Clinical summary

- Female 55 year-old with left breast carcinoma previously treated with surgery and chemoradiation.
- Presents with chest wall mass for restaging and confirmation of recurrence
FDG PET/CT scan is consistent with locally advanced chest wall recurrence & multiple lung metastases

Top Row: Intense FDG uptake in the medially located left chest wall mass invading the sternum and costochondral junction with a sub pleural component

Bottom Row: Breath hold chest CT showed multiple non FDG avid lung nodules – suggestive of metastases
Clinical summary

- Female 50 year-old with T2N0M0 breast carcinoma treated with surgical resection
- Presented with palpable supraclavicular node on follow up review
- Referred for PET/CT for restaging
PET/CT findings

PET/CT showed FDG avid mediastinal and right supraclavicular nodes, right pulmonary and liver metastases

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Clinical summary

- Female 43 year-old with breast cancer treated with mastectomy in 2000
- Presents with left-sided chest wall pain for restaging PET/CT
PET/CT findings

- FDG PET/CT is consistent with a skeletal and soft tissue metastasis in the upper third of the sternum
- Multiple foci of physiologic brown fat activity in the cervical and posterior neck
- Intense FDG uptake in the uterus is due to physiologic menstrual activity
Clinical summary

- Female 62 year-old with neuroendocrine carcinoma in the breast treated with surgical resection
- Presents for restaging PET/CT post-surgery
Restaging PET/CT

- FDG PET/CT shows two foci of intense increased FDG activity in the right chest, corresponding to two right internal mammary lymph nodes.
- Mild diffuse FDG activity in the right breast and right axilla, consistent with post-operative inflammatory changes.
Clinical summary

- Female 66 year-old with left breast carcinoma diagnosed and treated in 1999, currently on hormone therapy
- Presents for restaging of biopsy proven recurrence in a right cervical lymph node
FDG PET/CT shows a focus of intense FDG activity in a left axillary lymph node, adjacent to surgical clips, consistent with localised recurrent disease.
Clinical summary

- Female 53 year-old with metastatic breast cancer treated with mastectomy in 2005
- Presents with lung metastases for restaging PET/CT
PET/CT findings

PET/CT scan is consistent with extensive metabolically active metastatic breast carcinoma involving lung, liver, bone and multiple nodal stations.
Clinical summary

• Female 49 year-old with mucinous adenocarcinoma of the left breast treated with mastectomy 7 years ago and radiotherapy for local recurrence 2 years ago

• Presents with hepatic and pulmonary metastases on capecitabine for restaging
PET/CT findings

FDG PET/CT is consistent with multiple mediastinal, hilar, pulmonary and liver metastases as well as skeletal metastasis in the left femur.
Clinical summary

- Female 55 year-old with history of right breast ductal carcinoma 1992 and left-sided mastectomy for DCIS
- Presents for evaluation of presumed solitary hepatic metastasis, prior to metastectomy

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FDG PET/CT scan is consistent with widespread FDG-avid metastatic disease involving the peritoneum, both lobes of the liver, hilar and internal mammary lymph node groups.
Clinical summary

- Female 57 year-old with adenoid cystic breast carcinoma 12 months ago treated with lumpectomy and local radiotherapy
- Presents with right upper quadrant pain for restaging
PET/CT findings

Mild FDG activity is seen in the right breast scar consistent with post-radiotherapy changes. No FDG avid disease seen elsewhere.
Clinical summary

- Female 55 year-old with breast carcinoma treated with breast conservation surgery 6 months ago
- Presents with pain at the surgical site for restaging
PET/CT findings

FDG PET shows a hypermetabolic nodule on the whole body scan (A), adjacent to the seroma on fused images (B). This was confirmed as recurrent disease on excision.
Clinical summary

• Female 62 year-old with right breast carcinoma treated with modified radical mastectomy 12 months ago

• Clinical recurrence in right chest wall (parasternal region) on follow-up

• For restaging PET/CT scan
Whole body FDG PET (A) shows local recurrence in right chest wall (B); mediastinal lymph node (C); muscular soft tissue lesions (C & D).
Clinical summary

- Female 48 year-old with left breast carcinoma treated with breast conservation surgery, adjuvant chemotherapy and radiotherapy 2 years ago.
- Presents with left arm pain and clinically evident recurrence.
- Referred for restaging PET/CT
Whole body FDG PET scan (A); with focal chest wall recurrence (B), and diffuse uptake along the left brachial neurovascular bundle (B) resulting in brachial plexopathy.
Clinical summary

- Female 50 year-old with right breast carcinoma treated with mastectomy and chemoradiation 6 years ago.
- Presents with weight loss and body pain
- PET/CT performed for restaging.
Whole body PET/CT showed disseminated skeletal metastases, with no extraskeletal metastatic disease.
Teaching points

• FDG PET/CT may be appropriate in restaging of breast carcinoma, particularly if clinical suspicion of recurrence is high.

• FDG PET/CT has a high sensitivity for establishing the extent of confirmed recurrent disease, to guide appropriate treatment.