

Long-term statin use associated with decreased risk of gallstones requiring surgery

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Use of the cholesterol-lowering drugs statins for more than a year is associated with a reduced risk of having gallstones requiring surgery, according to a study in the November 11 issue of *JAMA*.

In developed countries, approximately 10 percent to 20 percent of white adults have gallstones, which can cause pain and complications.

[Gallstone disease](#) is a leading cause of [gastrointestinal tract](#) illness and inpatient admission in western countries and represents a serious burden for health care systems worldwide. More than 700,000 cholecystectomies (removal of the gallbladder) are performed annually in the United States, according to background information in the article.

Gallstones are classified as either cholesterol (80 percent-90 percent) or pigment stones (10 percent-20 percent), with cholesterol stones formed on the basis of cholesterol-supersaturated bile. "Statins decrease hepatic [liver] cholesterol biosynthesis and may therefore lower the risk of cholesterol gallstones by reducing the cholesterol concentration in the bile. Data on this association in humans are scarce," the authors write.

Michael Bodmer, M.D., M.Sc., of University Hospital, Basel, Switzerland, and colleagues conducted a large long-term observational study to examine the association between statin use and the risk of developing gallstone disease followed by cholecystectomy. The study included data from between 1994 and 2008 from the UK-based General Practice Research Database. A total of 27,035 patients with cholecystectomy and 106,531 matched controls were identified,

including 2,396 patients and 8,868 controls who had statin use.

The researchers found that compared with nonuse, current statin use (last prescription recorded within 90 days before the first-time diagnosis of the disease) was 1.0 percent for patients and 0.8 percent for controls for 1 to 4 prescriptions; 2.6 percent vs. 2.4 percent for 5 to 19 prescriptions, and 3.2 percent vs. 3.7 percent for 20 or more prescriptions.

"This large observational study provides evidence that patients with long-term statin use have a reduced risk of gallstone disease followed by cholecystectomy compared with patients without statin use. However, the odds ratio was not decreased for patients with short-term statin use but started to decrease after 5 prescriptions, reflecting approximately 1 to 1.5 years of treatment. The risk estimate was consistent across age and sex groups. Adjustment for important risk factors for gallstone disease did not materially alter the results," the researchers write.

The authors add that the observed risk reduction suggests a class effect for all statins, and that there was a tendency toward a lower risk of gallstone disease for high-dose statin use compared with low-dose exposure. A substantially increased gallstone risk with cholecystectomy was found for patients with high body mass indexes and for patients with estrogen use.

"Our findings may be of clinical relevance given that gallstone disease represents a major burden for health care systems," the researchers conclude.

More information: *JAMA*. 2009;302[18]:2001-2007.

Source: JAMA and Archives Journals ([news](#) : [web](#))

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