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EDITORIAL

Microsurgical resection of unruptured Spetzler-Ponce grade A arteriovenous malformations is worthwhile and still the "gold standard" therapy

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In their article, "Microsurgical resection of Spetzler-Martin grade 1 and 2 unruptured brain arteriovenous malformations results in lower long-term morbidity and loss of Quality Adjusted Life Years (QALY) than conservative management—results of a single group series", Steiger and colleagues performed a single-centre, retrospective study of 97 patients who underwent microsurgical resection of unruptured brain arteriovenous malformations (AVMs), focusing on postoperative morbidity and lifetime loss of QALYs. The study demonstrates that microsurgical removal of unruptured Spetzler-Martin grade 1 and 2 AVMs produced more favourable long-term results than the modelled natural history, while surgical treatment of Spetzler-Martin grade 3 and 4 AVMs did not. The authors also studied the effect of age, as younger age may confer a certain advantage with respect to recovery from postoperative neurological deficits. They found that patients younger than 39 years tended to fare better after microsurgical treatment than older patients.

This is a very thorough and well-written article that fits nicely into the current debate after the ARUBA trial (1). In the ARUBA trial, different treatment modalities were lumped together and only a minority of patients were treated by microsurgery (5 %), despite 68 % of the enrolled patients harboured brain AVMs of Spetzler-Martin grades 1 or 2 (2, 3). In contrast, this article focuses on the "gold standard" therapy of Spetzler-Martin grade 1 and 2 brain AVMs—namely, microsurgery. However, even in this article, preoperative embolisation was performed in 48 % of patients prior to microsurgical resection. Thus, the complication rates reflect a composite of the two, and not just microsurgery, but given the retrospective nature of this study, it is probably impossible to separate the two.

The overall persisting morbidity rate of 10 % is commendable, but in line with 11 % in the published series by Bervini et al. (4). There are two important aspects here: one is that this rate is a far cry from the one found in the ARUBA trial (2), which was 50 % higher than expected by the investigators and 5–6 times that found in a recent meta-analysis totalling 13,698 and 46,314 patient-years' follow-up (5). The second is that the 10 % morbidity rate is an average and that 29 % of the patients treated in this current series had Spetzler-Martin grade 3 and 4 AVMs. As the discussion of whether or not to treat unruptured AVMs progresses after the ARUBA trial, I think it is prudent to "keep the different animals apart", in that analyses should be performed separately for the low and high Spetzler-Martin grades, or better yet, start using the Spetzler-Ponce grading system (6, 7). As this study nicely demonstrates, microsurgical resection of Spetzler-Ponce grade A AVMs is worthwhile and not futile, although it comes at some risk, and by not offering the gold standard therapy to young patients with such AVMs, we may very well do them a great disservice.

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