

Summary

Analysis of Brain Images in Patients with Spinocerebellar Degeneration; Using Statistical Parametric Mapping (SPM) and Easy Z Score Imaging System (eZIS)

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In order to investigate the cerebral blood flow objectively, the easy Z score imaging system (eZIS), was developed, and has been applied in clinical practice. SPECT with ^{99m}Tc -ethyl cysteinate dimer (^{99m}Tc -ECD) was performed, and the images were analyzed using the SPM97 and the eZIS Ver. 2 to investigate cerebral blood flow in patients with two types of spinocerebellar degeneration.

We compared the distribution of cerebral blood flow between 13 patients with cortical cerebellar atrophy (CCA) and 26 patients with olivopontocerebellar atrophy (OPCA). In the both groups, cerebellar blood

flow was decreased generally. In our evaluation using the eZIS Z score, the scores for the brain stem and cerebellar nucleus in the OPCA group were lower than those in the CCA group.

This method facilitates the objective evaluation of cerebral blood flow in patients with spinocerebellar degeneration, and may be useful for analyzing the condition of these disease.

Key words: easy Z score imaging system, Regional cerebral blood flow, SPECT, SPM 97, Spinocerebellar degeneration.