

Blood Pressure Reduction Among Acute Ischemic Stroke Patients (CATIS): A Randomized Controlled Clinical Trial

History: Stroke is a major cause of adult disability and death around the world (2nd). Little is known if lowering BP in acute ischemic stroke changes patient outcomes. This trial was designed to test the effectiveness of blood pressure reduction on short-term case-fatality and dependency among patients with acute ischemic stroke.

Questions to answer: Does lowering within the first 24 hours produce different patient outcomes in acute ischemic stroke patients? Outcomes analyzed were: death and dependency.

Trial Design	In this randomized controlled trial, enrolled 4071 acute ischemic stroke (within 48 hours of the event and systolic BPs ≥ 140 mmHg. Patients were randomized to antihypertensive therapy to lower SBP 10-25% in the first 24 hours and further lowering to $< 140/90$ mmHg within 7 days after randomization, and maintaining this level of BP control throughout the hospitalization.	
Primary Endpoint	Combination dependency (disability measured by modified Rankin scale ≥ 3 and death. Secondary endpoints were death and vascular events during a 3 month follow-up period.	
Trial Results	<p>Treatment Group: Mean SBP was lowered from 166.2 mmHg to 145.5 (12.5%) by 24 hrs. Mean SBP at 14 days was 134.9mmHg. (p<0.0001 for differences in BP reduction).</p> <p>Primary Endpoint: % mRS >3 = 32.6%. At 3 months mRS >3 = 22.6%</p>	<p>Control group: Mean SBP was lowered from 164.6mmHg to 152.9 mmHg at 24 hrs. Mean SBP was 143.8mmHg at 14 days.</p> <p>Primary Endpoint: % mRS >3 = 33.5% At 3 months %mRS >3 = 23.7%</p>

Take Away: In this study, there was no difference between in death and dependency in those acute ischemic stroke patients treated with antihypertensives vs- the control group.