REPLY:

We thank Drs Dursault and Raymond for their interest in our meta-analysis of prospective studies comparing clipping with coiling in patients with ruptured aneurysms. The goals of treatment for ruptured aneurysms are the following: 1) to protect the patient from aneurysm rebleeding, and 2) to minimize complications while achieving goal 1. Based on our interpretation of the literature, there is firm evidence that for a given aneurysm amenable to coiling, endovascular treatment is associated with better functional outcomes.

We agree that the results of the International Subarachnoid Aneurysm Trial (ISAT)[1] weigh heavily on the finding of our analysis, but we also found it intriguing that as shown by the Table accompanying our study, the results of the 3 different trials analyzed are strikingly similar, despite methodologic differences. This finding argues that the positive association between coiling and better outcomes is real.

The Barrow Ruptured Aneurysm Trial (BRAT),[2] a reaction to the results of the ISAT, reached the same overall conclusions. This outcome is remarkable because BRAT has a strong bias in favor of surgery. The design of BRAT allowed the assignment of aneurysms that were not ideal for endovascular treatment to be, nonetheless, assigned to coiling, which penalized endovascular treatment. Nevertheless, the results of BRAT show, in agreement with ISAT, that functional outcome at 1 year was better after coiling rather than after surgical treatment, both in the intent-to-treat and in the as-treated analyses.[2]

The argument that ISAT is not representative of the overall population of patients with ruptured aneurysms is true from a pure methodologic perspective but weak from a pragmatic and clinical point of view. It is true that more than 90% of patients randomized in ISAT were patients in good clinical grade with small anterior circulation aneurysms. However, patients with poor clinical grade and posterior circulation aneurysms were already being preferentially treated with coiling even beyond ISAT. On the other hand, most small MCA aneurysms can be still more effectively treated with an open surgical approach.

The main issue of treatment of ruptured intracranial aneurysms is long-term durability, not in terms of percentage of aneurysm occlusion but in terms of true risk of rerupture during long-term follow-up. This issue is still open, but so far the documented long-term risk of rerupture has been low and does not seem to negate the initial benefit of coiling, except in the very young.

More than a decade after ISAT, it is time to move beyond the issue of coiling versus clipping.[3] The 2 technologies are complementary, but when feasible, endovascular treatment is associated with better outcomes. Unfortunately, there continues to be wide variability in the percentage of patients treated with coiling or surgery, and this variability is not related to scientific evidence but too often to personal egos, turf battles, and finances. For years, we have heard about absurd situations where, in "reputable" institutions, treatment of the ruptured aneurysm is based on considerations that have nothing to do with the severity of the clinical presentation or the characteristics of the aneurysm, but rather with personal preferences, convenience, or frank bias.

The availability of 2 valid therapeutic options and improvement in neurocritical care has dramatically ameliorated the prognosis of most patients with aneurysmal SAH. In our unit, we expect every patient with grades I-IV aneurysmal SAH (except those with large intraparenchymal hematomas and those who had an unwitnessed SAH with prolonged loss of consciousness) to return to a normal and productive life. If this outcome is not the case, it is often because of mistakes made along the way and not because of the SAH itself, which we have conveniently blamed for less optimal outcomes in the past.

REFERENCES

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http://dx.doi.org/10.3174/ajnr.A3663