AJNR

Reply:

W.J. van Rooij, M. van Eijck, R. Bechan and G. Roks

AJNR Am J Neuroradiol 2016, 37 (4) E40
doi: https://doi.org/10.3174/ajnr.A4711
http://www.ajnr.org/content/37/4/E40

REPLY:

We thank our colleagues Malhotra et al for their interest in our long-term follow-up study in patients with coiled basilar tip aneurysms. We thank the Editor for the opportunity to address their questions.

Our follow-up study of a patient cohort of 154 coiled basilar tip aneurysms covered 20 years. No patients were lost to clinical follow-up, and most eligible patients had imaging follow-up at various times. Nevertheless, imaging follow-up was not structured in yearly intervals; therefore, some questions remain unanswered. On the other hand, our study has the longest follow-up and is the most complete in the literature up to now, to our knowledge.

We will try to answer the questions raised by Malhotra et al. As we indicated in the "Materials and Methods" section, any reopening was an indication for additional coiling. Only exceptionally was additional treatment not performed or postponed for technical anatomic or clinical reasons.

Of 9 patients with a rebleed from the coiled ruptured basilar tip aneurysm, 2 died from an initial incompletely occluded aneurysm before 6-month follow-up imaging was performed. In 5 patients, previous follow-up imaging showed a completely occluded aneurysm (for an example, see Fig 2). The 1 patient with a rebleed 16 years after coiling underwent CT at another hospital 2 years earlier, but in retrospect, visible reopening was not appreciated at the time.

Progressive growth of the basilar tip aneurysm was the most devastating event in our patient cohort, directly leading to death in 5 of 6 patients. Multiple additional coiling had no favorable effect on the progressive increase in size of these aneurysms at an unpredictable pace. In the "Discussion," we addressed the clinical presentation of mass effect on the brain stem and cranial nerves. Most patients presented with gradually progressive cognitive decline, with apathy, dysphagia, fatigue, and gait disturbances. In a later phase, locked-in syndrome occurred in 1 patient. The patient with optic chiasm compression had visual field deficits and headaches.

The most important predictor for reopening of the coiled basilar tip aneurysm is aneurysm size. Larger aneurysms reopen more frequently. However, small aneurysms may also reopen. In our cohort, 11 of 37 (30%) retreated basilar tip aneurysms were 2–9 mm. Two of 11 aneurysms were unruptured. Three of 9 reopened ruptured small aneurysms had a recurrent hemorrhage.

Our study does not provide answers to all questions relating to reopening and rebleeding at follow-up of coiled basilar tip aneurysms. However, one thing is certain: Reopening (and rebleeding) of coiled basilar tip aneurysms is unpredictable. Although some trends are apparent, they are of limited value to the individual patient. Larger aneurysms reopen more frequently, but small aneurysms may also reopen. While most reopening becomes evident in the first year of follow-up, reopening may also occur many years after first or repeated treatment and after long periods of stable complete occlusion.

In our opinion, yearly MR imaging of all coiled basilar tip aneurysms should be adequate to detect this, to some extent unpredictable, reopening in a timely manner. Recurrent episodes of hemorrhage can thus be prevented.

W.J. van Rooij
M. van Eijck
R. Bechan
G. Roks
St. Elisabeth Ziekenhuis
Tilburg, the Netherlands

http://dx.doi.org/10.3174/ajnr.A4711