JAMA: Breast implants interfere with mammograms, Group Health study finds

SEATTLE—Breast implants decrease the ability of mammography to detect breast cancer, according to a large national study led by researchers from Group Health Cooperative’s Center for Health Studies (CHS) and six other institutions that participate in the NIH-funded Breast Cancer Surveillance Consortium. This study is published in the January 28 issue of the Journal of the American Medical Association.

The study found that screening mammography missed 55 percent of breast cancers in women with implants, compared to only 33 percent among women without implants.

“With breast implants on the rise, it’s important to know whether implants interfere with the detection of breast cancer,” said Diana L. Miglioretti, PhD, an investigator at CHS and the lead author of the article. More than 260,000 women in the United States received breast implants for cosmetic reasons in 2002, an increase of 11 percent since 2000.

Breast implants make mammograms more difficult to read because the implants show up as a solid white mass on the mammography film, blocking the view of breast tissue, Miglioretti explained.

The researchers also found that although mammography does not find cancer as well in women with implants, this problem does not result in more advanced cancers at diagnosis. Women with implants were diagnosed with cancers of similar stage and size as women without implants. Even among women with implants who had breast symptoms such as a breast lump, the tumors were not more advanced. In fact, among the subset of women with symptoms, women with implants had smaller tumors than women without implants.
In addition, the study showed that breast implants do not cause more false-positive mammography results compared to women without implants.

The researchers suggested several possible reasons for finding little difference in tumor characteristics among women with implants and women without implants, despite the way implants interfere with mammography. It may be that women with implants detect cancer more easily than other women because they have less of their own breast tissue or because the implant provides a firm platform to press against, which may make the tumors more noticeable. Also, women with breast implants are told to check their breasts often for any problems, so they may be more likely to find lumps on their own. In addition, women with implants may be more body conscious and seek medical advice more quickly if they have a symptom. “We really don’t know for certain,” said Miglioretti.

The researchers advise women with breast implants, as well as all women, to continue getting their mammograms at recommended intervals. “While mammography is less sensitive for women with implants, it did catch 45 percent of their cancers and it’s still the best method for early detection of breast cancer,” Miglioretti said.

The researchers further advise women with implants to:

- Contact your physician right away if you find a lump or detect other problems with your breasts. Do this even if you recently had a normal mammogram.

- Use a mammography facility that has experience with implants.

- Tell the mammography staff about your implants when you schedule your exam so that the staff can perform additional imaging using a technique called implant displacement views, which moves the implant out of the way to allow a better view of breast tissue.

**How the study was conducted**

Data on more than 1.7 million women who had mammograms was collected from seven mammography registries in Colorado, New Hampshire, New Mexico, North Carolina, San Francisco, Seattle, and Vermont. From these, they found 137 women with implants who had breast cancer, and they matched them with 685 women without implants who had breast cancer. After determining which women had had a
screening mammogram within a year of breast cancer diagnosis, they calculated the proportion of these women whose breast cancer was detected by mammography.

This allowed the researchers to determine that mammography was more likely to miss cancers in women with implants. When they looked at cancer characteristics, such as tumor stage and size, they found no difference between the cancers in women with implants and women without implants.

Funded by the National Cancer Institute, the study was conducted by the Breast Cancer Surveillance Consortium, a group of seven mammography registries nationwide that combines their data and links mammogram interpretations with cancer outcomes. Group Health’s Center for Health Studies serves as the Statistical Coordinating Center for the Consortium.

In addition to Miglioretti, the study’s authors include Carolyn M. Rutter, PhD, and William E. Barlow, PhD, of Group Health’s Center for Health Studies; Berta M. Geller, EdD, and Donald L. Weaver, MD, of the University of Vermont; Gary Cutter, PhD, of the University of Nevada; Robert Rosenberg, MD, of the University of New Mexico; Stephen H. Taplin, MD, and Rachel Ballard-Barbash, MD, MPH, of the National Cancer Institute; Patricia A. Carney, PhD, of Dartmouth Medical School; Bonnie C. Yankaskas, PhD, of the University of North Carolina; and Karla Kerlikowske, MD, of University of California, San Francisco.

About Group Health Cooperative and the Center for Health Studies
Group Health Cooperative’s Center for Health Studies conducts research related to prevention, diagnosis, and treatment of major health problems. Funded primarily through government and private research grants, the Center is located in Seattle, Washington. Group Health is a consumer-governed, nonprofit health care system that coordinates care and coverage. Based in Seattle, Group Health and Group Health Options, Inc. serve nearly 560,000 members in Washington and Idaho.

Please visit the virtual newsroom on our Web site, www.ghc.org under “Newsroom.”