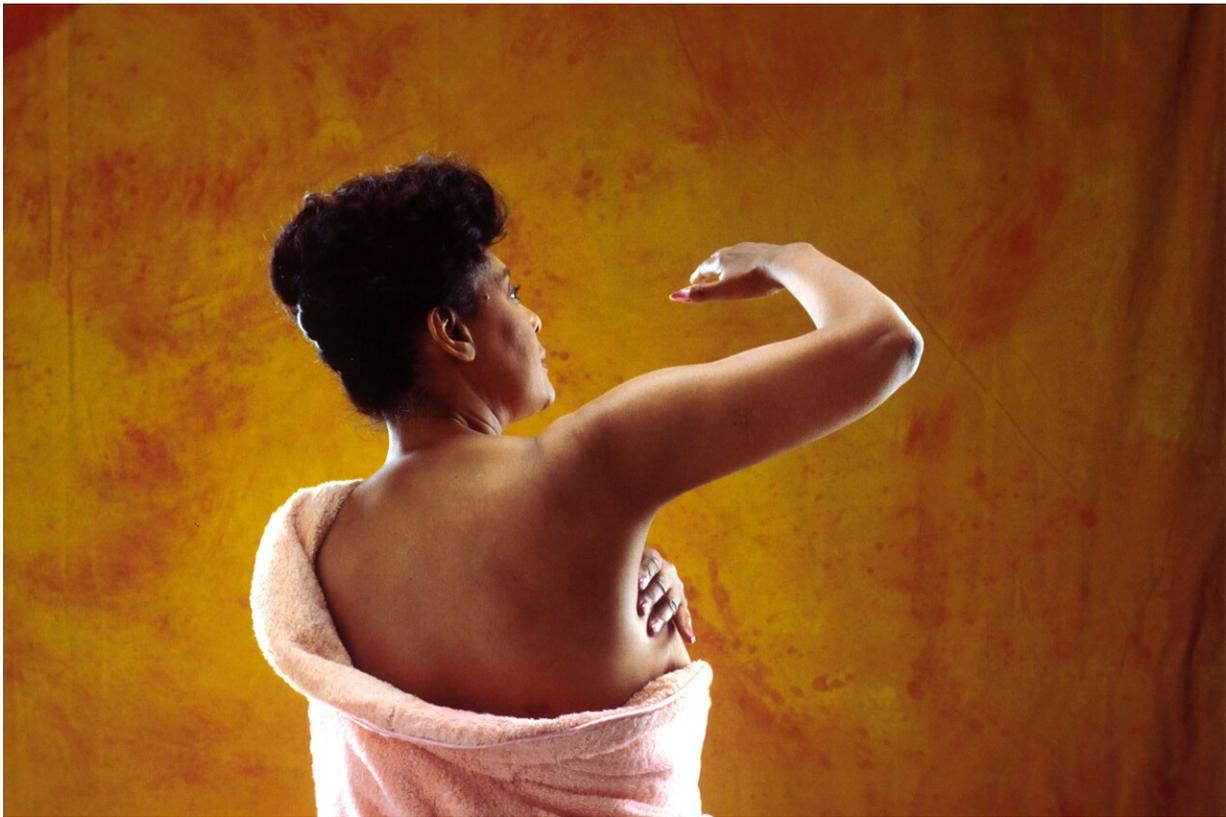# Medical Xpress

Statins may improve survival for triple-negative breast cancer patients

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A study led by researchers from The University of Texas MD Anderson Cancer Center found a significant association between cholesterol-lowering drugs commonly known as statins and survival rates of triple-

negative breast cancer patients. Since statins are low in cost, easy to access and produce minimal side effects, this could have an important impact on outcomes for this aggressive disease.

The study, led by Kevin Nead, M.D., assistant professor of Epidemiology, was published today in *Cancer*. This research extends the current knowledge of the association between statin use and triple-negative breast cancer (TNBC), and it is the first study that was adequately powered to investigate the association of statins and aggressive breast cancer subtypes.

Researchers found a 58% relative improvement in breast cancer-specific survival and a 30% relative improvement in overall survival with statin use. The median follow-up was 3.3 years for breast cancer-specific survival and 4.4 years for overall survival.

"There is already a body of literature on statins and breast cancer and the results have been inconsistent," Nead said. "Previous research has looked at breast cancer as only one disease, but we know there are many subtypes of breast cancer and we wanted to focus our research on this particularly aggressive form of breast cancer that has limited effective treatment options."

TNBC is an aggressive disease that makes up roughly 10% to 20% of breast cancer diagnoses. Triple-negative means that the breast cancer doesn't have estrogen or progesterone receptors or HER2 positivity, which are the three most common receptors for breast cancer. This combination results in a highly aggressive breast cancer with poor prognosis and limited treatment options since there are few receptors to actively target with existing therapies.

The retrospective study selected patients included in the Surveillance, Epidemiology, and End Results (SEER)-Medicare registry and the Texas

Cancer Registry (TCR)-Medicare, two large databases of administrative claims of Medicare-eligible patients. Patients were required to have Medicare Part D prescription coverage to determine their statin use.

The research included data from 23,192 women over age 66 with stage I-III breast cancer. From that patient cohort, 2,281 were incidental statin users, meaning they started a statin within one year following their breast cancer diagnosis. The incidental statin users were 78.1% white, 8.9% Black, 8.4% Hispanic and 4.5% other.

Analysis by breast cancer stage suggested that the association of incidental statin use with improved outcomes may be stronger in women with early stage TNBC. When examining statin intensity, high-intensity statin use had the strongest effect on overall survival among women with TNBC. Researchers also found a statistically significant association between lipophilic statins (L-statin: simvastatin, atorvastatin, lovastatin, fluvastatin, pitavastatin) and improved overall survival.

"We know that statins decrease breast cancer cell division and increase cell death," Nead said. "Our study shows that there is an association between statins and improved outcomes in TNBC, and it is time to pursue this idea further in a prospective trial."

Prospective trials are needed to validate these study results and to better define the potential role of statins in TNBC treatment.

Provided by University of Texas M. D. Anderson Cancer Center

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