

Establishment of [drug](#) therapy to prevent rupture of unruptured intracranial aneurysms (IAs) is needed. Previous human and animal studies have gradually clarified candidate drugs for the preventive treatment of IA rupture. However, because most of these candidates belong to classes of drugs frequently co-administered to prevent [cardiovascular diseases](#), epidemiological studies evaluating these drugs simultaneously should be performed. Furthermore, because drugs included in the same class may have different effects in terms of disease prevention, drug-by-drug assessments are important for planning intervention trials.

Shimizu et al. performed a [cross-sectional study](#) enrolling patients diagnosed with IAs between July 2011 and June 2019. Patients were divided into ruptured or unruptured groups. The drugs investigated were selected according to [evidence](#) suggested by either human or animal studies. [Univariate](#) and [multivariate logistic regression](#) analyses were performed to assess the association of drug treatment with rupture status. They also performed drug-by-drug assessments of the association, including dose-response relationships, with rupture status.

In total, 310 patients with ruptured and 887 patients with unruptured IAs were included. Multivariate analysis revealed an inverse association of statins (odds ratio (OR), 0.54; 95% confidence interval (CI) 0.38-0.77), calcium channel blockers (OR, 0.41; 95% CI 0.30-0.58), and [angiotensin II receptor blockers](#) (ARBs) (OR, 0.67; 95% CI 0.48-0.93) with ruptured IAs. Moreover, inverse dose-response relationships with rupture status were observed for [pitavastatin](#) and [rosuvastatin](#) among [statins](#), [benidipine]], [cilnidipine](#), and [amlodipine](#) among [calcium channel blockers](#), and [valsartan](#), [azilsartan](#), [candesartan](#), and [olmesartan](#) among ARBs. Only non-aspirin non-steroidal anti-inflammatory drugs were positively associated with ruptured IAs (OR, 3.24; 95% CI 1.71-6.13).

The present analysis suggests that several types of [statins](#), [calcium channel blockers](#), and ARBs are candidate drugs for the preventive treatment of unruptured IAs ¹⁾.

¹⁾

Shimizu K, Imamura H, Tani S, Adachi H, Sakai C, Ishii A, Kataoka H, Miyamoto S, Aoki T, Sakai N. Candidate drugs for preventive treatment of unruptured intracranial aneurysms: A cross-sectional study. PLoS One. 2021 Feb 12;16(2):e0246865. doi: 10.1371/journal.pone.0246865. PMID: 33577580.

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