

Statins May Offer Protection During Flu Outbreaks

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Chicago Bureau

NICE, FRANCE — A provocative study has identified an association between the use of statins and favorable outcomes during influenza epidemics.

In the retrospective cohort analysis, statin therapy was associated with substantial reductions in mainly respiratory diseases, but also in death from all causes, Dr. Theo Verheij said at the 16th European Congress of Clinical Microbiology and Infectious Diseases.

As for the mechanism, it is theorized that statins could have anti-inflammatory properties or an effect on immune status, he said. Three small studies have shown that statins have an anti-inflammatory effect in patients with bacteremia. In addition, a recent study identified an association between statin use and reduced sepsis in patients hospitalized for acute coronary syndrome, ischemic stroke, or revascularization (Lancet 2006;367:372-3).

A dose-response relationship convinced the investigators that statin therapy provided a protective effect. The findings should be used to direct future studies.

Dr. Verheij and his colleagues assessed patients, aged 50 years or older, from the primary care network of the University Medical Center in Utrecht, the Netherlands. The patients were followed up during eight epidemic and nonepidemic influenza seasons from 1998 to 2003, said Dr. Verheij, a professor of general practice with the university.

The primary end point was a composite of community-acquired pneumonia, prednisone-treated acute respiratory disease, myocardial infarction, stroke, and death from all causes. Adjustments were made in the analysis for age, gender, insurance, number of general practice visits, concomitant medicine use, medical conditions including diabetes mellitus and psychiatric disorders, and influenza vaccination.

A total of 22,638 patients provided 130,558 person-periods (each influenza season was considered a period). Statin therapy (simvastatin, pravastatin, fluvastatin,

atorvastatin, and rosuvastatin) was used in 6,982 (5.3%) person-periods and influenza vaccinations in 36,556 (28%). The primary end point occurred in 3.2% of person-periods, and most events (72%) were respiratory, he reported.

During influenza epidemics, statin therapy was associated with a 33% reduction in the primary end point (relative risk 0.67), a 26% reduction in respiratory disease (RR 0.74), and a 51% reduction in all-cause mortality (RR 0.49); these results

were significantly different from outcomes in patients who were not using statins. The risk of pneumonia was reduced by 28% (RR 0.62) and the risk of acute respiratory disease was reduced by 21% (RR 0.79).

The findings were consistent across subgroups defined by age, cardiovascular disease, or exposure to influenza vaccination. In nonepidemic influenza seasons, there was no significant reduction in risk, except for all-cause death.

A dose-response relationship convinced

the investigators that statin therapy provided a protective effect, Dr. Verheij said. Statin therapy was associated with a 33% reduction of any event among patients taking less than two daily defined doses and a 44% reduction among those taking two or more daily defined doses (RR 0.67 and 0.56, respectively, compared with patients who did not use statins).

The findings should be used to direct future studies into potential implications, particularly during pandemics, he said. ■

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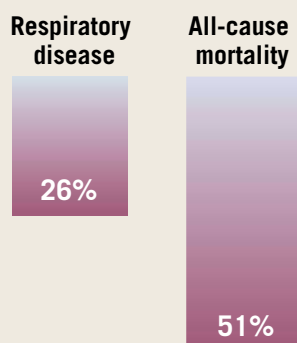
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Respiratory Disease Risk Reduced During Flu Epidemics in Statin Users



Note: Based on a study of 22,638 patients.
Source: Dr. Verheij

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