

OP 12

Low Serum Paraoxonase; A Risk Factor for Coronary Artery Disease?

Wickramasinghe WD¹, Peiris H¹, Chandrasena LG², Senaratne V³

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Faculty of Medicine, University of Kelaniya,

³Cardiology Unit, National Hospital, Colombo

Objective: Serum Paraoxonase (PON) is a calcium dependent esterase which hydrolyses organophosphates. However, evidence exists for protective effect of PON against oxidative damage. PON has three genetic polymorphism (PON-1, PON-2, PON-3). The PON-1 has shown to provide resistance to development of atherosclerosis by protecting lipoprotein against oxidative modifications. Therefore, a study was performed to assess the relationship between Coronary Artery Disease (CAD) and PON-1 activity.

Methods: A comparative cross-sectional study was performed with 33 angiogram positive patients and 48 healthy volunteers. Blood samples were collected after a 10 hours fast from controls and from patients who were awaiting angiogram test. Samples were analyzed for PON-1 activity using ELISA method. Data were analyzed using SPSS 15.0 statistical software.

Results: The PON-1 concentration of angiogram positive cases and healthy volunteers (controls) were in the range 7.9 – 78.7 ug/ml and 14.9 – 395.2 ug/ml respectively. Angiogram positive cases showed significantly low (mean 36.7 ug/ml; $P < 0.05$) PON-1 activity when compared to controls (mean 111.5 ug/ml) suggesting that the low PON-1 activity has a potential to lead to an increased risk of CAD.

Conclusion: The PON-1 activity may be a useful sensitive marker for assessment of CAD.