Breast Cancer Liver Metastases: Principles of Diagnosis and Management

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Liver metastases

- Occurs in > 50% of MBC
- 5-10% confined to the liver
- Median survival:
  - 19 months ~ pre-taxane regimens
  - 22-26 months ~ taxane-containing regimens
  - Longer in HER+ve disease
Immediate principles

- Confirm the diagnosis
  - Imaging
  - Biopsy
Imaging

- CT scan
- USS
  - Cyst or solid
  - Haemangiomata
  - Duct dilation and stentable?
- PET/CT
  - Benign or Malignant
  - Extent
- MRI
  - Extent
  - Benign or Malignant
Getting Tissue from Metastatic Disease

- **Confirm Diagnosis**
  - 2 recent patients one with GI mets and other with hepatic fibrosis

- **Confirm Receptors**
  - Recent patient with controlled bone mets
  - New Liver mets
    - HER2 Pos (original disease HER2 neg)
Immediate principles

- Extent of disease
  - Liver only?
    - Intrahepatic
    - Extrahepatic
  - Single, oligo or multiple mets
Urgent management issues

- Hepatic failure due to stentable biliary obstruction
  - USS
  - ERCP
Single and Oligo - Liver metastasis

Role of surgery?

Literature Review: selection bias, publication bias, small series, retrospective nature.

Suggestion that some patients do well
Case Study ED 65yrs

- 2005 G3 IDC left breast, node neg, ER, PR pos HER2 neg
- 6cm liver met on staging
- Primary chemotherapy FEC x 6 – excellent response
- Surgery to breast, RT, Letrozole
- Resection of residual liver lesion
Case Study ED 65yrs

2011

- Switch to tamoxifen (arthralgia)
- New liver met
- Resected
- Paclitaxel
- Endocrine therapy

2014

- New liver mets- chemotherapy
Case Study 2 RW 28yrs

- 2009: Core biopsy showed invasive carcinoma NST
- Staging investigations revealed liver lesion
- Neo-adjuvant chemotherapy EC x 4 followed by Docetaxel x 4, evidence of response
- 2010: Right skin sparing mastectomy, axillary clearance; immediate implant reconstruction with strattice graft
- Final histology 37mm G2 invasive lobular carcinoma with LCIS; excision complete; vascular invasion, 1/8 nodes ER positive, HER2 negative
- Subsequent adjuvant radiotherapy & Tamoxifen
- 06.01.11 Isolated hepatic metastasis resected (KCH) completely resected adenocarcinoma, ER positive, HER2 negative
- Synchronous lesion segment 3/4 liver removed (benign) - nodular hyperplasia
- Feb 11 Repeat CT scan no evidence active disease
- Zoladex added to Tamoxifen
Case Study 2 RW 28yrs

- Jul 12: Routine CT scan showed new lesion in segment 8 liver consistent with new metastasis; PET-CT scan 2 metastases (segments 8 & 4b) liver; possibly small lesion left lobe uncertain significance
- Paclitaxel/Avastin - excellent radiological response
- Apr 13 Resection hepatic metastases - no viable tumour on histology
- Nov 13 New hepatic metastasis confirmed PET CT scan; commenced Paclitaxel & Bevacizumab
- Feb 14 PET CT partial response; no new sites of disease
- May 14 Completed chemotherapy & Avastin; favourable response; continue single agent Avastin plus Fulvestrant
- Radio frequency ablation not possible (proximity cardiac tissue)
- Continues Avastin plus Fulvestrant plus Zoladex
- July 2014 MRI brain shows meningeal disease
Surgery For Liver metastasis

- Improved survival ???
- Agreement on selection of patients?
  - Normal performance status
  - Normal liver function tests?
  - Size and number
  - Biology of the disease
Role of radiofrequency ablation?

- Useful for control of oligometastatic disease in some patients
- Does it improve OS?
- Some anatomical limitations
Case Study - LT

- 2006 left breast ca
- T3N0M0 G2 ILC ER pos
- ACx 4, Docetaxel x 4 – good response
- WLE and SNB – minimal residual disease
- Rt, tamoxifen 5 yrs
- 2012 – declined extended adjuvant Rx
Case Study -LT

- Jan 2014: pain in left hip
- Bone mets in hip, spine
- One liver met
- RT to hip, letrozole, denosumab
- Jul 2014: Good response to Rx
- RFA to residual liver lesion
Multiple Liver Mets

- Systemic therapy
  - Is endocrine Rx ever appropriate first-line
  - Choice of chemotherapy
    - Combinations
    - Avastin
    - HER2 targeted therapy
    - Weekly Paclitaxel
    - Vinorelbine and Capecitabine
Multiple Liver Mets

- Palliative and Supportive Care
  - Hepatic capsular pain
  - Decompensation
    - Confusion
    - Itch
  - Steroids