

SUMMARY

In this study, it is examined that the effect of the smoking on the oxidative stress and serum mineral element levels. With this aim, between 25 and 45 years old 25 men who haven't got any healthy problem, who are not using a drug, vitamins, alcohol or some materials except cigarette, smoking years between 5 or 10 years, daily smoking members changing between 15- 30 unit are the test group of this study. 23 men who haven't used cigarette or alcohol, in the same time who are not passive smokers at home or at work and changing their ages between 25 and 45 years old are the control group of this study.

Blood samples from control and test groups' members are taken for the aim of providing standardization of the blood samples, these are taken after 12 hours hunger and on the sitting position. Blood samples are centrifuged at 3000 rpm by making centrifuge in ten minutes, serum and plasmas are separated. On separated serums iron (Fe) and magnesium (Mg) levels are examined in the same day but serum samples for the analysis of the copper (Cu) and zinc (Zn), by transferring eppendorf tubes in -20°C were hidden till the analysis day. From the plasmas that we have, ascorbic acid (Vit C) and malondialdehyde (MDA) measuring were done in the same time. For the superoxide dismutase (SOD) analysis, by preparing hemolysates of erythrocytes they were hidden till the analysis day in -20°C degree.

It is established that plasma MDA levels between non-smokers and smokers people one by one as $6,14 \pm 0,46 \mu\text{mol/L}$ and $11,99 \pm 0,39 \mu\text{mol/L}$, plasma Vit C levels are also one by one as $0,384 \pm 0,062 \text{ mg/dL}$ and $0,217 \pm 0,027 \text{ mg/dL}$. In erythrocyte hemolysates SOD enzyme activities were measured between non-smokers and smokers people one by one as $30,96 \pm 2,96 \text{ U/mgHgb}$ and $39,19 \pm 2,76 \text{ U/mgHgb}$. Serum copper levels were measured between non-smokers and smokers people one by one as $49,48 \pm 2,30 \mu\text{g/dL}$ ve $86,73 \pm 5,05 \mu\text{g/dL}$ and serum zinc levels were fixed between non-smokers people one by one as $27,45 \pm 0,77 \mu\text{mol/L}$ and $23,44 \pm 0,62 \mu\text{mol/L}$. Serum magnesium quantities were established between non-smokers and smokers people one by one as $2,12 \pm 0,12 \text{ mg/dL}$ ve $3,14 \pm 0,53 \text{ mg/dL}$. In the result of the evaluated findings, it was come to a conclusion that long time smoking causes changes on antioxidant system and serum mineral substance level that with

this system and it will be useful to reinforcement on trace elements which are the cofactors of the antioxidant enzymes in the same time and ascorbic acid of the smoker diets.

Key words: Cigarette, Oxidative stress, Antioxidant, Malondialdehyde, Superoxide dismutase, Ascorbic acid, trace elements