KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Abstract Submission No. : 2485

DETERMINATION OF OXIDATIVE STRESS LEVEL IN DIABETES PATIENTS WITH OR WITHOUT NAPHROPATHY

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Objectives: Diabetic nephropathy, the chronic loss of kidney function, occurs with diabetes mellitus. Localized tissue oxidative stress is a key component in the development of diabetic nephropathy. There are many controversies and limited studies regarding the antioxidant enzymes in diabetes-induced renal dysfunction. The objective of this study was to evaluate the levels of antioxidant enzymes and lipid peroxidation in Diabetes patients with and without nephropathy.

Methods: 75 age and sex-matched subjects were recruited for this study. Blood samples of all subjects were used to estimate all biochemical and oxidative stress parameters.

Results: Compared to healthy controls, the levels of malondialdehyde and catalase activity were significantly increased and reduced glutathione, glutathione peroxidase, and glutathione reductase were significantly decreased in diabetes with and without nephropathy. Antioxidant enzyme levels were also shown to be higher in diabetes with nephropathy compared to diabetes without nephropathy. There were positive correlations of all the antioxidants with malondialdehyde in diabetes patients with nephropathy.

Conclusions: The intensity of oxidative stress in diabetes patients with nephropathy is higher and followed by diabetic patients without nephropathy as compared to control.