summary and conclusion

This study was done on fourty patients with renal diseases and ten healthy voluntears serving as controls . the patients were classified into two groups , patients under regular hemodialysis and patients with different degree of renal diseases . All cases were subjected to thorough history taking, clinical examination and the following laboratories investigation :

1) Complete blood picture 2) Complete urine examination .

3) serum urea, creatinine and creatinine clearance

4) Plasma glutathione peroxidase, superoxide dismutase and malondialdehyde levels

The patients were reevaluated six months after intake of oral antioxidants composed of vitamin A, C, and E

The following were reported in this work :

1- A significant decrease in plasma SOD and GPX in renal patients when they compared with controls . this was explained by cellular defense system against oxidative damage induced by oxygen free radicals

2- A significant increase in plasma MDA in renal patients when compared with controls . this was explained by the increased oxidative injuries in these patients

3- Plasma GPX and SOD were significantly lower and plasma MDA was significantly higher in dialysis patients when compared with patients under conservative treatments . During hemodialysis leucocytes are activated by contact with non physiological surface line tubing, and produce oxygen free radicals . This cell activation may be responsible for the increased lipid peroxidation .

4- The degree of renal impact on GPX , SOD and MDA

This could be inferred from the following :

a) The level of GPX and SOD were significantly lower, and MDA level was significantly higher in hemodialysis patients when compared with renal patients .

b)A positive significant correlation between GPX , SOD and creatinine clearance and a negative siginificant correlation between MDA levels and creatinine clearance

C)A negative significant correlation between GPX - SOD - and serum creatinine - blood urea - degree of proteinuria -urinary casts and a positive significant correlation between MDA levels and the same parameters . The progression of renal impairment could be due to activation of lipid peroxidation and deterioration of antioxidants .

5- The degree of antioxidant status had a significant impact in reduction of hemoglobin in uremic patients . This could be inferred from :

Positive significant correlation between GPX - SOD and hemoglobin level and a negative significant correlation between MDA and hemoglobin level. It believed that progression of chronic renal insufficiency leads to activation of lipid peroxidation and deterioration of antioxidant defense in red cell contributing to more active red cell destruction causing anemia

6- A significant correlation between GPX - SOD - MDA and degree of hypertension in renal patients . This is explained by increased oxidative stress could contribute to development of atherosclerosis and it is one of the most important factors responsible for hypertension

7- A significant correlation between GPX - SOD - MDA and infection in renal patients . This is explained by tissue infiltration with large number of activated phagocytes leads to tissue damage as a

result of excessive production of oxygen radical

8- a) A significant increase in GPX -SOD - Hb and creatinine clearence and significant decrease in MDA , urea and creatinine in renal patients after treatments with antioxidants

b) improvement of anemia , infection and hypertension may be explained by that antioxidants therapy protect aganist oxidative stress and decrease lipid peroxidation in renal patients .