REPLY:

We greatly appreciate the thoughtful comments of the authors who raise valuable points and expand our discussion on the topic of aneurysms associated with brain AVMs (bAVMs) in their letter. We agree with the authors that in almost all ruptured bAVMs where the hemorrhage can be safely attributed to a site within the nidus (and not a prenidial aneurysm), intranidal aneurysms represent, in fact, the site of rupture of the bAVM nidus and are frequently observed as “false” aneurysms, partially filled with thrombus. We strongly believe in the use of modern angiographic techniques, particularly superselective and 3D angiography, to delineate the architecture of the nidus and, most importantly, to understand the relationship of associated aneurysms in relation to the nidus, and therefore to guide further treatment, whether endovascular or surgical. When it has been determined that the site of hemorrhage is a prenidial aneurysm (and not the nidus itself, including an intranidal aneurysm), prompt endovascular or surgical treatment should be pursued, tailored to the

angiographic features and location of the prenidial aneurysm and the clinical condition of the patient. Because the risk of early re-hemorrhage is low (in the absence of venous outflow stenosis) in bAVMs determined to have ruptured within the nidus itself (including intranidal aneurysms), the merits of expedient endovascular or surgical treatment are not clear. Equally unclear to our knowledge remains the benefit of targeted or palliative treatment (surgical or endovascular) of only part of the nidus (which may harbor intranidal aneurysms) without the complete, definitive resection of the bAVM.

S.K. Rammos

Department of Neurosurgery
Arkansas Neuroscience Institute
Little Rock, Arkansas

C. Bortolotti

Department of Neurosurgery
Istituto Di Ricovero e Cura a Carattere Scientifico
Institute of Neurological Science of Bologna
Bologna, Italy

G. Lanzino

Departments of Radiology and Neurosurgery
Mayo Clinic
Rochester, Minnesota

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