The only treatment shown to improve outcome in acute ischemic stroke is tissue-type plasminogen activator administered within 3 hours (and perhaps longer) after stroke onset.1–3 Definitive data to support a role for acute endovascular stroke therapy, however, are lacking. Despite this lack of data, endovascular therapy is being used much more widely and has become the standard of care in many regions of the United States. The need for randomized controlled trials to test devices in acute stroke is hotly debated, but results from recent studies suggest that surgical and endovascular interventions are not nearly as effective or safe as had been assumed.4,5 Preconceived notions about how to select the most appropriate patients for therapy may be similarly flawed.

The articles in this section address the preclinical testing of devices intended for endovascular use in the treatment of stroke and the clinical use of those devices in patients with stroke. What is clear from the data is that the devices have become more effective over the course of time, whether this increase in effectiveness translates into an increase in efficacy remains to be seen.6 Finally, biases in clinical decision making and the issue of clinical equipoise are discussed. A persuasive argument for relying on actual data rather than recent clinical experience, intuition, and the expert community is made, and that data come from well-executed randomized controlled trials. In the past few years, the stroke literature is replete with examples of carefully done science refuting commonly held beliefs.4,5 On the basis of the results of these trials, proof of clinical efficacy should be required before an intervention becomes standard of care. In the words of Mark Twain, “It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that just ain’t so.”

References

Key Words: devices ■ endovascular ■ ethics ■ intervention ■ stroke ■ thrombectomy

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Interventional Treatment of Acute Ischemic Stroke: Introduction
Kyra Becker and David Fiorella

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