
Abstract

PURPOSE: To investigate the relationship between serum sialic acid level and risk of coronary heart disease (CHD) and stroke in men and women without diagnosed cardiovascular disease.

METHODS: A prospective case-cohort study over the period 1981 to 1998 involving 151 CHD cases, 87 stroke cases, and a random sub-cohort of 340 was used. Sialic acid levels were determined by enzymatic method from frozen serum. Cox proportional hazards regression was used to estimate the relative risks of CHD and stroke for sialic acid tertiles and for continuous sialic acid level after adjustment for age, blood pressure, body mass index, cholesterol, triglycerides, diabetes, and smoking.

RESULTS: The multivariate-adjusted relative risk of CHD associated with a 25 mg/dl increase in sialic acid was 1.22 (95% CI: 1.02-1.45) overall, 1.40 (95% CI: 1.11-1.76) in women, and 1.06 (95% CI: 0.82-1.37) in men. The overall relative risk for stroke was 1.13 (95% CI: 0.87-1.46) and for CHD and stroke combined it was 1.17 (95% CI: 0.99-1.37)

CONCLUSIONS: Serum sialic acid may be a long-term predictor of CHD events in adults (especially women) who are currently clinically free of cardiovascular disease. Further studies are needed to determine whether this association can be explained by sialic acid being a marker of accelerated atherosclerosis or inflammation.