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Correlation of oxidised LDL with oxidant and antioxidant enzymes in subjects with elevated LDL levels

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ABSTRACT:

Mortality due to atherosclerosis is very common and the oxidative modification of low-density lipoprotein (LDL) is responsible for the progression of atherosclerosis. Estimation of oxidized LDL, myeloperoxidase (MPO), and paraoxonase (PON1) in subjects with elevated LDL and correlation of oxidized LDL with MPO and PON1 was the main objective. Ox-LDL was determined by ELISA. Activity of Myeloperoxidase and Paraoxonase was estimated by spectrophotometric method. LDL and HDL estimations were carried out in the autoanalyser. Significant increase in the myeloperoxidase and Ox-LDL with the significant decrease in the paraoxonase levels were observed ($p < 0.001$). No significant change in the HDL levels was seen. LDL showed a positive association with MPO & a negative association with Basal Paraoxonase (BPON) in both cases and controls. Ox-LDL also showed a positive association with MPO and a negative association with BPON only in cases, while no significant association was seen in controls. Ox-LDL seems to be a more sensitive indicator of cardiovascular disease risk than either HDL or LDL cholesterol. Measurement of Ox-LDL, /Myeloperoxidase and Paraoxonase may provide additional details in cardiovascular disease risk prediction.

KEY WORDS: Atherosclerosis, LDL, Myeloperoxidase (MPO), OxLDL, Paraoxonase (PON1)