How Frequently Should We Follow Small Asymptomatic Intracranial Aneurysms?

To the Editor:

We would like to congratulate the authors on collecting data regarding an issue that remains poorly understood, ie, aneurysm growth. Although aneurysm growth has been observed in a number of studies, the role, if any, that aneurysm growth has in aneurysm pathophysiology is not understood. Data from International Study of Unruptured Intracranial Aneurysms has suggested that small aneurysms ≤7 mm have a very low risk of rupture.4,5 This has led to a nihilistic approach to small aneurysms at some centers and patients with small aneurysms are often lost to follow-up.

The data the authors present suggests that while short-term imaging may not be helpful, small aneurysms do indeed grow. We are in fact impressed with a 3.2% growth rate at 1 year for aneurysms with a mean aneurysm size of 3 mm. What will the 5- and 10-year growth rates be and what impact will this have on aneurysm behavior? Only continued follow-up of these patients with serial imaging will help answer these questions. We suggest that although this article did not prove that short-term serial imaging is helpful, the growth rate noted by the authors is reason enough to continue follow-up of these patients. Yearly imaging over the long-term may help establish or refute a connection between aneurysm behavior and growth. At our institution, we have initiated a prospective registry to track patients with aneurysms for whom treatment has been judged unnecessary or for which treatment has been declined. We encourage the authors to continue collecting data on their cohort and provide further follow-up in the future.

The stratification of risk of rupture of intracranial aneurysms, based on size and previous history of subarachnoid hemorrhage from other aneurysms, is clearly too gross, and insensitive to host and lesion features that likely occur in a subgroup of cases and mediate or mark unfavorable clinical behavior. We need to generate novel epidemiologic, morphological, and ultimately biological hypotheses to better define and assess these factors. The study by Wermer et al, examining rate of growth in unruptured lesions, is an excellent step in that direction.

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