

# Statins associated with lower risk of death from pneumonia

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Individuals who take cholesterol-lowering statins before being hospitalized with pneumonia appear less likely to die within 90 days afterward, according to a report in the October 27 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals.

In the United States and Europe, pneumonia hospitalization rates have increased 20 percent to 50 percent over the past decade, according to background information in the article. About 10 percent to 15 percent of those with pneumonia die from the disease. A recent review article indicated that statins may benefit patients with sepsis (infection of the bloodstream) or bacteremia (presence of bacteria in the bloodstream), possibly due to the medications' anti-clotting, anti-inflammatory or immune-modifying properties.

Reimar W. Thomsen, M.D., Ph.D., of Aarhus University and Aalborg Hospital, Aalborg, Denmark, and colleagues reviewed data from 29,900 adults hospitalized with pneumonia between 1997 and 2004. Of these, 1,371 (4.6 percent) were taking statins at the time.

"Mortality [death] among statin users was lower than among non-users: 10.3 percent vs. 15.7 percent after 30 days and 16.8 percent vs. 22.4 percent after 90 days," the authors write. The lowest relative death rate associated with statins was observed in patients older than 80 and in those with bacteremia. "The differences became apparent during the first few weeks of hospitalization, a period associated with a high number of pneumonia-related deaths, and they increased only minimally between 30 and 90 days after admission, which suggests that statin use is beneficial primarily in the early phase of infection."

Previous statin use, or the use of any other preventive medication for cardiovascular health, was not associated with a reduced death rate from pneumonia.

"Several biological mechanisms may explain our results," the authors write. Statins change the immune response, beneficially affect processes associated with blood clotting and inflammation and inhibit dysfunction in blood vessels. These effects may especially benefit patients with sepsis and bacteremia, which are associated with early death from pneumonia.

"Our study adds to the accumulating evidence that statin use is associated with improved prognosis after severe infections," the authors write. "The decrease in mortality associated with statin use seems to be substantial in patients with pneumonia requiring hospital admission. Randomized trials are needed to examine causality of the associations found in observational studies. Given the availability of statins, with their relatively low cost and mild adverse effects, positive results of statin therapy trials in patients with pneumonia would have substantial clinical and public health implications."

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