— 6 —

Brain SPECT Imaging of Cerebral Palsy: Comparison with MRI

이종두 . 유영훈 . 김동익 . 황금주 . 박창일* . 김동구**
연세의대 진단방사선과학교실 핵의학과, 재활의학교실*, 약리학교실**

Purpose; Hypoxic brain injury is one of major causes of cerebral palsy, therefore, this study was to evaluate cerebral perfusion impairments in these patients.

Materials and Methods: Forty-one patients with clinical manifestations of spastic diplegia (n=31) or quadriplegia (n=10) underwent brain SPECT after intravenous injection of Tc-99m-ECD.The ages of patients ranged 9 months to 7 years. There were 24 males and 17 females.

Transaxial, coronal and sagittal images obtained by brain-dedicated gamma camera(CERASPECT) were qualitatively analysed and compared with the findings of MRI.

Results: In SPECT, thalamic hypoperfusion was seen in all patients (n=41), and followed by hypoperfusion in temporal lobe (n=19), cerebellum (n=17), brain stem (n=17), basal ganglia (n= 15), and extra-temporal cerebral cortex (n=9).

However, MRI demonstrated thalamic abnormality in five, cerebellum in one, cortex in three and basal ganglia in one. Instead, white matter change (n=24) and thining of corpus callosum (n=23) were the major findings.

Conclusion: SPECT is more sensitive in the detection of cortical, subcortical nuclei and cerebellar abnormalities, however, MRI is superior in detecting white matter changes.