

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Notes on Breast Surgery

By

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Investigations of the breast

- References:
 - Bailey's & Love's Short Practice of Surgery (edited by R.C.G. Russell, N.S. Williams and C.J.K. Bulstrode).
 - SRB's Manual of Surgery (edited by Sriram Bhat M).

Investigations of the breast

- Soft tissue mammography
- Xeromammography
- Breast ultrasound
- Magnetic resonance imaging (MRI)
- Ductography (injection of contrast into the duct)
- Ductoscopy
- Needle biopsy/cytology
- Tumor markers (CA 15/3)

Soft tissue mammography

- Plain X-ray of soft tissue of breast using low voltage and high amperage X-rays
- 2 films are taken (CC & ML)
- Very safe, can be carried out at any age (radiation dose is low --- 0.1 Gy)
- Findings:
 - Microcalcifications ---- malign
 - Soft tissue shadow ---- smooth & regular in benign conditions but irregular in carcinomas
 - Size & location of mass lesion
 - Spiculations, duct distortion

Soft tissue mammography-Indications

- For screening purpose (after 40 yrs)
- In obese pts
- Planning for conservative breast surgeries (BCS)
- To find out spread or denovo tumour in opposite breast
- Mammography-guided biopsy
- Evaluation and follow up in benign breast disease with malignant potential
- Follow up after BCS
- Mastalgias

Soft tissue mammography-Grading

- Breast Imaging Reporting and Data System (BI-RADS):
 - Grade I ----- Negative
 - Grade II ----- benign lesion
 - Grade III ----- probably benign lesion
 - Grade IV ----- Suspicious of Br Ca
 - Grade V ----- highly suggestive of Ca
 - Grade VI ----- Known Ca



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Xeromammography

- The same as mammography the photo-conductor produces a final image on a Selenium paper rather than on X-ray film.
- Adv ----- Edge enhancement effect, so it is useful in dense breasts.
- Disadv ----- high radiation dose and selenium plates are needed.

Breast ultrasound

- Useful in young women with dense breasts, distinguish cysts from solid lesions, localizes impalpable lumps
- Look also for margin of the lesion, internal echoes, retro-tumour acoustic shadowing, compressibility, dimensions and assess axilla
- Adv ----- cheaper, easily available, no radiation risk
- Disadv ----- lesions < 1 cm may not be seen
- The preferred method of screening in young females where mammography is not done, in pregnancy and lactation
- FNAC of the mass or axillary LN can be US-guided

Magnetic resonance imaging (MRI)

- Distinguish scar from recurrence in women with previous BCS for cancer
- Imaging of breasts in women with implants
- Screening of high risk women
- Management of axilla in primary breast cancer and recurrence.

Needle biopsy/cytology

- Trucut or corecut biopsy:
 - Clear histological evidence
 - Confirms DCIS (not confirmed by FNAC)
- FANC:
 - very accurate if both operator and cytologist are experienced
 - Least painful, done on OP basis, reliable, cheaper
 - Malig deposits will not occur along track
 - Scoring (C0 → no epithelial Cs, C1 → scanty epith Cs, benign, C2 → benign Cs, C3 → atypical Cs, C4 → suspicious C, C5 → malignant Cs)

Triple assessment

- In any patient with a breast lump or other symptoms suspicious of carcinoma.
- Clinical assessment:
Thorough history and clinical examination.
- Radiological imaging:
Mammography and/or ultrasonography.
- Tissue sampling:
Trucut biopsy or FNAC.