Thursday, February 13, 2014, 1:30 pm - 3:00 pm

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Presentation Number: LB4

Publishing Title: Effect of Chronic Blood Pressure Lowering on Cognition in Patients with Recent Lacunar Stroke. The Secondary Prevention of Small Subcortical Strokes (SPS3) Trial

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Abstract Body:

Background: Hypertension and lacunar strokes are both associated with cognitive impairment. We aimed to determine if lower vs. higher blood pressure (BP) control and/or dual vs. mono antiplatelet (AP) therapy reduces cognitive decline in patients with recent lacunar stroke.

Methods: SPS3 was a multi-center randomized trial that enrolled MRI proven lacunar stroke patients. Primary endpoint was recurrent stroke; secondary endpoint was cognitive decline as measured by the Cognitive Abilities Screening Instrument (CASI). Patients were randomized in a factorial design to two interventions: a) antiplatelet therapy (aspirin vs. aspirin plus clopidogrel) and b) two targets of systolic blood pressure control (“higher” 130-149 mmHg vs. “lower” <130 mmHg). At study entry and annually thereafter, participants underwent neuropsychological testing by a certified examiner including the CASI and 7 other tests. Scores were normalized using published age, sex, education, and region-adjusted norms. Linear mixed models were fit to determine whether changes over time differed by AP group or BP group. Cognitive testing results after a recurrent stroke were excluded.

Results: After one year, the BP in the higher target group averaged 136 mmHg vs. 125mmHg in the lower target group. On average, there were 3.3 assessments per patient (SD=1.83), with a range from 1-9. Average change in CASI z-score score from baseline to 1 year was 0.11 (SD=0.84) and from baseline to 3 years was 0.15 (SD=0.97). There were no significant differences in the changes over time by AP group (p=0.95), BP group (p=0.33) or by combinations of AP and BP group (p=0.27). Further, we observed no differences over time by either AP or BP group for any of the other cognitive outcomes.

Conclusion: In this well-characterized cohort of lacunar stroke patients, only modest decline in cognition was observed during a mean follow-up of 3.6 years. Neither aggressive BP lowering nor dual AP impacted the rate of cognitive decline.

Author Disclosure Block:

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