Percutaneous Core Breast Biopsies

- Exclusion criteria
  - Patient weight > 300 lbs
  - Bleeding diathesis
  - Anticoagulation treatment that can not be temporarily stopped
Percutaneous Core Breast Biopsies

- Technical reasons for inability to perform stereo
  - Lesion inadequately seen
  - Breast less than 20mm thick in compression
Petite Probe

22 mm

8 mm   12 mm
Percutaneous Core Breast Biopsies

- Technical reasons for inability to perform stereo
  - Proximity to chest wall
  - Patient can’t lie prone
Percutaneous Core Breast Biopsies

- Limitations
  - Sampling underestimates
  - Histological underestimates
Percutaneous Core Breast Biopsies

- Sampling underestimates
  - Geometry of lesions
  - Heterogeneity of lesions
Percutaneous Core Breast Biopsies

- Sampling Underestimates
  - Calcifications must be seen in specimen
  - Specimen radiograph
Percutaneous Core Breast Biopsies

- Larger volume of tissue
  - Vacuum assisted probes
  - Placement of clip with small lesions
Percutaneous Core Breast Biopsies

- Cancer misses by Stereo related to
  - Biopsy experience of each MD doing procedure
  - Number of samples obtained
Percutaneous Core Breast Biopsies

- Histological Underestimates
  - DCIS/ADH
  - LCIS/ALH
- Radial scars
- Missed Carcinomas
Percutaneous Core Breast Biopsies

- Histological Underestimates – ADH
  - 20-56% malignant at surgery

- DCIS
  - 16-30% will be invasive Ca at surgery
Percutaneous Core Breast Biopsies

- Breast Biopsy utilization Jan/88 – Dec/99
- All surgical and image guided core biopsies
- Total of 2940 breast biopsies
- Annual utilization rate of breast biopsies stayed stable at 62.6/10,000 women
Percutaneous Core Breast Biopsies

- Rate of utilization did not change in 40-49 yr age group despite introduction of screening mammo in 1997

- Utilization rate of operative biopsies declined from 58.8 to 26/10 000

- Image guided biopsies increased from 0.2 to 27.7/10 000
Percutaneous Core Breast Biopsies

- At end of study 52% of biopsies were image guided and 48% were operative.

- Each year 44% were for palpable lesions, 3% for nipple lesions and 53% for imaging abnormality.

- Rate of benign lesions stayed stable (39.1/10000).
Percutaneous Core Breast Biopsies

- Rate of malignant results ranged from a low of 14.6/10,000 in 1989 to 21.9/10,000 in 1995

- Benign-to-malignant ratio (2.2:1) remained stable

- Advent of MR guided biopsies for suspicious lesions could change utilization in the future

Ghosh et al; Arch Intern Med 2005; 165:1593-1598
BIRADS

- Breast
- Imaging
- Reporting
- And
- Data
- System
BIRADS

- Standardized lexicon

- Final assessment categories 0-6

- Final assessment categories related to recommendations for future action
<table>
<thead>
<tr>
<th>BIRADS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>evaluation incomplete; needs further imaging</td>
</tr>
<tr>
<td>1</td>
<td>Negative</td>
</tr>
<tr>
<td>2</td>
<td>Benign</td>
</tr>
<tr>
<td>3</td>
<td>Probably benign</td>
</tr>
<tr>
<td>4</td>
<td>Suspicious</td>
</tr>
<tr>
<td>5</td>
<td>Highly suspicious</td>
</tr>
<tr>
<td>6</td>
<td>Biopsy proven malignancy</td>
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</tbody>
</table>
CALCIFICATIONS
TYPICALLY BENIGN

- dermal
- vascular
- coarse or popcorn-like
- large rod-like
- round
- lucent centered