

Reproducibility of Dopamine Transporter Density Measured with I-123-N- ω -Fluoropropyl-2 β -Carbomethoxy-3 β -(4-Iodophenyl)Nortropane SPECT in Phantom Studies and Parkinson's Disease Patients

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Abstract : Objectives: The objective of this study was to evaluate the reproducibility of I-123-N- ω -fluoropropyl-2 β -carbomethoxy-3 β -(4-iodophenyl) nortropane (I-123 FP-CIT) SPECT by using specific binding ratio (SBR) in phantom studies and Parkinson's Disease (PD) patients. Methods: We made striatum phantom originally and confirmed reproducibility. The phantom studies changed head position and accumulation of FP-CIT, each. And image processing confirms influence on SBR by 30 cases. 30 PD received a SPECT for 3 hours post injection of I-123 FP-CIT 167MBq. Results: SBR decreased in rotatory direction by the patient position by the phantom studies. And, SBR improved the influence after the attenuation and the scatter correction in the cases ($y=0.99x+0.57$ $r^2=0.83$). However, Stage II recognized dispersion in SBR by low accumulation. Conclusion: Than the phantom studies that assumed the normal cases, the SPECT image after the attenuation and scatter correction had better reproducibility.

Keywords : 123I-FP-CIT, specific binding ratio, Parkinson's disease

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