Imaging plays a vital role in the staging and restaging of breast cancer. Traditionally, chest X-ray, bone scintigraphy and liver ultrasound or computed tomography are used. Fluorine-18 fluorodeoxyglucose (F-18 FDG) positron emission tomography/computed tomography (PET/CT) has great potential for whole-body staging with a single procedure. The greatest utility of PET/CT lies in distant or M-staging, whereas its role in locoregional staging is generally considered to be complementary to other modalities.\(^1,2,3\)

We present details of a 48-year-old woman with breast carcinoma, clinically staged as a T3N2 lesion. Initial ultrasonography showed a liver lesion with an equivocal appearance. A F-18 FDG PET/CT scan was then performed. It showed a left breast mass with two pathological axillary lymph nodes. The breast tumour and lymph nodes were associated with intense FDG-activity. A hypodense liver lesion with absent FDG activity was noted, consistent with a haemangioma (not shown). With the pelvic images, a myomatous uterus was seen with a small mass right posterolateral to the uterus. The mass measured 19 mm x 14 mm, with a density of 80 Hounsfield units and increased metabolic activity. After review, the differential diagnosis was finally proposed as follows: primary ovarian lesion, pedunculated uterine myoma with sarcomatous degeneration and an ovarian metastasis.

A hysterectomy with bilateral salpingo-oophorectomy was performed. Metastatic breast carcinoma was seen in the ovary with...
micrometastases in the contralateral ovary. It is known that PET may miss micrometastases. The patient was upstaged to M1 with a subsequent change in management. Following chemotherapy, a toilet mastectomy and axillary clearance were performed. Histology confirmed an infiltrating ductal carcinoma with metastatic carcinoma in 5 of the 10 axillary lymph nodes. Post-surgical radiotherapy was not indicated in view of the M1 status. The patient is currently on hormonal therapy and in remission 12 months later.

These findings illustrate the utility of F-18 FDG PET/CT in the staging of breast carcinoma, by clarifying an equivocal liver lesion and demonstrating an occult ovarian metastasis. However, this report also shows that the sensitivity of PET/CT regarding micrometastases is limited.