Title: Thoracic high resolution computed tomography may be helpful in the differentiation between the patients with chronic obstructive pulmonary disease and the smoking patients with asthma

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Body: Introduction: Although several approaches are used for the differentiation of asthma and chronic obstructive pulmonary disease (COPD), it may still be challenging in some cases, especially the smokers. Objective: This study aimed to determine whether thoracic high-resolution computed tomography (HRCT) could help differentiate between smoker asthma patients and COPD sufferers. Methods: The results of the patients who underwent thoracic HRCT within the five-year period before January 2010 while being followed up with the diagnoses of asthma (59 smoker, 58 non-smoker) or COPD (n: 87) were retrospectively analyzed. Results: In the COPD group, male patients were more frequent and the mean age was higher. The age of start of symptoms was lower in smoker asthma patients. Thoracic HRCT result was reported as normal much more frequently in the smoker asthma group (32% vs. 1%) whereas emphysema (45% vs. 12%) was more prevalent in COPD group. The radiological comparison of smoker asthma and non-smoker asthma groups yielded no difference. Conclusion: Although no innovative method or state-of-the-art technology was used in this retrospective study, it was found that even conventional HRCT might contribute to the differentiation of these two diseases.