

# The challenges of intracranial atherosclerotic disease

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**I**nterventional and stroke specialists sometimes find it easy to focus on the case load that presents to us and concentrate on the challenges of curing individual disabilities and preventing individual disasters. However, if one takes a step back from the clinic and looks at our field of specialty from a larger perspective, one is impressed by the scope and rate of change that has occurred in the past several years. One topic that has seen especially dramatic progress is our understanding of intracranial atherosclerotic disease.

Research in vascular biology has brought us an understanding that, although atherosclerosis occurs throughout the body, when it occurs in the intracranial arteries, it may respond a little differently to medical management.

Advanced technology in imaging and wider availability of the newest instruments has allowed us to detect intracranial atherosclerosis with ever increasing sensitivity and detail.<sup>1</sup> This allows us to make better decisions in our treatment planning. It also allows us to more accurately track changes in follow-up.<sup>2</sup> However, a question arises about "too much information"; that is, are we now able to detect sclerosis that is subclinical and perhaps benign, and should we ignore it?

The recently completed Warfarin-Aspirin Symptomatic Intracranial Disease (WASID)<sup>3</sup> and its subgroup analysis<sup>4,6</sup> has identified the limitations of medical treatment and highlighted the need for new treatment modalities. Endovascular treatments have also advanced dramatically, giving us a bigger, richer kit of intravascular tools, including new guidewires, catheters, balloons, stents, coils, debriders, filters, and chemical agents. Many of these are adapted directly from the cardiology toolkit, but there has been an accelerated development of instruments specifically designed for intracranial applications. As endovascular treatment continues to be introduced into practice, we will have to ask the question that which patient could benefit the most with such treatments, what is an acceptable peri-operative complication rate that still allows benefits to be derived from such a procedure, and what practitioner and institutional prerequisites are required to perform the procedure.

Along with new technologies there has been an increase in the numbers of practitioners capable of applying them. Not long ago, virtually every neurovascular interventional specialist knew all of the others; but with increasing demand for these services, many more physicians have been trained to provide them. This means that it is no longer practical to rely on just e-mails and phone calls to spread the news about techniques, discuss clinical problems, or get advice on treatment strate-

gies.

Considering recent developments in the field and the need for organizing our thoughts and communicating them effectively, it was decided that a conference should be convened to document expert opinions on intracranial atherosclerotic disease and find a consensus on current practices. Subsequently, my colleagues at the University of Minnesota and I undertook the initiative to call a consensus conference in March of this year. Recognized leaders in treatment of intracranial atherosclerosis and related research were invited to spend two days presenting and discussing their opinions. The conference yielded a list of statements comprising a consensus on several issues, including epidemiology, risk factors, natural history, diagnosis, screening, medical treatment, endovascular treatment, peri-procedural management, follow-up, and research. Proceedings of the conference and the consensus statements will be published shortly.

When the consensus becomes public, I look forward to discussing the inevitable variances of opinions that will come up. This is how we tune our practices to optimize our own strengths and resources in meeting the needs of our own patients. I hope the consensus will also inspire others to more effectively address the challenges presented by intracranial atherosclerotic disease.

## References

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