

Statins And Interstitial Lung Abnormalities In Smokers

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Rationale: HMG-CoA reductase inhibitors (statins) have been implicated in the development of interstitial lung disease (ILD) but the relationship between statins and interstitial lung abnormalities (ILA) in smokers has not been assessed.

Methods: We used logistic regression analysis to evaluate the association between statin use and ILA in 2,115 (84%) of the first 2,508 subjects in COPDGene for whom a chest computed tomogram (CT) and information about medication use was available for analysis.

Results: In COPDGene, 38% of subjects with ILA were taking statins compared to 27% of subjects without ILA. Statin use was positively associated with ILA (odds ratio [OR] 1.60, 95% confidence interval [CI] 1.03-2.50, P=0.04) after adjustment for covariates including a history of high cholesterol or coronary artery disease. The risk of ILA was higher in subjects on hydrophilic statins (OR 3.43, 95% CI 1.68-7.01, P<0.001) than in subjects on lipophilic statins (OR 1.36, 95% CI 0.87-2.14, P=0.18). Statin use was associated with radiologic features of pulmonary fibrosis (e.g., statin users were ~125% more likely to have traction bronchiectasis, OR 2.25, 95% CI, 1.33-3.83, P=0.003). The association between statin use and ILA was also modified by age (in subjects > 65 years old, statin users were 96% more likely to have ILA, OR 1.96, 95% CI 1.06-3.61, P=0.03).

Conclusions: Statin use is associated with ILA among smokers in the COPDGene study. The low reported incidence of statin-associated ILD in clinical practice suggests that either the progression of ILA to overt clinical disease is variable or this condition is underrecognized.

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