

"Don't hurt my brain. It's my second favorite organ."

—Woody Allen

For patients and health care providers alike, there is no more dreaded illness than stroke, and with good reason. Stroke remains the third leading cause of death in the US and is the most common cause of death as a result of a neurologic disorder. It is estimated that there are more than 700,000 stroke victims per year in this country. Approximately one third of these will die, and one third will be rendered permanently disabled. The health care costs related to stroke are staggering; stroke is the most expensive disease in the US with an estimated annual expenditure of more than \$45 billion for the direct and indirect costs related to the care of these patients and lost productivity.

There have been a number of important advances in the prevention and treatment of stroke, but clearly we have a long way to go. This issue of *Endovascular Today* will update you on some of the emerging therapies for stroke and provide a glimpse of the future with regard to stroke management. Adnan Qureshi, MD, provides a state-of-the-art review of the various causes and types of stroke. Cardiogenic embolism to the brain is an important cause of stroke and has received a lot of attention recently with the evolution of techniques for PFO closure and left atrial appendage exclusion. Paul Kramer, MD, a pioneer in the procedure for PFO closure, provides an update on the indications for this procedure and the results being achieved with currently available devices. Bruce H. Gray, DO, discusses why screening for strokes is essential to appropriately treating them.

Although analogous to the treatment of acute myocardial infarction, advances in the treatment of acutely occluded cerebral vessels have lagged behind treatments for acute coronary occlusion. There are many explanations for this, but thankfully the field appears to be advancing in the right

direction. Many centers are establishing acute stroke teams that are dedicated to early and aggressive intervention to treat stroke. This may involve the use of intravenous thrombolytic therapy or directed intra-arterial thrombolysis, or even clot extraction. Lee Guterman, MD, PhD, who along with his partner Nick Hopkins, MD, has pioneered many of the techniques of neurovascular intervention, will provide an update on techniques of acute stroke intervention.

Minimizing the damage to the brain caused by stroke has been an area of intense research over the years for neuroscientists. Numerous pharmacologic approaches have been attempted but have failed. The novel concept of using therapeutic hypothermia to minimize brain injury during stroke is currently the subject of active investigation. Kama Guluma, MD, will review the status of this interesting approach to cerebral protection.

Also in this issue, Richard Milani, MD, and Roekchai Tulyapronchote, MD, engage with us in a rapid-fire Q&A session; Gary Duckwiler, MD, summarizes the experience to date with an interesting clot removal device, the MERCI Retriever System; Lee Guterman, MD, PhD, updates us on the possibility of ultrasound-facilitated thrombolysis; and Juan Parodi, MD, describes the ArteriA device.

I think you will find this issue of *Endovascular Today* both interesting and provocative. We at *Endovascular Today* look forward to continuing to provide you with updates on the major advances in the treatment of stroke in the years to come. ■



A stylized, handwritten signature in black ink, appearing to read 'J R Laird'.

John R. Laird, Jr, MD
Chief Medical Editor