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Reply:

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Reply:

In the International Study of Unruptured Intracranial Aneurysms (ISUIA),[1] the natural risk of bleeding in patients without a history of subarachnoid hemorrhage strongly depended on the size of the aneurysm. Aneurysms (<7 mm) located in the internal carotid artery, anterior communicating artery, middle cerebral artery, and aneurysms (<7 mm) located in the posterior circulation or the posterior communicating artery showed an annual bleeding risk of 0% and 0.5%, respectively. On the other hand, Sonobe et al[3] reported that the annual bleeding risk of unruptured intracranial aneurysms (UIAs) <5 mm in the Japanese population was 0.54%. In their meta-analyses of the rupture risk of UIAs, Wermer et al[3] reported that the risks of the aneurysms measuring ≤5 mm and 5–10 mm were 0.5% and 1.2%, respectively. Japanese and Finnish populations have a relatively high risk of aneurysm rupture. In the latest prospective study regarding the natural course of UIAs in the Japanese population, the annual rupture risks of UIAs measuring 3–4 mm, 5–6 mm, and 7–9 mm were 0.36%, 0.50%, and 1.69%, respectively.[4] Therefore, the patient's race should be taken into consideration regarding the rupture risk of asymptomatic small UIAs.

We believe that UIAs that are incompletely embolized with a coil can be protected from bleeding in short-to-midterm periods. Patients with incompletely embolized UIAs receive certain benefits from endosaccular coil embolization. However, a large-scale prospective cohort study with long-term follow-up is warranted.

With increasing experience and the development of endovascular devices, aneurysms that are difficult to treat with endosaccular coil embolization, probably resulting in failure in the early period, have become treatable, resulting in a residual neck or residual aneurysm.

We reported that the patients in our series were not representative of the whole Japanese population of patients with small asymptomatic UIAs because surgically treated or untreated UIAs were not included in this study. Therefore, a large-scale prospective cohort study is warranted. We discovered that experienced interventionalists can perform the endosaccular coil embolization of asymptomatic small UIAs with very low morbidity and mortality rates.

References

1. **Unruptured intracranial aneurysms: risk of rupture and risks of surgical intervention—International Study of Unruptured Intracranial Aneurysms Investigators.** *N Engl J Med* 1998;339:1725–33
2. Sonobe M, Yamazaki T, Yonekura M, et al. **Small unruptured intracranial aneurysm verification study: SUAVe study, Japan.** *Stroke* 2010;41:1969–77
3. Werner MJ, van der Schaaf IC, Algra A, et al. **Risk of rupture of unruptured intracranial aneurysms in relation to patient and aneurysm characteristics: an updated meta-analysis.** *Stroke* 2007;38:1404–10.
4. Morita A, Kirino T, Hashi K, et al. **The natural course of unruptured cerebral aneurysms in a Japanese cohort.** *N Engl J Med* 2012;366:2474–82

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