

## P47. EVALUATION OF THE OXIDATIVE STRESS IN SILICOSIS PATIENTS

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Silicosis is a lung disease caused by the inhalation of free crystalline silica resulting in progressive massive fibrosis. In this study, we aimed to investigate serum TAS (Total Antioxidant Status), TOS (Total Oxidant Status) and OSI (Oxidative Stress Index) parameters in the individuals working in ceramic factory and diagnosed as silicosis and discuss the possible effects of these parameters on the etiopathogenesis of the disease.

This study was performed on 33 male patients with silicosis (23-73 years) and 30 male healthy controls (18-69 years). Plasma TAS, TOS levels were measured and OSI was calculated by the TOS/TAS formula.

Serum TOS levels of the silicosis subjects were higher than those of the controls whereas serum TAS levels of silicosis subjects was lower than that of the controls. But the differences between the parameters were not statistically significant. The serum OSI levels were significantly higher ( $p<0.05$ ) in the silicosis subjects compared with the control group.

The exact mechanism of the silica toxicity of is still unknown. Silica particles are potent inducers of cell proliferation, cell injury, inflammation and release of free radicals from alveolar macrophages. Free radical generation by silica occurs via an oxidative burst when free crystalline silica are phagocytized by alveolar macrophages or other cell types, including alveolar epithelial cells and fibroblasts. Our study showed elevated OSI in patients with silicosis. Increased oxidative stress is thought to be related with the oxidative burst caused by alveolar macrophage activation.