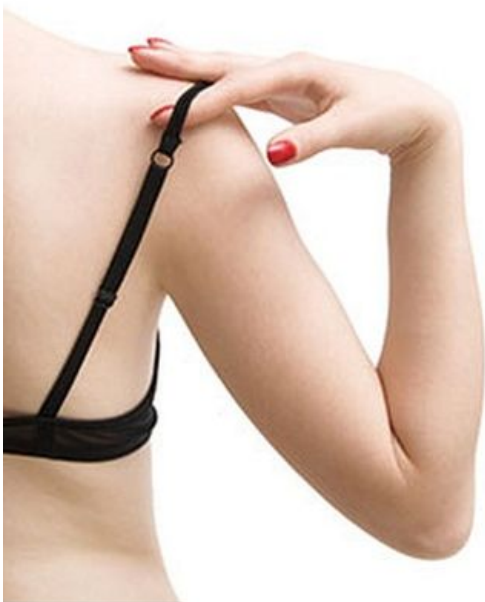


# Could breast milk tests replace mammograms?

April 24 2017, by Kathleen Doheny, Healthday Reporter

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(HealthDay)—Breast-milk analysis may someday offer an alternative to



mammograms for women in their childbearing years, new research suggests.

Because mammography isn't well-suited to the dense breasts of [younger women](#), scientists have begun looking for other viable [breast-cancer](#) screening tools.

In a preliminary study, researchers report promising results with a new technique: evaluating [breast milk](#) for signs of cancer.

"We have found alterations in protein expression in the breast milk of [women](#) with breast cancer compared to women without breast cancer," said study first author Roshanak Aslebagh.

"Those proteins might be a potential biomarker of breast cancer," said Aslebagh, a doctoral candidate at Clarkson University in Potsdam, N.Y.

A "biomarker" can be an indicator of a disease process, a normal biological process or responses to medication. In this case, it indicates disease, the researchers said.

"It's a pilot study and we have only 10 samples," Aslebagh said. More work is needed to confirm the results. Even so, she said the research builds on previous work with similar findings.

Detecting cancer in young women can be difficult, Aslebagh said.

Younger women tend to have breast tissue that is dense, rather than fatty. "Imaging doesn't work that well for dense breast tissues," she said, noting cancers are more readily detected in fatty breast tissue.

Moreover, "when women get breast cancer before age 40, it can be an aggressive form, making early detection even more crucial, Aslebagh



said.

Breast milk provides access to epithelial cells shed from [breast tissue](#), the study authors explained. Most breast cancers originate in these cells, the researchers said.

In this study, Aslebaugh's team looked at 10 samples of breast milk from eight women. Five samples were from women who had breast cancer or developed it; five samples were from healthy breasts. Two women served as their own "controls," providing a sample from their healthy breast and a sample from the breast with cancer.

The participants' ages ranged from 24 to 38. All were presumed to be breast-feeding, Aslebaugh said.

The researchers found several chemical differences in the milk from cancerous breasts.

If the results bear out in additional study, breast milk analysis might be a way to not only detect breast cancer early but to predict the risk of getting it, too, Aslebaugh said.

The study findings are not surprising, said Kurt Zhang, an associate professor of pathology at the University of North Dakota.

In his own prior research, Zhang has found that a family history of breast cancer predicts the way proteins will be produced in [breast milk](#).

"Cancer development alters the protein compositions in body fluids," said Zhang, who wasn't involved in the new study.

"For example, we have identified a number of protein biomarkers [of [cancer](#)] in nipple aspirate fluid. The question remains how early the



biomarker can be identified," he said.

Zhang, too, emphasized that much larger studies are needed to validate the results.

Aslebagh is due to present the findings Saturday at the American Society for Biochemistry and Molecular Biology annual meeting, in Chicago. Study results presented at medical meetings are usually viewed as preliminary until published in a peer-reviewed journal.

**More information:** Roshanak Aslebagh, Ph.D. candidate, Clarkson University, Potsdam, N.Y.; Kurt Zhang, Ph.D., associate professor, pathology, University of North Dakota, Grand Forks; April 22, 2017, presentation, American Society for Biochemistry and Molecular Biology annual meeting, Chicago

To learn more about breast cancer and pregnancy, visit the [U.S. National Cancer Institute](#).

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