Long-term effects of inflammation-sensitive plasma proteins and systolic blood pressure on incidence of stroke.

Author: G. Engström
P. Lind
B. Hedblad
L. Stavenow
L. Janzon
F. Lindgärde

Author Affiliation: Departments of Community Medicine, Malmö University Hospital, Malmö, Sweden. Gunnar.Engstrom@smi.mas.lu.se

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Abstract: The present study investigated the relationships between inflammation-sensitive plasma proteins (ISPs) and systolic blood pressure (SBP), as well as the joint long-term effects of ISP and SBP on incidence of stroke.

BP and 5 ISPs (fibrinogen, alpha1-antitrypsin, haptoglobin, ceruloplasmin, orosomucoid) were assessed in 6071 healthy men 28 to 61 years of age. All-cause mortality and incidence of stroke were monitored over a mean follow-up of 18.7 years in men defined by SBP (/=140 mm Hg) and ISP (0 to 1 or 2 to 5 ISPs in the top quartile).

SBP and diastolic BP were significantly and positively associated with the number of ISPs in the top quartile. As expected, elevated SBP was associated with an increased incidence of stroke. Among men with SBP >/=140 mm Hg, there were, however, significant differences between those with high and low ISP levels. After risk factor adjustment, men with SBP >/=140 mm Hg and high ISP levels had a relative risk of stroke of 4.3 (95% CI, 2.3 to 7.8) compared with men with SBP /=140 was 2.5 (95% CI,1.4 to 4.6). Men with high ISP levels had a significantly increased risk of stroke also after exclusion of the events from the first 10 years of follow-up.

High ISP levels are associated with elevated BP. These proteins are associated with an increased risk of stroke among men with high BP and provide information on stroke risk even after many years of follow-up.

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