

Should consulting neurologists be concerned about blood pressure in stroke patients?

Over 50% of stroke survivors with documented hypertension do not have their blood pressure controlled. Messerli et al. review data and implications for the PROGRESS trial, which challenges such therapeutic nihilism mandating that all physicians assess and treat hypertension in patients who have had a stroke.

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Blood pressure and stroke. . .stroke and blood pressure

Commentary by Barney J. Stern, MD

BP control and stroke are interwoven from several perspectives: 1° stroke prevention, 2° stroke prevention, and acute stroke management. The Views & Reviews article by Messerli et al. emphasizes the importance of BP treatment by the neurologist. PROGRESS shows that BP lowering is effective for 2° stroke prevention for both hypertensive and nonhypertensive patients.

BP therapy is also effective for 1° stroke prevention. The Heart Outcomes Prevention Evaluation (HOPE) study randomized patients at risk for myocardial infarction or stroke to ramipril (an ACE inhibitor) or placebo.¹ Treatment was associated with a 38% relative risk reduction for ischemic stroke and 28% for hemorrhagic stroke.² Benefits were associated with a mean BP reduction of only 3/2 mm Hg.

The Framingham Heart Study found that a systolic BP of 130 to 139 mm Hg or a diastolic BP of 85 to 89 mm Hg conveyed an adjusted 2.5-fold increased risk for women and 1.6-fold increased risk for men for cardiovascular disease, including stroke.³ The mean BP of patients entering the HOPE study was 139/79 mm Hg; 52% of the PROGRESS trial patients had a mean entry BP of 136/79 mm Hg.

Questions remain. 1) Is it all “in the numbers” or are there benefits engendered by BP medications beyond absolute BP? 2) Are there cerebrovascular measures, analogous to left ventricular thickness and creatinine clearance, to guide optimal BP control for stroke prevention? 3) How does BP treatment benefit cognition? 4) What is the risk/benefit of widespread use of BP medications

with other medications such as antiplatelet agents, anticoagulants, and statins?

References

1. The Heart Outcomes Prevention Evaluation Study Investigators. Effects of an angiotensin-converting-enzyme inhibitor, ramipril, on cardiovascular events in high-risk patients. *N Engl J Med* 2000;342:145–153.
2. Probstfield J. American Stroke Association meeting. San Antonio, TX; February, 2002.
3. Vasan RS, Larson MG, Leip EP, et al. Impact of high-normal blood pressure on the risk of cardiovascular disease. *N Engl J Med* 2001;345:1291–1297.

See the accompanying article by Messerli et al., “Blood pressure control in stroke patients: What should the consulting neurologist advise?” page 23

Linkage analysis of Alzheimer disease and psychosis

When Bacanu et al. examined siblings with concurrent AD and psychotic symptoms, they detected evidence for genetic linkage to three chromosomal regions, two of which have been previously implicated in schizophrenia.

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The accompanying editorial by Lovestone and Hardy points out that this clever use of a published database still leaves unanswered the question as to whether the coincidence of AD/psychosis represents single loci, or whether there are separate loci with quantitative traits that contribute to AD/psychosis (and possibly to schizophrenia).

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Clinical outcome in consecutive young adults with ischemic stroke

Leys et al. found low rates of stroke recurrence, myocardial infarction, dependency, and mortality in 287 young adults, 3 years after stroke. Epileptic seizures occurred in 6.6% of patients. Whereas most risk factors were well treated, only one fifth of smokers gave up smoking.

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Deaths from stroke in US children

Using a national mortality database, Fullerton et al. found that childhood stroke mortality in the United States has declined significantly over the past two decades. Despite this improvement, black children remained at greater risk for death from stroke compared with white children at all time points.

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The editorial by Kittner accompanying these papers on stroke in the young notes that stroke is twice as common as MS in the 18 to 44 year age group. Although recurrence of stroke is infrequent, the societal cost of stroke disability is very high. Study of stroke in the young may elucidate genetic causes/contributors to etiology because familial aggregation is stronger in early-onset stroke.

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Neurocognitive sequelae of cancer treatment

The Armstrong et al. prospective study of radiotherapy evaluated cognition and MRI yearly for 6 years in 26 patients with low-grade, supratentorial brain tumors. In half of the patients, MRI white matter hyperintensities and atrophy progressed for 3 years and then stabilized. There was little cognitive decline.

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Radiologic changes and cognitive performance in low-grade glioma patients

Postma et al. assessed the extent of cerebral radiologic abnormalities in 39 low-grade glioma patients. Cerebral atrophy and white matter changes were observed almost exclusively in patients previously treated with radiotherapy, and correlated with cognitive performance.

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Intrathecal methotrexate worsens cognitive compromise in children with medulloblastoma

Riva et al. gave children intrathecal methotrexate for medulloblastoma after surgery—in addition to radiotherapy and systemic chemotherapy. These children had poorer cognitive outcomes than children given the same treatment without intrathecal methotrexate. Because intrathecal methotrexate does not seem to improve survival, its use should be reassessed particularly in children younger than 10 years.

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The accompanying editorial by Packer and Mehta notes the importance of and the difficulty in studies of effects of treatment in patients with brain tumor. Baseline assessment before any treatment is seldom available. Moreover, most studies including these three have not assessed the impact of treatment on functional outcome or QOL.

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APOE promoter polymorphisms and Alzheimer disease

Lambert et al. evaluated the impact of the -491 and -219 polymorphisms within the *APOE* promoter on six independent samples (1,732 AD patients and 1,926 controls). These two polymorphisms were risk factors for AD independently of the $\epsilon 4$ allele.

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Migraine: Brainstem activation during attacks



Signal in red nucleus and substantia nigra.

Functional MRI-BOLD studies of migraine by Cao et al. showed that an increase in oxygenation and blood volume of red nucleus and substantia nigra was associated with visually triggered symptoms of migraine, suggesting these brainstem structures are part of a neuronal network activated during an attack.

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Vagus nerve stimulation: Effect on itching

Psychophysical studies by Kirchner et al. showed an antipruritic effect of chronic vagus nerve stimulation (VNS), whereas function of peripheral histamine-sensitive C-fibers remained unaltered.

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Effects of donepezil on learning in normals?

Yesavage et al. report that a group of pilots receiving 5 mg/d donepezil showed significantly greater ability to retain the capacity to perform a set of simulator tasks than the placebo group.

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Hypokalemia and QT prolongation in women with SAH

SAH often causes hypokalemia and QT prolongation in acute SAH. Fukui et al. demonstrated that women are more prone than men to develop hypokalemia and QT prolongation on the first day following SAH.

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Nisus: Neurology and the Humanities: “The Rubato Queen”



Carl Ellenberger's vignette captures (in the words of reviewer Bruce Sigsbe) “the humanity which we risk losing in science.”

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Neurology®

July 9 Highlights
Neurology 2002;59;1-3

This information is current as of July 9, 2002

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