

Pathology 2106: Breast and axillary masses: Diagnostic method in comparison with results of pathology - Koorosh Ahmadi - Alborz University of Medical Sciences, Iran.

Koorosh Ahmadi

Alborz University of Medical Sciences, Iran.

Introduction: Breast and axillary masses are among the most common breast diseases. If they exist, their analysis is necessary to reject their malignancy. Valuable diagnostic methods for this case are fine needle aspiration (FNA), tactile impression, crushed impression and pathology. In this study, we investigated the epidemiological and clinical features of the disease and compared the results of the first three methods with the results of pathology.

Methods and Materials: This study was steered on 107 patients from Shohada Ashayer Hospital in Khorramabad, who suffered from breast and axillary masses and included 111 breast mass samples and 43 axillary mass samples. The epidemiological and clinical characteristics of the patients were collected using a questionnaire. The samples were collected during the operations. The results of the FNA, Touch Print and Crush Print methods were compared with the postoperative pathology results. Diagnostic values including sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV), percent positive lie, and percent negative lie were estimated for all three methods.

A breast lump is a lump that grows in the breast. Depending on the type, breast lumps can be large or small and may appear hard or spongy. Some bumps cause pain, while others go unnoticed until they are identified on an imaging test.

A lump can be found by a woman doing a breast self-exam or by her health care provider during a physical exam. Suspicious bumps can also be detected during the annual screening mammogram. Although rare, breast lumps can occur in men.

Most breast lumps are benign (not cancerous). Proving that a lump is not cancer often involves imaging tests. One or more of the following imaging tests may be done: mammogram: mammography uses low-dose x-rays to examine the breasts. This type of imaging involves exposing the breasts to a small amount of ionizing radiation to get images of the inside of the

Breasts. Either two single images or two tomosynthesis images (also called a 3D mammogram) are taken of each breast to begin the assessment. Additional images may be required. See the Safety page for more information on X-rays. Breast ultrasound: Breast ultrasound uses sound waves to create images of the inside of the breasts. The breast ultrasound can capture images of areas of the breast that may be difficult to see with the mammogram. It can also help determine if a breast lump is solid or fluid.

Breast MRI: Breast MRI uses a strong magnetic field, radio frequency pulses, and a computer to produce detailed images of the inside of the breasts. MRI is useful for evaluating breast lumps that are not visible on a mammogram or ultrasound, although it is not suitable for all women. Breast MRI requires the injection of contrast product. If a lump is found to be benign by its appearance on these exams, no further action should be taken. Your doctor may want to monitor the area on future visits to check if the breast lump has changed, grown, or gone. If these tests do not clearly show that the lump is benign, a biopsy may be necessary.

Ultrasound Guided Biopsy: Throughout this type of biopsy, using ultrasound imaging to find the mass, a radiologist will administer local anesthesia and then advance a thin sampling needle through the mass to take tissue for a microscope evaluation. The biopsy procedure is frequently quick, but it may take a few days formerly the final tissue analysis (pathology report) is ready.

Stereotaxic biopsy (x-ray guided): Throughout this type of biopsy, using a digital mammography x-ray machine to image the affected area, a radiologist will administer local anesthesia and then position a needle. Sampling at this site to collect thin tissue samples for further evaluation.

MRI-guided biopsy: Throughout this kind of biopsy, expanding an MRI machine to locate the area of concern, a radiologist will administer local anesthesia and then position a sampling needle at this site to take samples of thin tissues for further evaluation.

Often, the radiologist will place a small metal marker

(about the size of a sesame seed) in the area where the tissue was taken so that any residual lump does not require further testing if seen on future mammograms. If you need a biopsy, it is important to choose a specialized facility, preferably one where radiologists specialize in breast imaging. A measure of an institution's expertise in breast biopsy can be found in its ACR accreditation status. Check the facilities in your area by searching the database for ACR accredited facilities.

Results: Comparison of the diagnostic values of Touch Print and Crush Print with the pathology of breast cancer showed a sensitivity of 97.8%, a specificity of 100%, a positive predictive value of 100%, a negative predictive value of 98.4%, a positive lying percentage of 0% and negative lying percentage of 2.2% and for the metastatic axillary lymph nodes, sensitivity of 90%, specificity of 95.6%, positive predictive value of 94.7%, value Negative predictive of 91.6%, percent positive lie of 4.4% and percent negative lie of 10% were obtained. Comparison between diagnostic values of FNA with breast cancer pathology showed sensitivity, specificity, positive predictive value, negative predictive value, percent positive lie and negative lie percentage of 80.4%, 98%, 97.3%, 87.6%, 2% and 19.6%, respectively and for metastatic axillary lymph nodes, they were 80%, 95.6%, 94.1%, 84.6%, 4, 4% and 20%, respectively. Comparison of diagnostic values of FNA with Touch Print and Crush Print for breast cancer reported sensitivity, specificity, positive predictive value, negative predictive value, percent lie positive, and percent lie negative at 82, 2%, 89%, 97.3%, 89%, 1.6% and 17.8%, respectively and for metastatic axillary lymph nodes they were 84.2%, 95.8%, 94.1% , 88.4%, 14.2% and 15.8%, respectively.

Conclusion: benign fibroadenoma and malignant ductal carcinoma were the most frequent. Considering the importance of correct diagnostic values for breast cancer and metastatic axillary lymph nodes and the high sensitivity, specificity and positive predictive value of Touch Print and Crush Print, the use of these methods, compared to pathology, can reduce the cost, time and need for a second surgery and its complications.