
Abstract

BACKGROUND: Infectious agents might play a role in the aetiology of cardiovascular diseases. The aim was to determine the association of antibodies to implicated infectious agents with coronary heart disease (CHD) and stroke in a population-based prospective study.

DESIGN: This study was based on a cohort of 1612 cardiovascular disease-free adults in the 1981 Busselton Health Survey. Primary risk factors were measured from stored serum and case-cohort sampling was used to reduce costs and preserve serum. The outcomes of interest were time to first CHD or stroke event. Serum antibody tests were carried out for all 218 CHD cases, all 119 stroke cases and a random subset of 451 subjects.

METHODS: Sera were tested for antibodies to Chlamydia pneumoniae (IgG and IgA), and for IgG antibodies to Helicobacter pylori and cytomegalovirus (CMV). The association between serum antibody and risk of cardiovascular diseases was analysed using Cox proportional hazards regression.

RESULTS: The estimated population prevalence was 24% for C. pneumoniae IgG, 7% for C. pneumoniae IgA, 58% for H. pylori and 85% had CMV antibody levels greater than 15 AU/mL. The estimated relative risk of CHD was around 1.2 for all antibodies examined, except for C. pneumoniae IgA for which it was less than one, and the estimated relative risk of stroke was around 0.85, however in all cases the 95% confidence interval included one.

CONCLUSIONS: This study of an Australian population does not support an association between serum antibody levels to C. pneumoniae, H. pylori and CMV with development of cardiovascular diseases.