Investigation of Respiratory Physiopathology by Determination of Pulmonary Gas Exchange and Ventilation Dynamics in Chronic Lung Diseases

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- ✓ CPET
- ✓ COPD
- ✓ Lung Cancer
- ✓ Idiopathic Pulmonary Fibrosis
- ✓ Anaerobic Threshold

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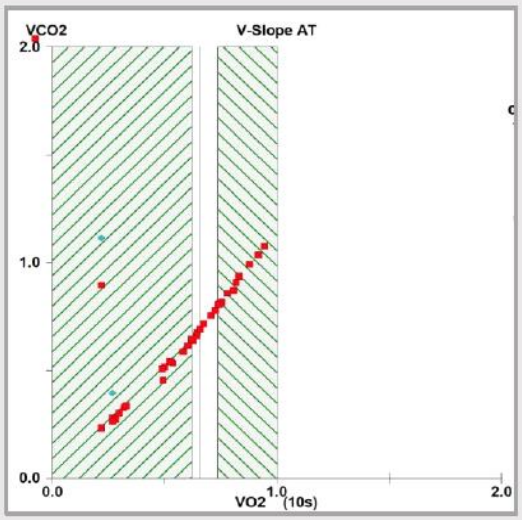

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THESIS ABSTRACT

This study was aimed to examine the pulmonary gas exchange and ventilation dynamics in chronic lung diseases. It was investigated whether there was a difference in the three disease states in relation to ventilation volumes and anaerobic threshold. Ten patients with COPD (Group 1) and 9 patients with lung cancer (Group 2) who applied to the Bursa Uludag University Chest Diseases outpatient clinic were included in the study. The mean age of Groups were 65.00 ± 3.17; 66.67 ± 2.70 and 62.50 ± 3.25 years. Group 1 and 2 had obstructive respiratory failure; Group 3 had restrictive respiratory failure. Cardiopulmonary exercise tests (CPET) were performed with a standard protocol. Maximum oxygen consumption (VO_{2max}) was 14.29 ± 1.17 in Group 1, while it was 13.31 ± 1.31 in Group 2 and 12.50 ± 1.76 in Group 3. Anaerobic threshold values were found to be 0.70 ± 0.04; 0.68 ± 0.03; 0.71 ± 0.12 in Groups 1, 2 and 3. When the pulmonary function test was evaluated, the FEV1, FEV1/FVC values of Group 3 were higher than the other two groups ($p<0.05$). A measurement indicator was also detected between the expected value of the oxygen pulse and the RQ ($p<0.05$). As a result, ventilation dynamics deteriorates in chronic lung diseases.

APPLICATION AREAS OF THE THESIS RESULTS

Since chronic lung diseases are the most common in the community, patients with Chronic Obstructive Pulmonary Disease (COPD), changes when lung cancer accompanies, and patients with idiopathic pulmonary fibrosis, which is one of the prototypes of interstitial lung disease that causes respiratory failure in a restrictive pattern, perform both pulmonary function tests and cardiopulmonary exercise. Evaluation with tests will provide more information about treatment options.

ACADEMIC ACTIVITIES