

Four-Year Survival in Patients with Moderate to Severe Chronic Obstructive Pulmonary Disease

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Abstract : Background : The forced expiratory volume in one second (FEV₁) is regarded as the most significant correlated factor of survival in chronic obstructive pulmonary disease (COPD) and it is also used as a measure of disease severity in the staging of COPD. However, the other factors of disease severity have not yet been comprehensively reported. Study objectives : We compared the effects of disease severity, as evaluated by the physical findings and pulmonary function tests, on the 4-year survival rate in patients with COPD. Design and methods : 76 consecutive patients with moderate to severe COPD were enrolled in a 4-year, prospective study at Fukuoka University Hospital. Results: The overall survival information was available with certainty for all patients. The 4-year over all survival was 65.4%. Five patients died of malignancy or cerebral events. Excluding these patients, the patients demonstrating a poor pulmonary function also had a significantly worse long-term survival. A univariate analysis revealed the body mass index, %forced vital capacity (%FVC), %FEV₁, %total lung capacity (%TLC), diffusing capacity for carbon monoxide (DLCO) and % DLCO to all be significant predictable factors. A multivariate Cox proportional hazards analysis revealed that %FEV₁, PaO₂ and DLCO were independent predictable factors for survival. Conclusion : This study suggests that not only an obstructive ventilatory defect but also a defect of the CO diffusing capacity should be included as variables for evaluating patients with COPD in terms of mortality.

Key words : Chronic obstructive pulmonary disease, Mortality, CO diffusing capacity