

High-Sensitivity C-Reactive Protein, Hypertension and Stroke: Cause and Effect or Simple Association?

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Editorial

Introduction

Elevated blood pressure (BP) is a risk factor for both ischemic and hemorrhagic stroke. High-sensitivity C-reactive protein (hsCRP), a marker of low grade systemic inflammation, may promote atherosclerosis, plaque destabilization, endothelial dysfunction, differentiation of macrophages, smooth muscle cell proliferation, greater risk and severity of total and ischemic stroke in healthy populations, and particularly among adults with elevated BP [1-8].

Jimenez et al. examined the association between hsCRP concentrations and risk of total stroke by hypertension status (normotension, prehypertension, and hypertension). Blood samples were collected and assayed for hsCRP among 10 456 initially healthy men from the Physicians' Health Study (PHS) I and PHS II and followed from 1997 to 2012. Self-reported hypertension status, cardiovascular risk factors, lifestyle, and alcohol consumption were obtained from the baseline questionnaire prior to randomization in PHS II. An elevated hsCRP level >3 mg/L was associated with a 40% greater hazard of full stroke compared with the level <1 mg/L (hazard ratio 1.40, 95% CI 1.06 to 1.87; *P* trend=0.01) in patients with hypertension [1].

Elevated hsCRP (>3 mg/L) was associated with Increased risk of stroke overall in hypertensive men. These data suggest that assessment of CRP concentrations may be useful in identifying people who need more intensive reduction of risk factors and health education.

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