Relationship of baseline or annual change of clinical parameters on mortality in patients with COPD

Hironi Makita1,2, Masaru Suzuki1, Katsura Nago1, Masaharu Nishimura1 and Hokkaido COPD Cohort Study Group

1 First Department of Medicine, Hokkaido University School of Medicine 2 Hokkaido Medical Research Institute for Respiratory Disease

Abstract

Background: We have shown that the rate of annual change in FEV1 was varied widely among patients with COPD over 5 years (Nishimura, AJRCCM 2012).

Aim: To examine how baseline or annual changes of clinical parameters are related to mortality.

Methods: A total of 279 of clinically stable patients with COPD (GOLD 1, 26%; GOLD 2, 45%; GOLD 3/4, 29%) served as subjects. We collected BMI and spirometric data every 6 months, diffusing capacity (Kco), emphysema severity assessed by CT, and health-related QOL (SGRQ) every year, and monitored exacerbation frequency, smoking behavior, and any medications. Mortality of the subjects was continuously recorded by physicians, telephone interviews, and letters to their families. Annual changes in post-bronchodilator FEV1, BMI, Kco, and SGRQ until the 3rd year were determined by linear regression.

Results: The median follow-up time was 8.2 years. Of the 265 patients, 98 died, with 38 classified as respiratory deaths. Age, emphysema score, BMI, FEV1 (%), Kco, SGRQ, exacerbations, and use of respiratory medications were significantly related to mortality of all causes of death by a multivariate logistic regression analysis, age (odds ratio [OR] 1.16, 95% CI 1.11–1.22; p<0.001), Kco (OR 0.99, 95% CI 0.97–0.99; p<0.03), and BMI (OR 0.88, 95% CI 0.79–0.97; p<0.01) emerged as independent risk factors for mortality of all causes. Interestingly, when looking at annual changes, an annual decline in Kco was significantly linked with mortality of any respiratory diseases.

Conclusion: An annual decline in Kco, besides age, BMI, Kco at baseline, is an independent risk factor of mortality of any respiratory diseases in patients with COPD.

Background

We have shown that the rate of annual change in FEV1 was varied widely among patients with COPD over 5 years. (Nishimura M., AJRCCM 2012)

Aim

To examine how baseline and/or annual changes of clinical parameters are related to mortality in patients with COPD.

Method

In this follow-up study, we attempted to examine how baseline and/or annual changes of clinical parameters are related to mortality in patients with COPD.

This page contains a table and a graph that represent the clinical characteristics of patients and the results of the study. The table includes variables such as age, sex, BMI, smoking status, and DLco, and their significance levels. The graph illustrates the follow-up mortality and lung cancer risk factor, showing trends over time.

Conclusion

In conclusion, when looking at annual changes in pulmonary function and BMI, only DLco, but not FEV1, was related with all-cause mortality or respiratory deaths.

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