

Statins reduce loss of function, keeping old lungs young - even in smokers

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Statins are known to be good for lowering cholesterol and maybe even fighting dementia, and now they have another reported benefit: they appear to slow decline in lung function in the elderly— even in those who smoke. According to researchers in Boston, it may be statins' anti-inflammatory and antioxidant properties that help achieve this effect.

Their findings were published in the second issue for October in the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

“We hypothesized that statins would have a protective effect on decline in lung function,” wrote Dr. Joel Schwartz, Ph.D., professor of environmental epidemiology at Harvard School of Public Health, a lead researcher on the study, the first to examine the relationships between statins and lung function decline.

“The link between lung function and mortality and the reduced levels of lung function in the elderly indicates the importance of a possibility of reducing the rate of decline,” wrote Dr. Schwartz.

To investigate whether statins had an effect of loss of lung function, the researchers used data from the ongoing and longitudinal Veterans Administration Normative Aging Study, which began in 1963. They analyzed 803 subjects who had had their lung function measured at least twice between January 1995 and June 2005. Both forced expiratory volume in one second (FEV1) and forced vital capacity (FVC) were

measured. The study subjects also completed questionnaires on pulmonary disorders, smoking and medication usage.

The investigators found that subjects taking statins experienced a markedly slower annual decline in lung function. In FEV1, statin users lost 10.9 ml on average, whereas nonusers lost an average of 23.9 ml each year—more than twice that of the statin group. Similarly, statin users lost an average of 14 ml a year in FVC, whereas nonusers lost an average of 36.2 ml.

To determine whether smoking status modified that effect, the researchers also divided their subjects into four smoking groups: never-smokers, long-ago quitters, recent quitters and current smokers. “Within each smoking group, those not taking statins were estimated to experience faster declines in FEV1 and FVC than those taking statins,” wrote Dr. Schwartz, noting that the size of the effect varied a bit with smoking status.

“Our results suggest (weakly) that long-term quitters and recent quitters may be able to benefit more from statin use than other groups,” Dr. Schwartz wrote.

But because of overlap between groups and the lack of randomization and controls in this study, the researchers point out that further data is needed before any definitive conclusions are drawn. Their findings do, however, support the hypothesis that statins reduce the annual loss of lung function that occurs with age.

The researchers suggest that the observed effect may be attributable to statins’ ability to reduce inflammation and smoking-induced injury in the lung, as well as their capacity to reduce serum levels of C-reactive protein, which relates to systemic inflammation, and to protect against oxidative damage.

The research adds to a growing body of knowledge indicating the positive effects of statin use beyond its cholesterol lowering properties.

Source: American Thoracic Society

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