

Lactate Dehydrogenase and Creatine phosphokinase in Coronary Artery Disease

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Abstract Objective: The objective of the present study was to assess the lactate dehydrogenase and creatine phosphokinase in the serum of coronary artery disease patients and healthy controls. **Method:** The case-control study included 150 samples collected from coronary artery disease patients and controls for the analysis the variations of LDH and CPK. Blood samples were collected from patients with CAD and healthy controls and analysis of the levels of LDH and CPK were carried out using a kit method on Microlab 300. **Result:** LDH and CPK enzymes were increased in patients as compared with the controls. **Conclusion:** Further detailed investigations on the heart enzymes in the pathogenesis of coronary artery disease are needed.

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1. Introduction

Coronary artery disease (CAD) is one of the main causes of mortality and morbidity in Pakistan. Coronary Artery Disease (CAD) affects two third of world population. Recent estimates indicate that annually 12 million deaths occur worldwide due to this disease. Prevalence of CAD is known to be very high in Asia. Mortality from CAD could more than double¹⁻⁴.

Numerous studies have concerned about abnormal levels of heart enzymes is the main reason for the progression of CAD⁵⁻⁸. It was documented that assessment of biochemical association in CAD^{9,10} therefore, the objective of the present study was to assess the lactate dehydrogenase and creatine phosphokinase in the serum of coronary artery disease patients and healthy controls.

2. Methodology

The case-control study included 150 samples were collected from coronary artery disease patients and controls for the analysis the variations of LDH and CPK. Patients were selected from admitted at the Cardiology from City Hospital LUMHS, for angiography or medical treatment. The parameters were done by cardiologist. Blood samples from patients and healthy control subjects were collected and serum analyses for the variations of enzymes.

Excel and SPSS.16 were used for data analysis.

These LDH and CPK have been evaluated by MICROLAB-300 in patients as compared with the controls.

3. Results & Discussion

Fig. 1 shows increased level of LDH and CPK in patients as compared with the controls subjects. Fig 2 shows gender distribution in patients.

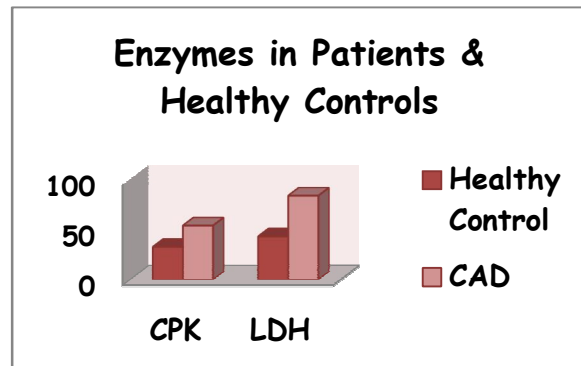


Fig: 1 Level of LDH and CPK in patients and controls subjects

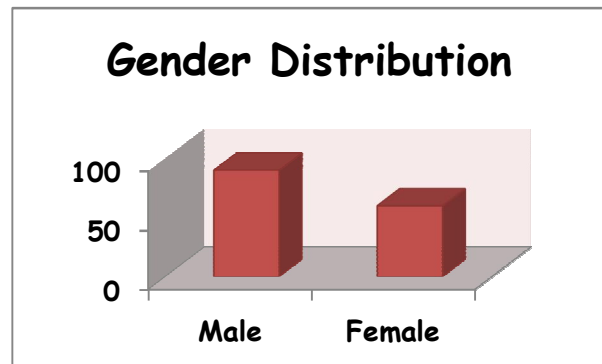


Fig 2 Gender Distribution in patients

An increased level of heart enzymes is a risk factor of CAD¹¹. Present study showed increase level of LDH and CPK in patients as compared to healthy controls. This study reveal with former studies¹²⁻¹⁴. The studies of enzymes activities are recognized in finding of many diseases as the increase in the CPK and LDH are frequently used for finding of CAD. In the present study, it was found that there was a significant increase level of CPK and LDH in CAD as compared to the control group. The detection of enzymes assessment has enhanced the analytical significance of enzyme investigations. The cardio specific isoenzyme of CK has been used effectively for the discovery of heart diseases.¹⁵⁻¹⁷

Consequently, the ultimate levels of these results would be suggested for the variations in blood of coronary artery disease patients.

Further studies will be needed to observe the biochemical variations in CAD patients and detailed investigations on the role of biochemical, variations in the pathogenesis of coronary artery disease are needed.

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