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Lipid Profile and Lipid Peroxidation Pattern Pre and Post Exercise in Coronary Artery Disease

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Abstract: Increased aerobic metabolism during exercise is a potential source of oxidative stress, which plays an important role in the development of atherosclerotic disease, while antioxidants delay or prevent various steps in atherosclerosis. The aim of this study was to identify the effect of oxidative stress induced by the TMT (Treadmill exercise Test) and the lipid peroxidation level as and lipid profile in blood, which may help in confirming the diagnosis of CAD (Coronary Artery Disease) in borderline cases of TMT results. This may help in future for early detection and possible prevention of atherosclerosis especially in people with a family history of CAD. Fifty-two male and female cases were selected with ages ranging from 35-65years. The control group consisted of 30 subjects. Measuring the maximal exercise capacity was done by using a motor driven treadmill or bicycle ergometer in the upright position. 5ml of venous blood was withdrawn from each subject just before the exercise test and another 5ml. sample half an hour after finishing the test. The biochemical tests included: Total Cholesterol, Triglycerides, HDL (High Density Lipoproteins), VLDL (Very Low Density Lipoproteins), LDL-(Low Density Lipoproteins), cholesterols, and MDA (Malondialdehyde). There was a drop in post-exercise LDL level as well as a decrease in the levels of TG (triglycerides), total-cholesterol, and VLDL. HDL was only slightly increased in the post-exercise state. MDA had higher levels in female than in male patients. All results were discussed thoroughly. Restoring the antioxidant status of the body may have a preventive role in the formation of atherosclerosis and in the management of myocardial complications of ischemic heart disease.

Key Words: Lipid Profile, Lipid Peroxidation, Coronary Artery Disease, TMT

Keywords
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