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## IS THERE AN ASSOCIATION BETWEEN PROVEN CORONARY HEART DISEASE AND CHLAMYDIA PNEUMONIAE INFECTION?

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Established cardiovascular risk factors do not fully explain the variations in the prevalence and severity of Coronary Heart Disease (CHD) in Sri Lanka. Recent evidence suggests that common chronic infections may contribute to the aetiology and progression of CHD. Of the candidate infectious agents implicated, Chlamydia pneumoniae has emerged as the most likely pathogen to play a causal role. We have investigated the association between IgG antibody titres to Chlamydia pneumoniae in Chronic CHD patients, Acute Myocardial Infarction (AMI) patients and a control group.

Patients comprised 41 consecutive patients with Acute Myocardial Infarction (AMI) (age range 35 to 74 years) and 30 patients with Chronic Coronary Heart Disease (CCHD) (age range 36 to 68 years) from the Teaching Hospital Peradeniya. Verification of the diagnosis of AMI was by typical changes in the electrocardiogram (ECG) and raised serum creatinine phosphokinase MB-isoenzyme activity. Thirty age and sex matched controls were recruited from an on-going population study from the same geographic area. Informed consent was obtained from patients and controls. Serum samples were collected for measurement of antibodies to Chlamydia pneumoniae, on admission, from all cases, and controls. Antibodies to Chlamydia pneumoniae were detected using MRI, Diagnostics (USA) Chlamydia Micro-immunofluorescent assay (MIF) utilizing C. pneumoniae TW183, Product code IF 1200G. A positive seroprevalence was considered at an end-point titre of  $\geq 1:32$  and was considered evidence of infection at an undetermined time. An end-point titre of  $\geq 1:512$  was considered evidence of recent or re-infection. Sample proportions were compared by Chi-square test with Yates correction. Geometric mean titre comparisons were done with Mann-Whitney U test.

There was no significant difference in the number of patients and controls with IgG titres of  $1/32$ ,  $1/64$ ,  $1/128$  and  $1/512$  in the AMI group or in the CCHD group when compared with the controls. IgG titre was positive at  $1/32$  in 58.5% AMI patients and in 56.6% of control subjects (odds ratio 1.08,  $p = 0.93$ ). IgG titre was positive at  $1:32$  in 73.3% of CCHD patients and in 56.6% of control subjects (odds ratio 2.1,  $p = 0.27$ ). The Geometric mean of the IgG titres in the three groups were CCHD= 189.1, AMI= 173.3 and control group=131.8 ( $p > 0.05$ ). In the control group 1 subject had a titre of  $1/512$  whereas 4 patients with AMI and 4 patients with CCHD had a titre of  $1/512$ .

In this study IgG antibodies to Chlamydia pneumoniae detected by micro-immunofluorescence failed to detect a significant association with coronary heart disease. These findings are in agreement with an American study conducted by Thom et al., 1990, who reported a lack of a significant association between angiographically proven CHD and Chlamydia pneumoniae infection.