

**1. Comparison of Regional Cerebral Blood Flow by SPECT Using Iodine-123-IMP, and Technetium-99m-HMPAO**

**Sang Eun Kim, Bum Woo Lee,  
Yoon Ho Choi, June-Key Chung,  
Myung Chul Lee and Chang-Soon Koh**

*Department of Nuclear Medicine,  
Seoul National University Hospital*

**Dea Hyuk Moon**

*Department of Nuclear Medicine,  
Asan Medical Center*

Cerebral blood flow tracers such as N-isopropyl-p-[<sup>123</sup>I]-iodoamphetamine ([<sup>123</sup>I]-IMP) or [<sup>99m</sup>Tc]-hexamethylpropyleneamine oxime ([<sup>99m</sup>Tc]-HMPAO) are now available in most nuclear medicine departments. Combined with the SPECT facilities, these tracers allow easy-to-perform functional cerebral studies. We measured regional cerebral blood flow in 2 patients with focal seizure and pervasive developmental disorder respectively by SPECT using [<sup>123</sup>I]-IMP and [<sup>99m</sup>Tc]-HMPAO. There was no definite alteration of cerebral blood flow in SPECT images of these patients. For comparison of regional cerebral blood flow between [<sup>123</sup>I]-IMP and [<sup>99m</sup>Tc]-HMPAO SPECT image, 8 pairs of homologous region of interest [anterior and cranial territories of anterior cerebral artery (ACA), anterior, posterior, and cranial territories of middle cerebral artery (MCA), territory of posterior cerebral artery (PCA), deep gray (DG), and cerebellum (cbl)] were assigned on three transverse slices matching the vascular territories and cerebellum, and 2 semiquantitative indices, "Regional Index" (RI, mean count per voxel of a ROI/mean count per voxel of total ROIs) and "Region to Cerebellum

Ratio" (RCR, mean count per voxel of a ROI/mean count per voxel of cerebellum) were calculated. Summarized results (mean values) were:

Region	IMP (RI)/HM-PAO (RI)		IMP (RCR)/HM-PAO (RCR)	
	Right	Left	Right	Left
Cbl	0.927	0.915	1.000	1.000
ACA, ant.	1.019	1.013	1.099	1.108
MCA, ant.	0.989	1.013	1.066	1.108
MCA, post.	1.017	0.992	1.096	1.086
PCA	0.953	0.973	1.029	1.067
DG	1.151	1.089	1.241	1.190
MCA, cr	0.990	0.991	1.068	1.085
MCA, cr	1.092	1.097	1.177	1.200

These preliminary data show relatively higher regional index and region to cerebellum ratio in deep gray and cranial territory of anterior cerebral artery and lower cerebellar regional index in [<sup>123</sup>I]-IMP SPECT image than in [<sup>99m</sup>Tc]-HMPAO image. This comparative study deserves further extension.

**2. 유아자폐증의 단일광자방출 전산화 단층촬영소견과 정신병리와의 상호관계에 관한 연구**

서울의대 정신과

조 수 철

내 과

이 명 철 · 김 상 은

유아자폐증은 사회성발달, 언어발달의 장애와 행동상의 이상소견을 나타내는 질환으로 그 원인이 분명히 밝혀져 있지는 않으나, 분만전후하여 합병증의 병력이 많다는 점, 임상적으로 지능저하 또는 경련발작과 흔히 동반된다는 점, 뇌파검사, 뇌단층촬영검사 소견에서 이상소견이 발견된다는 점등에서 뇌의 기질