Surgical management of nonpalpable lesions

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Some facts

• ~30% of all breast lesions today are nonpalpable
• Multidisciplinary approach
  - Image diagnostics
  - Cytology and pathology
  - Nuclear medicine
  - Surgery
Triple assessment!

- Clinical assessment
- Diagnostic imaging
  - Mammography, ultrasound, MRI
- Diagnostic
  - fine needle aspiration cytology (FNAC)
  - Core needle biopsy (CB)

IF TRIPLE ASSESSMENT FAILS
SURGICAL BIOPSY IS INDICATED
Diagnostic classification (1)

- Radiology / Ultrasound
  - R1/U1
    normal/benign
  - R2/U2
    a lesion having benign caracter
  - R3/U3
    an abnormality of indeterminate significance
  - R4/U4
    features suspicious of malignancy
  - R5/U5
    malignant features
Diagnostic classification (2)

- **FNAC**
  - C1 inadequate
  - C2 benign epithelial cells
  - C3 atypia, probably benign
  - C4 suspicious of malignancy
  - C5 malignant

- **CORE BIOPSY**
  - B1 unsatisfactory/normal
  - B2 benign
  - B3 benign, malign. potential uncertain
  - B4 suspicious of malignancy
  - B5 malignant
To excise or not to excise after core biopsy? (1)


- Atypical Ductal Hyperplasia (ADH)
  - YES
- Lobular neoplasia (ALH and LCIS)
  - YES (unless finding incidental)
- Papillary lesions
  - YES (or at least repeat CB)
- Radial scar
  - YES
To excise or not to excise after core biopsy? (2)


- fibroepithelial lesions
  - YES (if cellular stroma is found)
- Columnar cell lesions
  - NO (when no atypia)
- Mucocle-like lesions
  - YES
Localisation

• Localisation control
  - Mammographic
  - Ultrasonic
  - MRI

• Localisation techniques
  - Guidewire
  - ROLL
  - Skin marking
  - Carbon injection
  - Blue dye injection
What do we want?

correct

wrong
guidewire

Local infiltration and incision
guidewire

Wire cut

Grasp the end of the wire
Rx control
more than one wire
guidewire disadvantages

• Wire positioning difficult in dense breast
• Wire can be displaced
• Wire can be cut
• Demanding surgery
ROLL
Radioguided Occult Lesion Localization

- Into the center of the nonpalpable lesion human serum albumin, labeled with 3.7 MBq $^{99}$Tc in 2ml of saline is injected
- colloid size 10 - 150µm
- Followed by injection of 0.1 ml of contrast
Localisation control

- Mammography or ultrasound
- scintigraphy
ROLL surgery

- Resection of the radioactive breast tissue by the help of the probe
advantages of ROLL

• More accurate localisation
• Lower average specimen weight
• Lesions better centered
• Simpler surgery
• Better cosmesis
EUSOMA GUIDELINES
Perry N.M. on behalf of EUSOMA Eur J Cancer 2001;37: 159-172

- Benign vs. Malig. ratio diagnostic biopsies
  - 0.5 : 1
- Localisation within 1cm distance
  - >90%
- Proportion of successfully excised at first operation
  - >95%
- Proportion of benign lesions weight <30 g
  - >90%
- No frozen sections, when T>10mm
  - >90%