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SHARP PRIZE ABSTRACTS

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## **Association of lipoprotein(a) with CT coronary calcium score in a multi-ethnic, asymptomatic cohort of patients referred to a tertiary lipid clinic**

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### **Background**

The association between lipoprotein(a) (Lp(a)) and subclinical coronary atherosclerosis remains unclear and the influence of ethnicity is unestablished. We aimed to evaluate the association between Lp(a) and CT coronary artery calcium (CAC) score within a multi-ethnic cohort of patients.

### **Methods**

Retrospective analysis was performed of 510 asymptomatic patients with no prior diagnosis of atherosclerotic disease, who underwent CAC and Lp(a) testing between December 2015 and March 2019. Patients were stratified according to CAC score =0 or >0 and Lp(a) <40mg/dL or ≥40mg/dL. The association of Lp(a) and CAC score was assessed using multivariate logistic regression adjusting for age, gender, statin use and traditional cardiovascular risk factors.

### **Results**

Within the whole study population, elevated CAC was associated with older age, male gender, HbA1c and smoking, but not Lp(a). Subgroup analysis by ethnicity identified positive correlation between Lp(a) and CAC within the Caucasian cohort, which remained significant ( $p<0.05$ ) after adjusting for traditional cardiovascular risk factors.

### **Conclusions**

Positive association between elevated Lp(a) and CAC score was identified in asymptomatic Caucasians, however, not within other ethnic groups. Our data implies that Lp(a) accelerates the development of subclinical coronary atherosclerosis. Further studies are needed to evaluate the influence of other ethnicities on this association.

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**Figure 1:** The association of CAC >0 with lipoprotein(a) and other cardiovascular risk factors in the whole cohort (n=510) and in the Caucasian subgroup (n=306).

