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**Original article**

**Correlation of protein carbonyl and MDA in diabetes and its complications**

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**Abstract**

**Background :** Diabetes mellitus(DM) is metabolic disorder characterized by hyperglycemia and abnormalities in lipid andprotein metabolism. Oxidative stress along with protein carbonyl (PC) forms a very important causative factor for development of diabetes and its complications.

**Objectives :** The objective of the study was to assess correlation between protein carbonyl and diabetic complication. We have also correlated HbA1c and MDA levels withprotein carbonyl.

**Methods :** This was a cross-sectional study. 135 subjects were included in the study. Group-I: 45 patients (24M/21F)of diabetes without complications; Group-II: 45 patients (23M/22F) of diabetics with complication (retinopathy, nephropathy, vasculopathy);Group-III: 45 age and sex match controls (24M/21F).

**Results :** The mean ±SD values of PC, MDA and HbA1c in control group were 1.15 ± 0.14, 2.77 ± 0.37 and 5.06 ± 1.16 respectively; in patients with DMwithout complications group values were 2.01 ± 0.41, 4.03 ± 0.85 and 7.49 ± 2.01; in patients with diabetic complications group values were 2.93 ± 0.51, 5.71± 0.73 and 8.67 ± 2.91.

**Conclusion :** We found significant rise in serum level of PC and MDA in patient of DM and DM with complication as compared to controls. We also found a positive correlation between PC and HbA1c in DM group and in DM with complications group but not in control group. We suggest that PC and MDA could acts as a stable oxidative stress marker in DM.

**Key words :** Protein carbonyl, malondialdehyde, HbA1c, oxidative stress, carbonyl stress