Interesting image

Metastatic brachial plexopathy from breast cancer detected by $^{18}$F-FDG PET/MRI

Plexopatia braquial metastásica de un cáncer de mama detectada por $^{18}$F-FDG PET/MRI

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A 62-year-old woman with history of ductal-invasive carcinoma of the left breast, treated with surgery (left mastectomy and left axillary lymphadenectomy) and adjuvant chemotherapy and radiotherapy 17 years before, underwent imaging for restaging due to increased serum tumor markers levels (CEA and CA 15-3) and onset of pain on the left arm.

Whole-body computed tomography (CT) and other conventional imaging methods were negative. The patient even underwent a fused $^{18}$F-FDG PET/MRI which showed some areas of increased $^{18}$F-FDG uptake corresponding to an abnormal thickening of the left brachial plexus at MRI. No other areas of abnormal $^{18}$F-FDG uptake were evident in the rest of the body (Fig. 1).

Based on these $^{18}$F-FDG PET/MRI findings, the patient underwent histology which demonstrated the presence of a metastatic plexopathy from breast cancer and she was addressed to chemotherapy.

PET/MRI is of special interest for neuroscience, given that PET and MRI are the neuroimaging methods of choice for many clinical and scientific applications. The first clinical studies conducted have tested the performance of PET/MRI in oncology indications, neurodegenerative disorders and epilepsy, using different PET tracers.

The case which we have briefly presented illustrated the usefulness of fused $^{18}$F-FDG PET/MRI in evaluating neoplastic processes involving the peripheral nerves. This emerging technique

Figure 1. Whole body maximum intensity projection (A) and coronal $^{18}$F-FDG PET (B and C), T1-weighted MRI (D and E) and fused $^{18}$F-FDG PET/MRI (F and G) images showing areas of abnormal $^{18}$F-FDG uptake corresponding to a thickening of the left brachial plexus (arrows). Histology demonstrated the presence of metastatic plexopathy from breast cancer.

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combining metabolic and morphologic information has been very useful in the metabolic characterization and detection of a metastatic lesion of the brachial plexus. Further studies using \(^{18}\)F-FDG PET/MRI in this setting are expected in the next years.

**Conflict of interest**

The authors have no conflicts of interest to declare.

**References**