Opinion

Comment on the Article "Unruptured Intracranial Aneurysms - Risk of Rupture and Risks of Surgical Intervention"

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The importance of this study needs to be stressed, because it questions two well-established ideas on unruptured aneurysms.

The retrospective part of the study shows that the actuarial risk of bleeding of an incidental aneurysm is far lower than is currently believed¹.

The prospective part shows that the surgical risk of unruptured aneurysm is much higher than the surgical series published so far lead us to think².

To note:

1) the patients included in the prospective study were enrolled between 1991 and 1995, i.e., during a period where the most up-to-date surgical tools and neuro-anesthetic techniques were available;

2) the patients were freely selected by the operators;

3) the study operators were known nationally or internationally for their expertise in aneurysm surgery.

These results therefore reflect the surgical reality of unruptured aneurysms. The discrepancy with previously published retrospective series can be explained only by the presence of an independent clinical evaluator in the prospective study.

Analysis of the surgical risk factors finds a relation only with the patient's age. This contradicts most surgical studies, particularly that

from the Henry Ford Hospital³, where three main risk factors were identified. These were the patient's age, the sac size, and its location. One can assume that the giant aneurysms or those of the posterior circulation were among the 15% of patients treated by an endovascular approach, but the study does not address this. Thus, this series does not allow evaluation of the endovascular treatment risk, which should also be assessed prospectively.

What Clinical Impact Can This Article Have?

The first difficulty for the neurosurgeon or the neuroradiologist will be to confront the individual (and therefore emotional) relationship with the patient with the results of a statistical, collective and impersonal study.

We cannot decide the risk a patient is running in his/her place any longer, especially not in an emergency situation. Clear information regarding the natural history must be given, allowing the patient to think until the next visit. After this delay, those patients who cannot tolerate the idea of living with an intracranial aneurysm must be treated, as the risk of suicide is added to the natural one. However, most patients would rather let the physician make the decision. It seems to us that whatever that decision (treatment or not), the patients need to be followed up within a well designed epidemiological prospective study.

When the patient leaves the decision to us, our procedure is as follows:

1) an incidental aneurysm under 10 mm is not treated, but followed up by angio-MRI twice a year. If its volume changes, we offer endovascular or surgical treatment, the choice depending on its location and morphology.

2) A giant intradural aneurysm (which has a rupture risk of 6% per year in this study) is usually treated by endovascular approach with clamping the parent artery if its location allows it.

3) For aneurysms between 10 and 25 mm, the decision depends a lot on the feasibility of endovascular treatment.

To us, the patient's age is not an important decision factor. Indeed, even for young subjects, the therapeutic risk cannot compare to the natural risk of their life expectancy. Technology, especially endovascular technology, will certainly improve rapidly, reducing the therapeutic risk. Aggressive treatment would mean fewer chances for these patients.

To conclude, this study demonstrates the need to evaluate the results of any technique independently. We hope such a study can be conducted on the endovascular treatment of aneurysms and arteriovenous malformations.

References

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