

RSNA Press Release

Age Affects Short-term Quality of Life After Breast Biopsy

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Media Contacts:

RSNA Media Relations: 1-630-590-7762

Linda Brooks
1-630-590-7738
lbrooks@rsna.org

Maureen Morley
1-630-590-7754
mmorley@rsna.org

OAK BROOK, Ill. — Breast biopsies can adversely affect short-term quality-of-life, and the effects are more pronounced in younger patients, according to a new study published online in the journal *Radiology*.

More than 500,000 women in the United States have a breast biopsy each year. In the percutaneous method, a physician uses a needle to remove several small samples from the area of interest for pathological analysis. Percutaneous biopsies are associated with fewer complications than the surgical approach, but there are still significant short-term side effects, including pain and emotional distress.

"Short-term experiences can have a long-term impact," said Janie M. Lee, M.D., M.Sc., former staff radiologist at Massachusetts General Hospital (MGH) in Boston and assistant professor at Harvard. "If people have a less than positive experience during biopsy, then they might be less likely to come back for screening the next time they are due."

To learn more about the impact of percutaneous biopsy, researchers at MGH surveyed women two to four days after the procedure. They used a tool called the Testing Morbidities Index (TMI), a survey that assesses short-term quality of life based on seven attributes, including pain/discomfort and fear/anxiety before and during the procedure, and physical and mental function afterwards.

The patients rated each characteristic on a scale of one to five, and the final score was adjusted to a scale ranging from 0 for the worst possible experience to 100 for no adverse quality-of-life effects.

At A Glance

- Breast biopsies can adversely affect short-term quality-of-life, particularly in younger women.
- Researchers surveyed 188 breast-biopsy patients, ranging in age from 22 to 80 years.
- The study findings suggest that tailored pre-biopsy counseling may better prepare women for percutaneous biopsy procedures.



Janie M. Lee, M.D., M.Sc.

The 188 women, ranging in age from 22 to 80 years, had a mean TMI score of 82 out of 100. Patient age was the only significant independent predictor of the TMI score, which decreased by approximately three points for every decade decrease in patient age. The mean TMI score for women less than 40 years old was 76.4.

"The most important result from this study is that women have short-term decreases in quality of life related to breast biopsy," said Dr. Lee, who has since moved to the University of Washington School of Medicine in Seattle, where she is associate professor of radiology, as well as the director of breast imaging at Seattle Cancer Care Alliance. "When we looked at the predictors of quality-of-life score, we found that the strongest predictor is younger age."

Dr. Lee noted that the results are surprising at first glance, considering that younger women as a group generally are healthier than their older counterparts. She pointed to the significant role of anxiety as a major factor in explaining the differences.

"The prospect of life-threatening disease can produce a lot of anxiety in anyone," Dr. Lee said. "Younger women typically have less experience with the health care system in general, and it may be their first time going through a diagnostic testing experience."

The study findings suggest that tailored pre-biopsy counseling may better prepare women for percutaneous biopsy procedures.

"By better explaining what patients can expect during the biopsy experience, we can minimize anxiety before and after the procedure," Dr. Lee said.

Researchers at MGH, led by Shannon Swan, M.D., are using the TMI tool to study other screening experiences like colonoscopy to learn ways to improve the diagnostic testing process for patients.

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"Percutaneous Breast Biopsy: Effect on Short-term Quality of Life." Collaborating with Drs. Lee and Swan were Kathryn L. Humphrey, M.D., Karen Donelan, Sc.D., Chung Y. Kong, Ph.D., Olubunmi Williams, M.D., M.P.H., Omosalewa Itauma, M.D., M.P.H., Elkan F. Halpern, Ph.D., Beverly J. Gerade, N.P., and Elizabeth A. Rafferty, M.D.

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