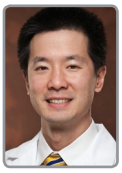
The Continued Evolution of Neurointervention



The era of neurointervention since the publication of MR CLEAN and the class of randomized trials that established thrombectomy as a frontline therapy for ischemic stroke might accurately be considered the start of a revolutionary period. Of course, it is also one based in significant evolution, with the trials and other clinical experiences that preceded this class having paved the way for their optimized designs and the advanced technical know-how of the investigators.

Over the past 5 years, both the revolution and the evolution have continued at a brisk pace. Further explorations of existing data sets and the emergence of new trial results have expanded the applicability of thrombectomy—whether via stentriever, aspiration, or a combination of the two. We are cautiously exploring the "outer limits" of both time and anatomy, while also focusing on big-picture improvements such as triage and transport systems, artificial intelligence applications, and collaborations with government bodies to increase patient access to this life- and function-saving therapy.

Although not as frequently published in the lay press headlines, much of the same can be said for recent advances in the treatment of cerebral aneurysms. A new wave of technologies and data is emerging to build on the progress already made, with the potential to expand the treatable population by adding more tailored options to our armamentarium.

In this edition of *Endovascular Today*, we focus on the therapeutic thresholds we encounter at this point in the evolution of neurovascular intervention. We are delighted to feature the research and practical experiences of a very esteemed group of physicians.

Our coverage begins with a review of historical strategies and data concerning acute ischemic stroke treatment and their applicability to the neurointerventional field today. Shashvat M. Desai, MD, and Ashutosh P. Jadhav, MD, deliberate about the importance of time in acute stroke treatment, considering reperfusion therapies, neuroimaging, and stroke pathophysiology, while Amrou Sarraj, MD, examines the relevance of core volume for stroke thrombectomy.

Our expert panel comprises Ameer E. Hassan, DO; William Mack, MD; and Melanie Walker, MD, as they discuss their thresholds for treating posterior circulation strokes with thrombectomy.

Lila Sheikhi, MD, and Muhammad Shazam Hussain, MD, discuss patient selection, noninvasive imaging, and procedural factors in the context of another important question: when is stroke thrombectomy futile?

We then tasked André Beer-Furlan, MD; Krishna C. Joshi, MD; and Stephan A. Munich, MD, with making a case for transradial access in neurointervention by analyzing the available literature and considerations for planning and technique.

Next, Daniel A. Hoit, MD, delves into a retrospective and prospective look at intrasaccular flow disruptors, sharing tips and data from a decade of clinical use and insight into the next generation. Xianli Lv, MD, and Chuhan Jiang, MD, close out our neurointervention focus by presenting the results of a single-center retrospective study of flow diversion in patients with complex cerebral aneurysms.

Elsewhere in this issue, we spoke with Johanna T. Fifi, MD, about her current stroke research, her experience in a mobile interventional team in New York City, and forthcoming technologic advances.

We hope you find this edition on neurointervention to be informative and applicable in your daily practice, and we look forward to your feedback. ■

Michael Chen, MD
Guest Chief Medical Editor