Stroke Management

The approach to the treatment of ischemic stroke has long been considered analogous to the strategy for early intervention for acute myocardial infarction. The issues are far more complex, however, and there are a number of unanswered questions regarding the best treatment algorithm for this devastating illness. In this issue of *Endovascular Today*, we will examine some of these issues and try and shed some light on the current "state of the art" with regard to stroke treatment. This issue is timely given the increased interest in neurovascular interventions among vascular specialists and the recent publication of updated guidelines for the early management of adults with ischemic stroke (*Stroke*. 2007;38:1655-1711).

We start with a roundtable discussion by some of the leaders in the field of acute stroke intervention. Joseph Broderick, MD; Gary Duckwiler, MD; Lee R. Guterman, PhD, MD; L. Nelson Hopkins III, MD; and Kieran Murphy, MD, discuss challenges to obtaining randomized stroke data, lessons learned from the past 10 years, future directions of stroke technology, and how best to treat an acute stroke patient.

There is no doubt that stroke management will be optimized by the development of regional stroke "centers of excellence." Marilyn M. Rymer, MD, opens our May issue with a look at the steps for developing such a stroke center. She describes how best to plan, build, and run a stroke center and reminds us that, as the incidence of ischemic stroke increases and new therapies emerge to treat acute stroke, the time is ripe for stroke center development. Carl M. Black, MD; Jeanie Hammer, BS; and Joseph Watkins, MD, review for us the elements of an effective stroke team. They state that although some elements of a stroke team may vary slightly from one institution to another, strong administrative support, good leadership, and broad physician buy-in by local specialists are critical to the development of a successful program.

In their article on Treating Acute Ischemic Stroke, Gerald Wyse, MD, and Kieran P. Murphy, MD, discuss optimization of acute ischemic stroke care with early detection and tailored treatment methods. They reiterate the imperative of building stroke teams and educating family practitioners and emergency room physicians in order for progress to be made in acute stroke treatment.

How do we achieve rapid recanalization of the cerebral arteries? Richard E. Latchaw, MD, addresses this question in his review of currently available modalities. One strategy is to begin with thrombolysis, and, if that does not work, move to a mechanical solution. In his article, Dr. Latchaw describes the available mechanical thrombectomy devices and provides insight on the pros and cons of each.

Ansaar T. Rai, MD, follows with nine case studies that detail the impact of imaging on stroke therapy. With continual technological advancement, in scanning hardware and processing software and increasing experience in functional brain imaging, the author believes that image-based, patient-specific treatment has the potential to become the accepted strategy for acute stroke management.

Michael T. Froehler, MD, PhD, and Romergryko G. Geocadin, MD, discuss how to best care for the stroke patient after the intervention, listing common neurologic stroke complications and their treatments. Appropriate postintervention care begins before the procedure with a detailed history and neurologic exam. After the procedure, the patient should be monitored in an intensive care unit, the authors advise.

This month's issue includes several other important topics. In our Techniques department, Mojtaba Gashti, DO, and Jeffrey Stephenson, MS, present a case report that demonstrates the feasibility of using stent grafts for endovascular treatment of a traumatic arterial pseudoaneurysm and arteriovenous fistula. In their FDA Insights column, Dorothy B. Abel and Angela C. Smith explain issues associated with achieving patient compliance with imaging follow-up. Patient participation, although occasionally challenging to attain, is integral to assessing device function and aneurysm stability.

A good friend, Alan B. Lumsden, MD, sits down for our featured interview and discusses the Top Gun challenge, how vascular surgery can appeal to more fellows, the benefit of simulator training, and a multi-industry collaborative event called Pumps and Pipes, in which members of the oil and gas industry assemble with cardiovascular interventionists to discuss various methods of managing similar challenges.

I hope you find our coverage of stroke care to be useful and thought-provoking as we work toward providing urgent, effective treatment for this debilitating condition. ■

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