Effective Health Care

Needle Biopsies for Irregular-Shaped Calcium Deposits in Breasts

Results of Topic Selection Process & Next Steps

- *Needle Biopsies for Irregular-Shaped Calcium Deposits in Breasts* reflects an interest of patients and consumers in potential diagnosis strategies. This topic was found to be addressed by a current AHRQ systematic review. Given that this existing systematic review addresses this nomination, no further activity will be undertaken on this topic. AHRQ has also developed research summaries based on the AHRQ systematic review for clinicians and consumers which may be useful to the nominator.
    - Dahabreh IJ, Wieland LS, Adam GP, Halladay C, Lau J, Trikalinos TA. Core Needle and Open Surgical Biopsy for Diagnosis of Breast Lesions: An Update to the 2009 Report. Comparative Effectiveness Review No. 139. (Prepared by the Brown Evidence-based Practice Center under Contract 290-2012-00012-I.) AHRQ Publication No.14-EHC040-EF. Rockville, MD: Agency for Healthcare Research and Quality. September2014. www.effectivehealthcare.ahrq.gov/reports/final.cfm.
    - Consumer Summary: Having a breast biopsy: a review of the research for women and their families. AHRQ Pub. No. 14(16)-EHC040-A-EF. May 2016. https://www.effectivehealthcare.ahrq.gov/ehc/products/543/2234/breast-biopsy-update-160524.pdf
    - Clinician Summary: Core-Needle Biopsy for Breast Abnormalities. AHRQ Pub. No. 14(16)-EHC040-3-EF. May 2016. https://www.effectivehealthcare.ahrq.gov/ehc/products/543/2233/breast-biopsy-update-clinician-160524.pdf

Topic Description

Nominator(s): Individual

Nomination Summary: The nominator is interested in the value and findings of needle biopsies for patients with irregular-shaped calcium deposits in the breast. Specifically, the nominator is interested in elderly women who have had multiple pregnancies and no cysts identified on mammograms.

Key Questions from Nominator:

1. For patients with irregular-shaped calcium deposits in the breast, what is the value and findings of needle biopsies for this condition?

Considerations

- The topic meets EHC Program selection criteria. (For more information, see http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.)

- Breast abnormalities may be identified by breast self-examination, physical examination by a clinician, or mammogram. For example as noted by the nominator, calcifications may be seen on a mammogram. Core needle biopsies are often used for the diagnosis of suspicious breast lesions. Using ultrasound and stereotactically guided core needle biopsy procedures have been shown to result in fewer adverse events than open biopsy procedures. Having a lower risk of complications increases the value of this procedure. According to the nominator, investigating core needle biopsies for irregular shaped calcium deposits in the breast will help to inform decisions regarding diagnosis techniques, and educate patients on the value of receiving such a procedure.

- There are two systematic reviews pertaining to diagnostic testing for breast abnormalities. A 2009 review on the comparative effectiveness and adverse events for breast biopsy methods was updated in 2014 to include new biopsy techniques.[1] This review concluded that the strength of evidence suggesting women who were diagnosed with breast cancer using a core needle biopsy were more likely to have their cancer treated with a single surgical procedure when compared to women diagnosed by open surgical biopsy was moderate. This suggests that though future research may change the conclusions of the topic, there is currently sufficient evidence to trust this conclusion. The review also explored patient, clinician and factors that may affect test performance and harms. Patient factors included age, race/ethnicity, and whether a lesion was palpable.

- The second systematic review was published in 2012 as an update to a 2006 systematic review on noninvasive diagnostic tests for breast abnormalities.[2] The conclusions of the key questions were determined to be up-to-date in 2013. However, due to the age of the review, it was archived in 2015. Though this review does not examine core needle biopsies, it does shed light on the diagnostic decision-making process that occurs after abnormalities are detected during routine screening, such as mammograms, and/or clinical or self-detection of a palpable lesion. This review suggests that only 20-30% of women who undergo biopsies are diagnosed with breast cancer, meaning a high rate of women endure invasive procedures when noninvasive techniques may have been viable diagnostic options.

References

1. Dahabreh IJ, Wieland LS, Adam GP, Halladay C, Lau J, Trikalinos TA. Core Needle and Open Surgical Biopsy for Diagnosis of Breast Lesions: An Update to the 2009 Report. Comparative Effectiveness Review No. 139. (Prepared by the Brown Evidence-based Practice Center under Contract 290-2012-00012-I.) AHRQ Publication No.14-EHC040-EF. Rockville, MD: Agency for Healthcare Research and Quality. September2014. www.effectivehealthcare.ahrq.gov/reports/final.cfm.

2. Bruening W, Uhl S, Fontanarosa J, Reston J, Treadwell J, Schoelles K. Noninvasive Diagnostic Tests for Breast Abnormalities: Update of a 2006 Review. Comparative Effectiveness Review No. 47. (Prepared by the ECRI Institute Evidence-based Practice Center under Contract No. 290-02-0019.) AHRQ Publication No. 12-EHC014-EF. Rockville, MD: Agency for Healthcare Research and Quality; February 2012. www.effectivehealthcare.ahrq.gov/reports/final.cfm.

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Original Nomination

Topic Suggestion Description

Date submitted: June 23, 2012

Briefly describe a specific question, or set of related questions, about a health care test or treatment that this program should consider.

For patients with irregular shaped calcium deposits in the breast what is the value and findings in needle biopsies for this condition? It applies to elderly women who have had multiple pregnancies, with several calciums that are irregularly shaped. Is this a definitive symptom of a malignancy?

Importance

Describe why this topic is important.

I have been researching the incidence of irregular calcium deposits and have found no stats or literature regarding the needle biopsy and the above abnormal calcium deposits on mammogram which was found on my routine mammo. A needle biopsy is to be done within a week and I am anxious to know how important my problem is. Coincidently I am asymptomatic and no cysts detected on mammo.

Potential Impact

How will an answer to your research question be used or help inform decisions for you or your group?

Since my needle biopsy is next week, I think some writings on my proposal would help educate others with the same questions.

Technical Experts and Stakeholders

Are there health care-focused, disease-focused, or patient-focused organizations or technical experts that you see as being relevant to this issue? Who do you think we should contact as we consider your nomination? This information will not influence the progress of your suggestion through the selection process, but it may be helpful to those considering your suggestion for further development?

No answer provided.

Nominator Information

Other Information About You: (optional)

Please choose a description that best describes your role or perspective: (you may select more than one category if appropriate)

Patient/Consumer
Nurse/Nurse Practitioner/Physician Assistant

May we contact you if we have questions about your nomination?

No answer provided.