Extrastriatal uptake on ^{123}I -ioflupane brain SPECT

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DaTSCAN® is a solution of ^{123}I -ioflupane (^{123}I -FP-CIT), a cocaine analogue with high binding affinity for presynaptic dopamine transporters (DaT), in particular in the striatal region of the brain, suitable for SPECT imaging. It is mainly indicated for detecting loss of functional dopaminergic neuron terminals in the striatum in patients with clinically uncertain parkinsonian syndromes in order to help differentiate essential tremor from parkinsonian syndromes [1, 2].

A 72-year-old woman, with a history of tremor and postural hypotension, was admitted to our hospital because of a fall with crush syndrome. ^{123}I -FP-CIT SPECT was performed and demonstrated besides normal dopaminergic activity in the striatum (a) focal extracerebral tracer uptake in the right temporal region (b). Correlation of the ^{123}I -ioflupane scan with MRI of the brain localized the extracerebral ^{123}I focus in the right temporal muscle corresponding to an intramuscular haematoma (c).

Because of a new fall, 4 months later, CT of the brain was repeated and demonstrated restored symmetry of the temporal muscles due to resorption of the haematoma (d). ^{123}I -FP-CIT SPECT was repeated and showed resolution of the right temporal activity (e).

Extrastriatal ^{123}I -FP-CIT uptake has already been described in a brain tumour in the case of a monoamine-synthesizing neuroendocrine cell tumour [3].

This case is a unique report of extracerebral ^{123}I -ioflupane uptake due to subacute post-traumatic injury.

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