2017 Women’s Health Conference

Body & Soul: Discovering a Healthy U

California Lutheran University
Thousand Oaks
Jane Dascalos, MD
Lead Radiologist
UCLA Santa Clarita Imaging and Interventional Center
Breast Imaging ABC’s

Jane Descalos, MD
October is Breast Cancer Awareness Month

• 1 in 8 women will be diagnosed with breast cancer in her lifetime

• Breast cancer is the most common form of cancer in women in the U.S.
American College of Radiology

• The American College of Radiology recommends annual screening mammography for women starting at age 40. This affords the maximum benefits of reduced breast cancer deaths, less extensive treatments for cancers that are found, decreased chance of advanced disease at diagnosis, and discovery and treatment of high risk lesions. Breast cancer incidence increases substantially around age 40.
American Cancer Society for women at average risk

• **Women ages 40 to 44** should have the choice to start annual breast cancer screening with mammograms if they wish to do so. The risks of screening as well as the potential benefits should be considered.

• **Women age 45 to 54** should get mammograms every year.

• **Women age 55 and older** should switch to mammograms every 2 years, or have the choice to continue yearly screening.
• Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer.
Women who are at high risk for breast cancer based on certain factors should get an MRI and a mammogram every year. This includes women who:

- Have a lifetime risk of breast cancer of about 20% to 25% or greater, according to risk assessment tools that are based mainly on family history
- Have a known \textit{BRCA1} or \textit{BRCA2} gene mutation
• Have a first-degree relative (parent, brother, sister, or child) with a BRCA1 or BRCA2 gene mutation, and have not had genetic testing themselves

• Had radiation therapy to the chest when they were between the ages of 10 and 30 years

• Have Li-Fraumeni syndrome, Cowden syndrome, or Bannayan-Riley-Ruvalcaba
Services Performed at UCLA

- Digital Screening mammography
- Digital tomosynthesis (3D)
- Screening Ultrasound
- Digital Diagnostic mammography
- Diagnostic Ultrasound
- Diagnostic and Screening Breast MRI
Screening Mammogram

- Performed in an asymptomatic patient to search for possible occult (hidden) breast carcinoma.
Diagnostic Mammogram

- Performed in a symptomatic patient most commonly with pain or a lump to evaluate for possible breast carcinoma or other causes of the patient’s symptoms
Diagnostic & Screening Ultrasounds

- **Diagnostic ultrasound**: Performed to further evaluate a mammographic finding or to evaluate an area of pain or lump.

- **Screening ultrasound** may also be performed in high risk patients or patients with dense breasts.
Biopsy Procedures

• Ultrasound and mammogram (stereotactic) guided biopsies including 3D MRI guided biopsies
Breast Density

| The breasts are almost entirely fatty |
| There are scattered areas of fibroglandular density |
| The breasts are heterogeneously dense, which may obscure small masses |
| The breasts are extremely dense, which lowers the sensitivity of mammography |

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Goal of screening mammography is early detection
Example of early detection in a patient who presented for screening mammography with no complaints

• Prior analog mammogram on left-- present digital mammogram on right -- Importance of prior mammogram for comparison
Additional Diagnostic Views
Ultrasound image demonstrates elastography on the right image.
Patient had a needle guided biopsy done with ultrasound guidance. A small biopsy marker was placed to confirm the ultrasound and mammogram findings correlate. Biopsy confirmed a very early 5mm Stage I breast cancer.
Next MRI was performed to make sure there were no additional abnormalities as MRI is the most sensitive study for diagnosing breast cancer. No other abnormalities were seen.
Another example of a small breast cancer detected on screening mammogram which was non-palpable
Example of a patient with no prior screening mammogram who presented with complaint of a lump
Patient’s breast MRI
Early detection (mammogram) vs. late (palpable)
Example of a patient with no prior screening mammogram who presented with complaints of right upper abdominal pain shown to have liver masses on CT. Liver biopsy showed metastatic cancer to the liver. Patient was sent for mammography and ultrasound for suspected breast carcinoma after breast exam.
Note the marked asymmetry from the left to the right breast.
Ultrasound
breast mass          lymph node
Biopsy proved breast cancer
Goal until we have a cure is **EARLY DETECTION**
Example of an ultrasound guided biopsy (arrows show course of biopsy needle)
Wire localizations prior to surgery with both ultrasound, mammographic, and MRI guidance.
Questions?

Thank You

Jane Dascalos, MD
Lead Radiologist
UCLA Santa Clarita Imaging and Interventional Center
JDascalos@mednet.ucla.edu