Statin Use After Diagnosis Linked to Lower Breast Cancer Mortality

The risk reduction was only significant if cholesterol levels dropped after post-diagnosis statin initiation.

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Among women diagnosed with breast cancer, starting a statin after diagnosis was associated with a lower risk of breast cancer-related death when cholesterol levels decreased, according to findings published in JAMA Network Open.

“This finding suggests that cholesterol-lowering interventions with statins may be beneficial for patients with breast cancer,” the study authors wrote.

Statins are prescribed to reduce low-density lipoprotein, or bad cholesterol; they may also have anti-inflammatory effects. Previous research has shown an association between statin use and breast cancer mortality, but these studies mostly did not link outcomes with cholesterol levels.

Mika Murto, MD, of the Tays Cancer Centre in Finland, and colleagues assessed whether statin use influenced breast cancer-related mortality when considering serum cholesterol levels.

Using data from Finnish national registries, the researchers identified a cohort of women with invasive breast cancer who were diagnosed between January 1995 and December 2013. The team accessed data on hormone receptor status and cholesterol and triglyceride levels before and after diagnosis. Mortality data were available through December 2015.

This retrospective analysis included 13,378 women with an average age of 62 years. A total of 980 women started statins after breast cancer diagnosis, and 781 of them saw a decline in their cholesterol level. During an average follow-up period of 4.5 years after diagnosis, 16% of the women died, 7% of them due to breast cancer.

The researchers found that overall mortality was 20% lower among women who used statins compared to those who did not after adjusting for cholesterol levels. But the risk of breast cancer-related death varied based on the timing of statin initiation.

Using a statin prior to breast cancer diagnosis was a risk factor for higher breast cancer mortality, even after taking total cholesterol levels into account. On the other hand, starting a statin after

diagnosis was linked to a lower risk of breast cancer-related death. As cholesterol levels dropped after starting statins, the risk reduction was more pronounced. However, if cholesterol levels did not fall, the risk reduction was not statistically significant.

The reduction in breast cancer mortality after starting statins was seen in women with estrogen receptor-positive breast cancer but not those with triple-negative cancer, suggesting hormones may play a role. Further, the risk reduction was evident only for women with localized disease, not those with metastatic breast cancer.

“Results of this cohort study showed that post-diagnostic use of statins was associated with reduced breast cancer mortality compared with nonuse, and the risk was associated with subsequent change in serum cholesterol level,” the researchers concluded.

“The beneficial role of cholesterol reduction is plausible given that in epidemiological studies, dietary cholesterol and hypercholesterolemia have been associated with increased risk of breast cancer,” they wrote.

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