

# New prognostic indicator for patients with IPF

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There may be a new way to predict mortality in patients with idiopathic pulmonary fibrosis (IPF), a devastating disease that slowly petrifies the lungs. Most patients live only three years after diagnosis on average; however, some remain stable for many years, while for others, the disease progresses more rapidly.

"There is no effective treatment [for IPF] and many patients, if eligible, are referred for lung transplantation. Identification of surrogate short-term measures of mortality is critical to the management and study of patients with IPF." explained lead author Charlene Fell, M.D., of the Division of Respiratory Medicine at the University of Calgary.

The study found that maximal oxygen uptake during exercise, or VO<sub>2</sub>max, can predict mortality in IPF patients. VO<sub>2</sub>max is an integrated measure of cardiovascular, respiratory and neuromuscular function and is a standard measure during cardiopulmonary exercise testing.

The results were published in the first issue for March of the *American Journal of Respiratory and Critical Care Medicine*, published by the American Thoracic Society.

Dr. Fell and colleagues performed a retrospective analysis of 117 patients in the University of Michigan's Specialized Center of the Pathobiology of Fibrotic Lung Disease database and analyzed their oxygen uptake during exercise with their subsequent mortality.

"We found that VO<sub>2</sub>max examined as a continuous variable does not predict mortality in IPF. However, baseline threshold VO<sub>2</sub>max of 8.3 ml/kg/min predicts mortality in these patients," wrote Dr. Fell.

Those patients with a VO<sub>2</sub>max of less than 8.3 ml/kg/min had a risk of death more than three times that of patients whose VO<sub>2</sub>max was above the threshold. VO<sub>2</sub>max was compared with two other predictors of survival in IPF, oxygen desaturation during a six-minute walk test (6MWT) and resting arterial oxygen partial pressure (PaO<sub>2</sub>), and in both cases, VO<sub>2</sub>max was found to be a more robust predictor.

"Furthermore, VO<sub>2</sub>max is easier to use in the clinical setting than other predictors which require cumbersome calculations," said Dr. Fell.

"One caveat to the VO<sub>2</sub>max predictor is that only a small number of patients had a VO<sub>2</sub>max below the 8.3 ml/kg/min threshold in our study, [so] further prospective studies are needed to validate these findings," said Dr. Fell. "If the value of this predictor is proven in prospective studies, it may help clinicians prioritize patients for lung transplantation or identify patients for clinical trials."

Source: American Thoracic Society

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