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Breast Cancer 2

Surgical treatment of breast and axilla

- Breast surgery
  - 70% of patients cured by surgery alone
  - If clear margin: lumpectomy followed by radiotherapy (for good cosmetic results needs to be <10% of breast)
  - Mastectomy
  - Low recurrence rate for both - less than 10% after 10 years
  - Preferred management for majority of T1 & 2 breast cancers is lumpectomy followed by radiotherapy
  - Breast conservation may not always be appropriate
    - Multifocal disease
    - Large tumour (> 3cm / 10%) in small breast
    - Where breast irradiation is contraindicated: pregnant, previous radiotherapy, CT disorders
    - Patient choice
  - Reconstruction can be done during mastectomy or separately
- Axillary surgery
  - Total axillary clearance
    - Good regional control
    - High risk of lymphoedema, arm pain, shoulder stiffness and altered sensation
    - Potential that the procedure is not required if nodes are found to be negative
  - Axillary sampling
    - Minimum of 4 lymph nodes sampled from lower axilla
    - If positive: axillary clearance or radiotherapy
  - Sentinel node biopsy
    - Lower morbidity for node negative
    - Equivalent control rates ad survival for total axillary clearance
    - Injection of radioisotope and dye at the nipple > should follow course of cancer cells > hot cancerous nodes take up isotope and dye > these are removed and tested
- Preop Assessment
  - FBC - anaemia
  - U&Es - real function for drugs, risk of cardiac failure
  - Clotting - liver functioin
  - G&S - in case of blood loss
  - ECG - heart fit for surgery
  - CXR - check for lung mets
  - LMWH - prophylaxis against DVT

Pathological assessment and staging to direct adjuvant therapy

- Many women have occult micro metastases at diagnosis - if untreated these can cause metastatic diagnosis disease
- Radiotherapy
  - Breast irradiation
    - Reduce risk of local recurrence following lumpectomy (<10% @ 10 years)
    - Care to minimise radiation to heart ad lungs
    - Post mastectomy radiotherapy to chest wall increases survival in patients with at least two of: >4cm, grade 3, lymph node positive, vascular invasion
  - Axillary irradiation
    - Indicated following positive lymph node sampling
- Chemotherapy
  - Combination chemo reduces recurrence and mortality
  - Should be considered in
    - All but very good prognosis premenopausal breast cancer
    - Almosy all women under 35
    - Post menopausal women with intermediate / poor prognosis
  - Current practice is six cycles
- Anti Oestrogen Therapy
  - 60% of breast cancers are oestrogen receptor positive (ER)
  - Survival benefit in these patients
  - Toxicity is less than chemo, although menopausal symptoms may distress
  - Premenopausal
    - Tamoxifen
    - Competitive inhibitor, blocks tumour receptors so still circulating oestrogens and therefore bones are protected
    - 20mg daily for five years
  - Postmenopausal
    - Aromatase inhibitors
    - Stops peripheral conversion of oestrogens
    - Loss of oestrogen bone protection so patients need calcium supplements
- Immunotherapy
  - 25% of breast cancers express HER2 and respond to herceptin
  - HER2 is protein found on surface some breast cancers
  - Cancer grow when human epidermal growth factor binds to HER2
  - Herceptin stops this process by binding to HER2 protein and blocking the attachment of human epidermal growth factor and thus preventing division and growth of tumour cells; also attracts immune cells towards cancer
  - S/E: dilated cardiomyopathy (echo before and during), flu like symptoms
  - Expression of HER2, despite Herceptin, is a poor prognositc indicator