

DETERMINATION OF TOTAL ANTIOXIDANT STATUS OF CHRONIC OBSTRUCTIVE LUNG DISEASE

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ABSTRACT

Chronic obstructive pulmonary disease is one of the most common chronic diseases and represents an important cause of morbidity and mortality. Chronic obstructive pulmonary disease is a characterized disease with progressive and fixed airflow obstruction, and is a treatable and preventable disease to which occurs chronic exposure environmental factors of patients with genetic predisposition. It was also seen that oxidative stress level had been important in terms of the disease level of patients who had been diagnosed with chronic obstructive pulmonary disease, and the course of the disease. Creation of an imbalance between oxidants and antioxidants (oxidative stress) is considered to be important in the pathogenesis of chronic obstructive pulmonary disease. Experimental studies have provided evidence about an imbalance between oxidants/antioxidants, in favor of reactive oxidizing species (oxidative stress), associated with chronic obstructive pulmonary disease. To determined of total antioxidant status values in the patients who had been diagnosed with chronic obstructive pulmonary disease was aimed this study. In our study, the total antioxidant status values were determined as mmol Trolox Equivalent/L spectrophotometrically by using Erel's method in the patients who had been diagnosed with chronic obstructive pulmonary disease, and in serums of healthy control individuals. In this method, a hydroxyl radical was produced by the Fenton reaction and reacted with the colorless substrate o-dianisidine to produce the bright yellowish-brown dianisyl radical. 20 patients with chronic obstructive pulmonary disease and 20 healthy non smokers control group included in the study total antioxidant status values were been found significantly high compared to healthy non smokers control group. These results showed that the total antioxidant capacity of serum is the part of a tightly regulated homeostatic mechanism and predominant oxidative stress . An inequity between oxidative stress and antioxidative capacity has been proposed to play an important role in the development and progression of chronic obstructive pulmonary disease and it is related to the severity of disease.

Key words: Chronic obstructive pulmonary disease, oxidative stress, total oxidative status