

DOI: 10.5152/TurkThoracJ.2019.50

[Abstract:0644] MS-069 [Accepted: Oral Presentation] [Clinical Problems - Other]

## Lung Findings of Primary Immunodeficiencies

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**Objectives:** Primary immunodeficiency is a disease with congenital immune system disorder, regardless of any disease. In developed countries, the prevalence in the society varies between 1/10.000 and 1/100.000. The exact incidence in our country is unknown. Up to 300 primary immunodeficiency diseases have been described. The primary immunodeficiency leaves the body unprotected and vulnerable to diseases. Mortality and morbidity are high if not diagnosed early. Unfortunately, there is a delay in diagnosis in this rare disease. The aim of this study is to examine lung findings of primary immunocompromised patients and to create awareness for early diagnosis.

**Methods:** The records of 12 cases with primary immunodeficiency were evaluated retrospectively in between 2014-2018. Radiological findings, pulmonary function test and clinical findings were analyzed.

**Results:** 8 of 12 patients with primary immunodeficiency were male. The mean age was 43.5±14.92 (23-66). The mean time between the onset of symptoms and the diagnosis was 7.02 years (1 months to 25 years). Seven patients had recurrent diarrhea. In 10 patients, lung symptoms were prominent. Cough, sputum were detected in 8 cases, and three of them had respiratory distress. One of the cases had the habit of smoking. Three cases were cachectic, two cases were overweight and 7 cases had normal weight. Obstruction in 6 patients, obstruction and restriction in 1 patient were found in respiratory function tests. Other patients were in normal limits. Bronchiectasis was detected with a maximum of 6 cases in thoracic computed tomography. The radiological findings are summarized. Five of the cases had a history of diagnosis and treatment of asthma. One case died due to pneumonia in the second year of treatment.

**Conclusion:** The mean duration of diagnosis of primary immunodeficiency cases was 7 years. The most radiological findings were bronchiectasis, fibroatelectases, and milimetric nodules. In series of 21 patients of Serra et al. and that of 23 patients of Aslan et al., CT was found to be more specific for lung findings. In this study, CT findings were examined. Schütz et al. reported 232 cases in 15 centers of 9 countries and found that 61% of the cases were diagnosed as bronchiectasis. In this study, the most common sign was observed to be bronchiectasis. Primary immunodeficiency should be considered in patients with recurrent pneumonia and bronchiectasis, and these patients should also be consulted to immunologist.

**Keywords:** Primary immunodeficiency, radiological findings, respiratory function test