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**Association between serum apolipoprotein A-1 (apo A-1) concentration and severity of Coronary Artery Disease**

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A case control study was carried out with 60 angiogram positive Coronary Artery Disease (CAD) patients (45 males and 15 female) to investigate the association between serum apo A-1 concentration and severity of CAD. CAD patients were selected from those who were awaiting coronary angiography at National Hospital and Nawaloka Hospital PLC, Colombo. Written informed consent was obtained from all participants prior to commencement of the study. Age and sex matched 60 healthy volunteers were selected as controls. All participants in both groups were not on any lipid lowering drugs. In routine angiography procedure, patients have to undergo overnight fasting. Thus, we followed the same procedure with the controls to provide the same experimental conditions as with the cases.

Blood (5 ml) was collected from each subject for estimation of serum apo A-1 concentration. Samples were analyzed on Konelab 20XT chemistry analyzer. Severity of CAD was assessed by the extent of stenosis coronary arteries based on the method described by Sullivan et al 1990. Left main coronary artery, left anterior descending artery, left circumflex artery and right coronary artery were considered in scoring the vessels score. If  $\geq 70\%$  stenosis is found in lumen of any of the above arteries a score of 1 is given. If  $\geq 70\%$  stenosis is found in the left main coronary artery a score of 1 was given by considering as a single vessel disease. If there is  $\geq 70\%$  stenosis in any of the other arteries except left main a score of 2 or 3 was given depending on the number of blocked arteries. Data were analyzed using SPSS version 16.0. The significance of parameters was analyzed using Student's t test, ANOVA and Pearson's correlation.

The results revealed that the concentration of apo A-1 in angiogram positive patients ( $110.1 \pm 20.8$  mg/dl) and controls ( $111.1 \pm 17.9$  mg/dl) were not statistically significant ( $p = 0.374$ ). However, mean apo A-1 concentration of cases were low in triple vessel disease ( $102.0 \pm 9.1$  mg/dl) compared to those with double vessel disease ( $106.3 \pm 18.6$  mg/dl) and single vessel disease ( $115.8 \pm 23.6$  mg/dl). There was a weak inverse relationship between vessel score groups and serum apo A-1 concentration ( $r = -0.222$ ,  $p = 0.088$ ). However, further studies with more sample numbers will be required to draw a valid conclusion on usefulness of serum apo A-1 in assessing the severity of CAD based on vessel score.

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