



Drug Monitor

Statins, Pneumonia, and Healthy User Bias

Many studies have reported an association between statin use and decreased risk of pneumonia. These reports could reflect a healthy user bias, however, as people who take statins are likely to have less severe comorbidity, better functional status, and more healthy behaviors than those who do not.

Researchers from Group Health Center for Health Studies and University of Washington, both in Seattle, kept this possibility in mind as they looked for an association between current statin use and decreased risk of community-acquired pneumonia in patients aged 65 to 94 years. They attempted to avoid healthy user bias by using both a partially adjusted model—adjusting for age, sex, and calendar year—and a fully adjusted multivariate model—adjusting for the aforementioned variables along with comorbid illness, lifestyle and demographic characteristics, and functional and cognitive status—to look for the association. Their study included 1,125 participants with pneumonia and 2,235 matched control participants. All of the participants belonged to the same integrated health care delivery system, and data on their health and functional status was obtained through a review of medical records and computerized pharmacy data.

The researchers were unable to find an association between statin use and decreased pneumonia risk with either of their models. Statins were being used by 181 (16%) of the participants with pneumonia and 327 (15%) of the control participants, and there was a 1.26 fully adjusted odds ratio for

pneumonia in participants who were using statins compared with those who were not. When the researchers considered only those participants with pneumonia who were admitted to the hospital and their matched controls, they found a higher risk for pneumonia with statin use. They also found that statin use was associated with better overall health status and such healthy behaviors as not smoking and having received a pneumococcal vaccine.

These results suggest that healthy user bias may be behind the apparent benefits of statins with regard not only to pneumonia but also to sepsis and infectious mortality, the researchers say. They emphasize that their results differ from those of similar studies that, while case-controlled, “relied on large electronic databases, which may have limited sensitivity for important comorbid conditions.” To ensure the accuracy of studies on drug-disease interactions, they say, it could be critical to incorporate more detailed data into electronic databases.

Source: *BMJ*. 2009;338:b2137. doi:10.1136/bmj.b2137.

A Gender Gap in Morphine Administration

While paramedics appear equally likely to administer analgesics to women or to men, they may be less likely to administer morphine to women.

This was the finding of researchers from Monash University, Victoria 3800 and The University of Melbourne, Melbourne, both in Australia, after analyzing data on 1,766 patients who reported pain to paramedics in

prehospital settings during a seven-day period. The paramedics were authorized to administer inhaled methoxyflurane or intravenous morphine sulfate to these patients.

The patients had a median age of 61 years, and 52% of them were women. Of all the patients, 15% received morphine, 34% received methoxyflurane, and 6% received both. Although more women than men reported severe pain at their first pain assessment, the researchers found no significant differences between the sexes with regard to the proportion of patients who received analgesia or the proportion of patients who refused analgesia. They did find, however, that 17% of the male patients and only 13% of the female patients received morphine—a difference that remained statistically significant when the researchers controlled for type of pain, age, and pain severity.

The researchers speculate that this disparity might be influenced by “female patients’ reluctance to accept morphine” or by paramedics’ gender biases. With regard to the latter possibility, they note that morphine is “seen as an analgesic reserved for severe pain” and that, according to past studies, both genders “expect women to be more likely to report pain, to be more sensitive to pain, and [to be] less tolerant of pain than men.”

Source: *Am J Emerg Med*. 2009;27(5):525–529. doi:10.1016/j.ajem.2008.04.003.