

**“SERUM FERRITIN, A NOVEL RISK FACTOR IN ACUTE MYOCARDIAL  
INFARCTION”**

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To test whether excess body iron stores as estimated by serum ferritin concentration is associated with increase in risk of Myocardial Infarction and to evaluate the role of ferritin as an oxidant.

Total 75 cases and an equal number of controls 30 – 60 years of age and of either sex were enrolled in the study, after fulfilling the inclusion and exclusion criteria. Cases were the patients of acute myocardial infarction admitted to ICCU. Controls were enrolled on the basis of: no sign of inflammation or no history of myocardial infarction. Blood sample was withdrawn from cases within 6 hours of attack of acute myocardial infarction (AMI) and analysed for: serum ferritin, lipid profile, malondialdehyde (MDA) which is a cytotoxic aldehyde and glutathione peroxidase (GSH-PX) which is a marker of oxidative stress. Serum Ferritin was analysed on ELISA reader and other parameters on batch analyzer.

Median serum ferritin levels (Mann whitney parametric test) in cases was significantly raised (220µg/L) than controls (155µg/L) (P value=0.0001). Increased plasma malondialdehyde (mean ± std: 4.68 ± 1.19 mmol/liter, P=0.005) with a corresponding decline in levels of glutathione peroxidase (mean ± std: 4568 ± 1837 unit/liter, P=0.001) were observed in Acute Myocardial Infarction patients as compared to controls. Also high total cholesterol and LDL with low HDL cholesterol were seen in cases.

In presence of other risk factors increased serum ferritin levels contribute to the oxidative stress, and thus can be a risk factor for myocardial Infarction.