

Validation of CBF measurement with non-invasive microsphere method (NIMS) compared with autoradiography method (ARG)

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The purpose of this study is to examine the correlation of measured regional cerebral blood flow (rCBF) by means of a new microsphere method (non-invasive microsphere method), to the autoradiography (ARG) method, which is an established quantification method for ^{123}I -IMP brain SPECT. The non-invasive microsphere (NIMS) method and ARG method were simultaneously applied to 30 patients, and quantified rCBF maps were calculated with each method. A significant correlation ($r = 0.70$; $p < 0.001$) was detected between mCBF values calculated with the NIMS and ARG methods. This new method seems to reliably quantify rCBF with brain SPECT.

Key words: ^{123}I -IMP (N-isopropyl-p-iodoamphetamine), regional cerebral blood flow, quantification, microsphere method, autoradiography method