Management of Palpable Abnormalities in the Breast
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SAM Questions

1. 21 year old female presenting with left breast palpable mass, what is the most appropriate initial imaging evaluation?
   A. Unilateral left mammogram
   B. Bilateral diagnostic mammogram
   C. Left breast ultrasound
   D. Bilateral screening mammogram
   E. MRI

Answer: C

Rationale: Due to a low incidence of breast malignancy in women younger than 30 (< 1%), (1) and the fact that most benign breast lesions in young women are not visualized on mammography (2-4), ultrasound is the main modality for initial imaging assessment of a palpable mass in women 30 years of age or younger. In several series the sensitivity of an ultrasound in symptomatic women younger than 40 was 96-100% and NPV of 100% (5-7).


2. 21 year old woman presented with a palpable left breast abnormality. Targeted ultrasound demonstrated an irregular, poorly circumscribed, not parallel mass correlating to palpable area of concern. What is the most appropriate BIRADS and further recommendations?
   A. BIRADS 3, 6 months follow up ultrasound
   B. BIRADS 2, clinical correlation
   C. BIRADS 4, Diagnostic bilateral mammogram and biopsy
   D. BIRADS 3, 6 months clinical follow up

Answer: C

Rationale: The above-described sonographic features denote a higher risk of malignancy than 2%, therefore short interval follow up would not be appropriate and tissue sampling is recommended (1). Although it would not obviate the need for tissue sampling, given suspicion of malignancy, it is prudent to perform a bilateral diagnostic mammogram to evaluate for extent and additional ipsilateral and contralateral disease (2,3).


3. 25 year old presenting with right breast palpable area of concern. Ultrasound was performed and demonstrated no sonographic correlate for palpable area of concern. BIRADS and recommendations?
   A. BIRADS 3, follow up ultrasound in 6 months
   B. BIRADS 0, diagnostic mammogram
   C. BIRADS 1, diagnostic mammogram
   D. BIRADS 1, clinical correlation

Answer: D

Rationale: Unless the clinical findings are suspicious no further evaluation with imaging is warranted given the high sensitivity of sonography for palpable masses in young women (1-3). Clinical correlation is always recommended. In the setting of clinical findings highly suspicious for malignancy without an imaging correlate, biopsy under palpation can be performed (4).


4. 34 year old female with left breast palpable area of concern. Initial evaluation?
   A. Ultrasound
   B. Diagnostic mammogram
   C. Either ultrasound or diagnostic mammogram
   D. MRI

Answer: C

Rationale: Either diagnostic mammography or US can be used as initial means of image evaluation for women ages 30-39 with a palpable mass and is at the discretion of the radiologist or referring clinician. The incidence of breast cancer remains low, and series demonstrate high
sensitivity (96%) and NPV (100%) of ultrasound with little added value from adjunct mammography (1-4), with one study demonstrating higher sensitivity of US compared with mammography in this age group (95.7% versus 60.9%), with similar specificity (89.2% and 94.4%, respectively) (1).


5. 34 year old presented with left breast palpable mass. Mammogram was performed first and revealed no abnormalities and no mammographic correlate for palpable area of concern. What is the BIRADS and next step?
   A. BIRADS 1, clinical correlation
   B. BIRADS 1, return to screening
   C. BIRADS 3, short term follow up mammogram
   D. BIRADS 1, targeted ultrasound

Answer: D

Rationale: The addition of sonography detects 93-100% of cancers that are occult on mammography (1-4), and has been shown to be superior in detection of benign palpable findings. In one series, 40% of benign palpable masses were seen only on sonography (5). Negative predictive value of combined mammogram and ultrasound for evaluation of palpable abnormality is > 97% (1, 3, 6). Therefore, in a female older than 30 years of age a targeted ultrasound should be performed in the setting of a negative mammogram evaluating palpable abnormality.


