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IMAGE OF THE MONTH

An uncommon presentation of diffuse large B cell lymphoma with multiple peripheral nerve involvement demonstrated BY 18F-FDG PET/CT

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A 49-year-old woman had neuropathic pain and numbness in the dermatomes innerved by affected nerves together with lower back pain. Symptoms gradually expanded to the upper extremities and face. Eventually facial paralysis developed. Lumbar puncture examination revealed high-grade aggressive B cell lymphoma infiltration. Basal [^{18}F]FDG PET/CT was performed about 4 months after the beginning of the symptoms for initial staging. On [^{18}F]FDG PET/CT images, pathological uptake localised to multiple peripheral nerves and nerve roots throughout the body as well as both adrenal glands and retroperitoneal soft tissues are seen on maximum intensity projection (MIP) images (Fig. 1a). On axial and coronal sectional images, intense pathological uptake localised to trigeminal nerve branches, nerve roots at the cervical and lumbal region, brachial plexus, sacral plexus, and sciatic nerve is demonstrated (Fig. 1b). The patient received four cycles of R-CHOP chemotherapy regimen (rituximab 375 mg/m2, cyclophosphamide 750 mg/m2, adriamycin 50 mg/m2, vincristine 1.4 mg/m2 at day 1 intravenously and prednisone 100 mg for 5 days orally) together with intrathecal methotrexate (12 mg), cytosin arabinoside (40 mg) and dexamethasone (4 mg), three times, for the central nervous system disease. [^{18}F]FDG PET/CT performed 2 weeks after the last dose of chemotherapy for response assessment was reported as completely normal (Fig. 2). Diffuse large B cell lymphoma (DLBCL) is the most common form of non-Hodgkin lymphoma (NHL), mostly presenting with a rapidly enlarging mass anywhere in the body. Extranodal involvement is very common (up to 40%). Neurolymphomatosis is a rare manifestation of DLBCL, and symptoms may be nonspecific [1]. Biopsy is the gold standard for diagnosis of neurolymphomatosis; however, blind biopsy may not always reflect the pathology [2]. CT and MRI have been reported to have a limited sensitivity. [^{18}F]FDG PET/CT has evolved as a sensitive imaging tool for diagnosis of neural involvement in DLBCL [3]. [^{18}F]FDG PET/CT provides whole body imaging data at a single step, and is advantageous for mapping the extent of the disease. Differently from previous cases where relatively limited disease was reported, we aimed to present [^{18}F]FDG PET/CT findings of a DLBCL case with multiple peripheral nerve involvement. Metabolic response to therapy in diffuse large B cell lymphoma could also be successfully demonstrated by [^{18}F]FDG PET/CT.

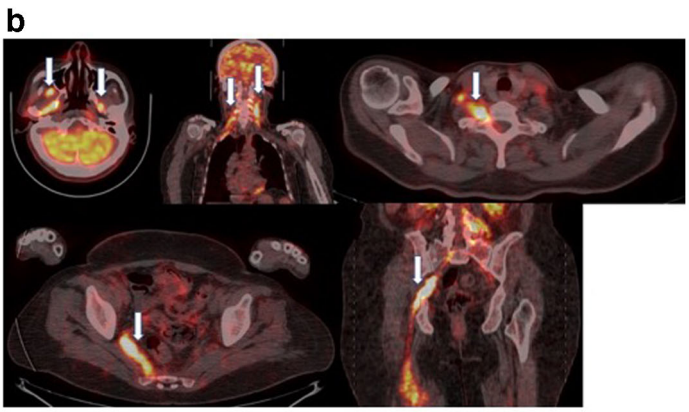
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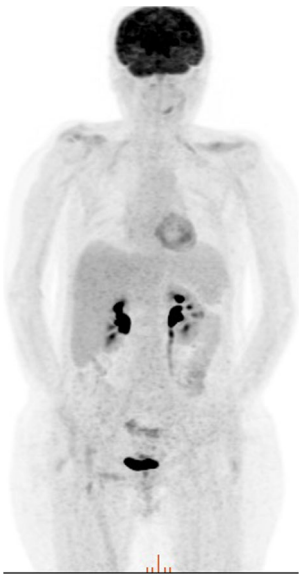
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Compliance with ethical standards

Conflict of interest None to declare.

Informed consent Informed consent was obtained from the patient for publication of this case study/report and accompanying images.

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