

Iodine-123 iodobenzofuran (I-123 IBF) SPECT in patients with parkinsonism

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I-123 IBF is a dopaminergic antagonist which is suitable for SPECT imaging of D2 receptors. The purpose of this study is to evaluate the potential usefulness of semi-quantitative parameters obtained from brain SPECT data of I-123 IBF for differential diagnosis in patients with parkinsonism (PN). Subjects were 10 patients with PN: 2 patients with striato-nigral degeneration (SND), 5 patients with Parkinson's disease (PD), 2 patients with progressive supranuclear palsy (PSP) and one patient with olivo-ponto-cerebellar atrophy (OPCA). The data were acquired with a triple-head gamma camera at 2 hours after intravenous injection of 167 MBq of I-123 IBF. Transverse images were reconstructed by means of filtered backprojection, and attenuation correction was performed by Chang's method ($\mu = 0.08$). The basal ganglia-to-frontal cortex ratio (GFR) and the basal ganglia-to-occipital cortex ratio (GOR) on slices of 5 different thicknesses were calculated. The GFR and GOR were lower in the SND group than in the other disease groups in all slices with different thicknesses (7.2 mm, 14.4 mm, 21.6 mm, 28.8 mm and 43.2 mm). The semiquantitative parameters (GFR and GOR) obtained from brain SPECT data at 2 hours after intravenous injection of I-123 IBF may be useful for differential diagnosis in patients with PN.

Key words: I-123 IBF, parkinsonism, SPECT