

## ABSTRACT

### **Introduction**

Non-communicable diseases (NCDs) are recognized as a major challenge in the 21st century. They kill more than 38 million people each year, among whom acute myocardial infarction (AMI) is identified as an important cause.

In addition to the traditional risk factors for AMI such as diabetes mellitus, hypertension, smoking and genetic factors, microorganisms like *H. pylori* and *C. pneumoniae* play a role in the pathogenesis of atherosclerosis and AMI.

### **Objective**

To determine the association between *Chlamydia pneumoniae* IgG seropositivity and AMI.

### **Method**

An institution – based, descriptive cross-sectional study was carried out over 4 months using two groups of patients. One group consisted of 100 participants with diagnosed AMI and the other group consisted of 100 patients without AMI. *Chlamydia pneumoniae* IgG antibodies were checked using a commercially available ELISA kit. Demographic data and risk factors for AMI were obtained using an interviewer -administered questionnaire.

### **Results**

The age of the study population ranged between 32 and 89 years. The mean age of the acute myocardial infarction group was 65.09 in patients without AMI was 58.9. Among the total population, the majority were males (57%) Among the total number, 118 had positive IgG for *Chlamydia pneumoniae*, (59%) Among patients with AMI, 62% (n=62) had positive IgG levels.

In addition, 87% (n=87) of them had at least one traditional risk factor for AMI. Meanwhile, 56% (n=56) patients without AMI has showed positive IgG values for *Chlamydia pneumoniae*.

There was no association between *C.pneumoniae* IgG sero positivity and A (p= 0.388) does not exist as far as the statistics are concerned. However, there was an association between AMI and *C.pneumoniae* IgG seropositivity in patients with traditional risk factors (p = 0.082) and it can be identified as substantial when considering the statistics. Further, there is no statistically significant association of acute myocardial infarction and *C.pneumoniae* IgG sero positivity in patients without traditional risk factors (p =0.694).

### **Conclusion and recommendations**

The occurrence of *C. pneumoniae* infection in the studied population was high. *C. pneumoniae* IgG Seropositivity was not associated with AMI even in patients without traditional risk factors. Further studies should be performed with a larger sample size and in multiple centres across the country to identify the prevalence of the *C.pneumoniae* infection to determine whether a relationship between *C. pneumoniae* and acute myocardial infarction exists.

**Key words:** AMI, *Chlamydia pneumoniae*, seropositivity