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IMAGE OF THE MONTH

# FDG-PET in paraneoplastic limbic encephalitis

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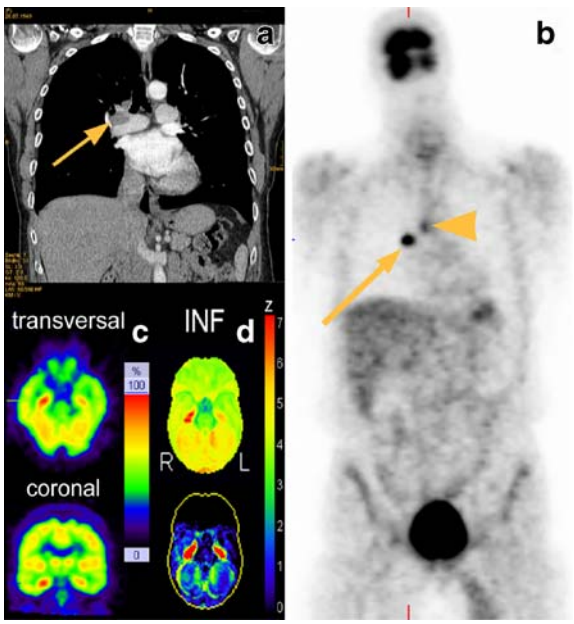
Limbic encephalitis (LE) is characterized by a subacute onset of impaired cognitive function, temporal lobe epilepsy, and psychiatric symptoms. Common causes of LE are autoimmune disorders, among which paraneoplastic findings are frequent [1, 2]. The neurological symptoms usually precede the detection of the primary cancer. We report on the imaging findings of paraneoplastic LE in a 58-year-old patient. Clinical findings included subacute loss of memory function, seizures, and weight loss of 15 kg. In a search for an underlying malignancy, chest radiography was inconclusive. A CT scan of the chest (**a**) and a FDG-PET scan (**b**) showed a hypermetabolic tumour (*arrows*) in the right hilar region. The FDG-PET scan also detected a mediastinal lymph node metastasis (*arrowhead*). The FDG-PET scan of the brain (**c** transverse and coronal slices) showed bilaterally increased FDG uptake in the temporomesial cortex, a typical sign of LE [3]. These findings were underlined by 3-D stereotactic surface projection (NEUROSTAT/3D-SSP; University of Washington, Seattle. WA) of the brain scan (**d** *top*) [4]. Compared to a normal database (**d** *bottom*), FDG uptake in the temporomesial cortex was increased by up to seven standard deviations. The final histological diagnosis was small-cell lung cancer (pT1, pN2 (3/28), cM0).




If paraneoplastic LE is suspected, FDG-PET may contribute to the early detection of an underlying malignancy and simultaneously confirm the clinical diagnosis of LE by showing temporomesial hypermetabolism [3].

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