

## Volume 11 - Issue 4, 2011 - Cover Story: Controversies in Breast Screening

### Responding to U.S. Guidelines Against Routine Screening in the 40 – 49 Age Group

---

Author

**Dr. Jan H. Wong**

*Division of Surgical Oncology, Brody School of Medicine*

*East Carolina University Greenville, North Carolina*

[wongi@euc.edu](mailto:wongi@euc.edu)

Over the last two decades, convincing evidence has emerged that mammographic screening has contributed to a significant reduction in breast cancer mortality. Mammographic screening is especially important in the diagnosis of early stage breast cancer, which relies primarily on non-palpable mammographic abnormalities for detection. Age is a significant risk factor for developing breast cancer. The risk of developing breast cancer below the age of 40 in a normal risk population is very low, but increases in a linear fashion thereafter and is the basis for The National Comprehensive Cancer Network (NCCN) guidelines that suggest annual clinical breast examination, breast awareness and annual mammography beginning at age 40 in women of average risk.

#### **New Guidelines Cause Controversy**

In November of 2009, the United States Preventive Services Task Force (USPSTF) issued new breast cancer screening guidelines and recommended against routine screening mammography in women aged 40 to 49 years of age. This recommendation was not based upon new data disputing the benefit of screening mammography in this age group, but only "that there is a moderate certainty that the net benefit (of screening mammography in this age group) is small" when the metric utilised is the number needed to screen to save one life. Understandably, this generated considerable debate that resulted in an addendum that stated in part that the decision to screen should take into account "the patient's values regarding specific benefits and harm".

Evidence supports that women invited to participate in a regular programme of mammographic screening beginning at age 40 and continuing annually have a reduction in breast cancer mortality when compared to women who are not invited to participate in similar screening programmes. We consider this reduction in breast cancer mortality significant. Although the reduction in mortality increases during the 6th and 7th decade of life this reduction in breast cancer mortality is not insignificant in the younger age group (age 40 - 49 years).

#### **Potential Harmful Effects of Screening**

Mammographic screening has a number of potential harmful effects including the monetary cost to the patient and society, less tangible cost to the women such as false positives, unnecessary biopsies, and over diagnosis of a disease that is destined never to be clinically relevant, and finally the potential physical harm resulting from the radiation received from regular screening mammography. Discussions of the monetary and societal costs are beyond the scope of this article as these calculations are often very complex and the results can be quite disparate. However, these costs are implicit in the guidelines of the USPSTF recommendations.

The potential for physical harm based upon the radiation exposure received during routine screening is of concern. This is based upon the possibility that the radiation received from screening mammography may induce breast cancer. The induction of breast cancer by radiation is dependent on the age of the individual, the duration of exposure to ionizing radiation and the underlying risk of developing breast cancer. A comprehensive analysis of this issue supports a detection/induction ratio markedly in favour of screening mammography above age 40. Eastern North Carolina faces unique healthcare challenges. A largely rural part of the state, the twenty-nine counties that comprise that region of the state of North Carolina is the only region of the state in which mortality from breast cancer has continued to increase.

#### **Access to Healthcare a Problem**

Access to healthcare remains a significant problem and the ability to provide technology to a rural population has resulted in a system in which much of the breast imaging is centred in the single urban centre of the region where there is an American College of Radiology (ACR) approved facility and is the hub of a group of 14 mammography sites throughout eastern North Carolina. Imaging is performed in smaller communities and digitally transmitted to a breast imaging specialist for interpretation. To discourage screening based upon USPSTF recommendations in our environment in which the mortality from breast cancer continues to rise, in our opinion, is potentially counterproductive and may cost society more considering the monetary cost of treating advanced breast cancer.

Eastern North Carolina is the only region of the state in which mortality from breast cancer has continued to increase.

#### **Our Guidelines for Cancer Screening**

We screen three distinct populations: normal risk individuals, breast cancer survivors, and individuals at increased high risk for developing breast cancer based upon BRCAPRO or other predictive models. We continue to advocate that individuals who are considered to be at average risk for developing breast cancer be invited to begin annual mammographic screening at age 40 and to continue annually for as long as a woman remains healthy. We encourage screening for breast cancer in apparently healthy populations by primary care providers of eastern North Carolina starting at age 40 and continuing annually as long as a woman is healthy, and referral is made to a breast centre in the case of abnormal mammographic and/or physical examination findings.

Women who are at increased risk for developing breast cancer warrant special attention. For this reason, we have a specialty High Risk Assessment Clinic at the Brody School of Medicine to evaluate and quantitate the risk of an inherited predisposition to breast and ovarian cancer based mainly on family history. Women identified to have a risk in excess of five percent of having a deleterious BRCA 1/2 mutation or a lifetime risk in excess of 20 percent of developing breast cancer are offered genetic testing as well as a more intense screening programme with the consideration of breast MRI alternating with annual mammography in those who elect not to have prophylactic surgery.

Survivors of breast cancer are followed in our breast centre with an initial mammogram, six months following completion of definitive radiation and then as appropriate, to assure stability of surveillance of mammographic abnormalities as recommended by the American Society of Clinical Oncology.

#### **Steady Flow of Attendees**

Since late 2008, we have observed a relatively steady number of women undergoing screening with some decrease in late 2009 and early 2010. From a high of approximately 1,600 screening mammograms in October of 2009 to a low of approximately 1,100 screening mammograms performed in December of 2009, we have observed a return to previous levels and now exceed pre-USPSTF recommendations for mammographic screening numbers in all age groups. The decrease was not age-associated as the number of screening mammograms in the 5th, 6th, and 7th decades of life all decreased in parallel and suggest that factors other than the USPSTF recommendations account for the variations observed.

#### **Conclusions**

Screening mammography is not a perfect breast cancer screening tool. Despite inherent limitations and costs of the technology, we consider the evidence that screening mammography saves lives to be powerful. We have not observed a change in practice in screening mammography in eastern North Carolina since the publications of the USPSTF recommendations of November 2009 and continue to advocate that average risk women be invited to participate in a mammographic screening programme starting at age 40.



Published on : Fri, 30 Dec 2011