with rupture status (OR for irregularity, 2.88, 95% CI 2.20 to 3.77,  $p < 0.001$ ; OR for AR, 1.12, 95% CI 1.01 to 1.24,  $p = 0.036$ ). However, the maximal diameter was not significantly associated with rupture status ( $p = 0.72$ ).

In this cohort, [ruptured saccular intracranial aneurysm](#) were frequently smaller than 7 mm. Shape-related features, such as irregularity and higher AR, were associated with the ruptured status of sIAs, irrespective of diameter. PHASES seems to be inadequate in sIA risk stratification. Shape related parameters may be further investigated in prospective studies <sup>1)</sup>.

<sup>1)</sup>

Wang Y, Cheng M, Liu S, Xie G, Liu L, Wu X, Malhotra A, Mossa-Basha M, Zhu C. Shape related features of intracranial aneurysm are associated with rupture status in a large Chinese cohort. J Neurointerv Surg. 2021 Apr 21;neurintsurg-2021-017452. doi: 10.1136/neurintsurg-2021-017452. Epub ahead of print. PMID: 33883209.

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