



Determination of antioxidant levels in smoker men affected with polycythemia

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Abstract : The current study was involved to investigate some oxidant–anti-oxidants parameters of smoker men affected with polycythemia.

One hundred twenty (120) men were recruited in this study ,of them, sixty (60) smoker men affected with polycythemia and the remaining number (60)men were healthy men and serves as control group in this study . all ages of the enrolled subjects were limited between 30-60 years old .According to their ages, they were classified into three groups, first group(30-39 years old),second group(40-49 years old), and third group(50-60 years old).

All patients included in this study have PCV higher than of their healthy counter parts and showed a remarkable , increase($p<0.05$) when compared with healthy control men. Moreover, levels of PCV have a positive correlation ($r=0.8$) with advanced ages. concerning lipid peroxidation, malondehyde (MDA)as markers of lipid peroxidation was used, an its results revealed a marked elevation ($p<0.05$) in all groups of polycythemic patients and also showed a positive correlation with age ($r=0.4$) and PCV($r=0.4$).

Regarding markers of antioxidants, results of reduced glutathione (GSH, non enzymatic antioxidants, were significantly decreased ($p<0.05$) in all tested groups in matching with those healthy control group. it was found that results of GSH proportionate inversely with age ($r=0.2$) and PCV($r=0.9$).about catalase activity , results of its activities indicated a marked drop ($p<0.05$) in three age groups of smoker polycythemic men in a comparison with control groups . the activities of catalase pointed out a negative correlation with both age and PCV($r=0.3$, $r=0.6$ respectively).

Serum superoxide dismutase (SOD)activity were also significantly down regulated($p<0.05$) in all age groups of patients when matched with those control group .The SOD activities were inversely proportionated with age and PCV($r=0.5$, $r=0.5$, respectively).

Finally, according to results that mentioned above the possible explanation to these findings can be showed that high mass of RBCs and toxic materials produced by smoking can be implicated with drop of antioxidant activities with increase lipo peroxidation. Moreover, aging can be exert negative action on these anti-oxidants that associated with increase lipid peroxidation marker (MDA).

Key words : polycythemia, antioxidants, lipid peroxidation.