5. BREAST MASS

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The general approach to breast mass work-ups was obtained from opinions of the Committee of Gynecologic Practice of the American College of Obstetrics and Gynecology (ACOG) (ACOG, 1994 and ACOG, 1991). In addition, review articles were selected from a MEDLINE search that identified all English language review articles on breast mass work-ups between the years of 1990 and 1995.

IMPORTANCE

Breast cancer is the most commonly diagnosed cancer and the second leading cause of cancer deaths among women (CDC, 1992b). It accounts for 32 percent of all cancers in women and 18 percent of female cancer deaths (ACOG, 1991). Survival after diagnosis and treatment is directly related to the stage at diagnosis; the earlier the breast cancer is diagnosed, the better the survival rates (Austoker, 1994). Should a breast mass be detected by clinical breast examination (CBE) during screening, immediate follow-up is essential. This chapter focuses on CBE as the screening technique for women less than 50 years of age--see discussion in CBE section of chapter 16.

EFFICACY AND/OR EFFECTIVENESS OF INTERVENTIONS

Clinical examination of the breast can detect a mass, but it is not useful to distinguish a benign from a malignant process (Donegan, 1992). Although there are some characteristics of breast cancer that may distinguish it from a benign breast mass (e.g., indistinct borders, skin dimpling or nipple retraction), these cannot reliably differentiate a malignant tumor from a benign mass. In addition, a clinical exam cannot distinguish a cystic from a solid breast mass (Donegan, 1992).

ACOG (1991) recommends that all positive findings of a CBE be documented in writing or with an appropriate drawing in the patient’s chart. In addition, a comprehensive history, including age, menstrual status, parity, previous history of breast-feeding, family medical history, and drug usage should be noted (Bland and Love, 1992).
Some type of follow-up should be provided for all women with a breast mass detected on physical examination. Bland and Love (1992) and Dixon and Mansel (1994) recommend fine needle aspiration for any palpable breast mass. Fine needle aspiration and cytologic examination have been shown to be efficacious, cost-effective, and highly reliable when cytologic preparation and cellular sampling are properly done (Bland and Love, 1992). Aspiration is also effective for differentiating a cyst from a solid mass (Donegan, 1992). If the fine needle aspiration cannot rule out cancer of the breast, an open biopsy should be performed (ACOG, 1994). In addition, ACOG (1991) suggests that any of the following findings require an open biopsy following fine needle aspiration:

- bloody cyst fluid on aspiration;
- failure of mass to disappear completely upon fluid aspiration;
- recurrence of cyst after one or two aspirations;
- solid dominant mass not diagnosed as fibroadenoma;
- bloody nipple discharge;
- nipple ulceration or persistent crusting; or
- skin edema and erythema suspicious of inflammatory breast carcinoma.

Mammography is an essential part of the examination of a woman with a palpable breast mass (ACOG, 1994 and Donegan, 1992). Significant mammographic findings consist of alterations in density of breast tissue, calcifications, thickening of skin, fibrous streaks, and nipple discharge (ACOG, 1991). However, mammography alone may not be sufficient to rule out malignant pathology. Ultrasonography or magnified mammographic imaging of the breast containing the mass may provide additional information and may identify cysts or variations in normal breast architecture that account for the palpable abnormality (ACOG, 1994). Sonograms, however, cannot distinguish benign from malignant masses, although they can accurately identify masses as cystic or solid (Donegan, 1992). Sonograms are most helpful when a mass cannot be felt, when the patient will not permit aspiration, or when a mass is
too small and deep to offer a reliable target for aspiration (Donegan, 1992).

The combination of physical examination, mammography, and fine-needle aspiration is highly accurate when all the tests give the same results (Donegan, 1992). Layfield et al., found cancer in only 3 of 457 cases in which all three evaluations indicated that a mass was benign (Donegan, 1992).
RECOMMENDED QUALITY INDICATORS FOR BREAST MASS

The following criteria apply to women under 50 years of age.

Diagnosis

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<tr>
<th>Indicator</th>
<th>Quality of evidence</th>
<th>Literature</th>
<th>Benefits</th>
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<tr>
<td>1. If a palpable breast mass has been detected, at least one of the following procedures should be completed within 6 months: • Fine needle aspiration • Mammography • Ultrasound • Biopsy • Follow-up visit</td>
<td>III</td>
<td>ACOG, 1991; ACOG, 1994; Bland &amp; Love, 1992; Dixon &amp; Mansel, 1994</td>
<td>Reduce late-stage breast cancer. Decrease mortality from breast cancer.</td>
<td>Any breast mass may be an indicator of cancer and needs to be followed closely and/or investigated further. The six-month time period is not specified in the literature but is probably generous. The modality of follow-up may differ depending on the patient and mass characteristics.</td>
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<td>2. If a breast mass has been detected on two separate occasions, then either a biopsy or FNA should be performed within 6 months of the second visit.</td>
<td>III</td>
<td>ACOG, 1991; ACOG, 1994; Bland &amp; Love, 1992; Dixon &amp; Mansel, 1994</td>
<td>Reduce late-stage breast cancer. Decrease mortality from breast cancer.</td>
<td>A definite mass (as opposed to fibrocystic changes) needs further work-up. While a follow-up visit to determine change in nature or size with menstrual cycle may be appropriate one time, if a definite mass is palpated twice, then biopsy or FNA for diagnosis needs to occur. The timeframe is debatable.</td>
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Quality of Evidence Codes:

I: RCT
II-1: Nonrandomized controlled trials
II-2: Cohort or case analysis
II-3: Multiple time series
III: Opinions or descriptive studies
REFERENCES – BREAST MASS


