Recommended Readings

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Once again, I present my idiosyncratic list of interesting papers of potential significance/interest to neurologists interested in hemorrhagic and ischemic cerebrovascular disease. As previously noted, this is not intended as a comprehensive list, but I hope it will inform your discussions with colleagues. This is the second column and incorporates papers from the latter part of 2006 and beginning of 2007. The articles follow my brief commentary for which the opinion (and fault) is mine and not to be construed as an AAN or section endorsement. I will be incorporating submissions from colleagues in the Fall 2007 and subsequent newsletters so if anyone else wishes to participate please contact me at mschneck@lumc.edu.

A. SPACE and EVA-3S were published in October 2006 and reported that carotid endarterectomy (CEA) may be superior to carotid stenting (CAS) in patients with symptomatic carotid stenosis. These papers have engendered much debate about methodology and generalizability to the current practices of CAS in the United States. Despite the controversy, we must recognize that the unbridled enthusiasm for CAS remains unsupported by the available clinical trial data. Like many others, I strongly urge colleagues to support the actively randomizing carotid studies (CREST in North America and ICSS in Europe), which have the greatest potential to answer one component of the ongoing complex issue regarding the management of carotid artery disease.


B. Over time, since the publication of the large randomized carotid endarterectomy trials, the appropriateness of the indications based on accepted guidelines have increased with 87.1 percent of operations deemed as appropriate in the NY State Carotid Artery Surgery Study; 1 to 2 decades ago only about one third of CEA were done for appropriate reasons. However, there has been a marked increase in asymptomatic CEA. Where 15 to 20 years ago 34 percent of cases were for asymptomatic disease, the current report notes that 72.3 percent were done for asymptomatic carotid artery stenosis in 1998 to 1999. A second report noted that the risk of combined CABG and carotid procedures was higher than for CABG alone, with an odds ratio of 1.38 (95% CI 1.27–1.50). Most of these patients had asymptomatic carotid stenosis. Again, absent a randomized study, we should proceed with caution in our management of carotid artery disease, especially in the context of concomitant coronary heart disease.


C. A number of studies are looking at ways to extend the window of thrombolysis using various “bridging techniques” and intra-arterial mechanical and pharmacologic thrombolysis is being used with increasing popularity. The University of Texas Southwestern group from Houston, Texas, has now reported that a strategy of full dose of IV rt PA followed by intra-arterial therapy (with a mixture of agents) was associated with a low symptomatic ICH rate and a favorable outcome in 55 percent of the patients. This is intriguing
data, and a clinical randomized trial is warranted.


D. This randomized multicenter trial is one of the first multicenter trials showing a physical rehabilitation intervention for stroke is associated with significant sustained clinical benefits at one year in terms of motor recovery. Deep brain stimulation trials are also underway for stroke recovery but simple physical therapy interventions may be of equal benefit.


E. How to manage reversal of anticoagulation in warfarin associated ICH is unclear, but the choice of agent remains one of great debate. Prothrombin complex concentrate has been shown to have benefit but is not used as frequently as fresh frozen plasma because of cost. While recombinant factor VII (rfVII) seems appealing, recent (unpublished data) from the FAST study suggests that rfVII does not improve outcome, and data from the Houston group suggests that rfVII may be associated with increased risk. The management of warfarin-associated ICH will be of increasing importance as the use of anticoagulants in atrial fibrillation has resulted in an explosion of these types of cases; the rate of anticoagulant-related ICH quintupled over the 1990s.


F. Two papers on the risk of estrogen-related stroke may be of interest to the readers of this column. In one paper, a longer lifetime exposure to endogenous estrogen exposure, defined as duration of ovarian activity (menarche to menopause), was associated with a decreased risk of non-cardioembolic stroke though onset of menarche before age 13 was associated with increased risk. Exogenous oral and implanted estrogen therapies have also been associated with an increased stroke risk in a number of papers. A recent paper looked at the risks of thromboembolic events with transdermal contraceptive patches and reported that the patches were not associated with an increased risk of stroke or MI in the patients studied, but there was an increased risk of venous thromboembolism with the patch. However, the study was limited in that there were few stroke or MI events in either the case or control arm. It seems reasonable to conclude that estrogen therapy has an increased risk of stroke regardless of the preparation but that risk is low and should not preclude use of estrogens for birth control in patients without prior history of increased vascular risk.


G. This may be a statement of the obvious, but MR was recently confirmed in a prospective study in the emergent assessment of stroke patients to be superior to CT scan for acute ischemic stroke and equally effective in the diagnosis of acute hemorrhagic stroke. Increasingly, stroke centers will have to be able to provide rapid MR imaging for the diagnosis of stroke and not simply rely on CT to “r/o hemorrhage.” CT
will still be the modality of choice, however, for unstable patients or for those where MR is contraindicated. Of note, recent US FDA warning cautioned about the use of MRI contrast in patients with renal failure for whom there may be an increased risk of nephrogenic systemic fibrosis or nephrogenic fibrosing dermopathy (NSF/NFD).


