

IS-6

CBF OF LEFT PARIETAL REGION AND ITS CORRELATION WITH DISEASE SEVERITY IN ALZHEIMER'S PATIENTS.

M Babar Imran, Kawashima R, Awata S, Sato K, Kinomura S, Sato M, Fukuda H. IDAC, Tohoku University, Sendai, Japan.

In this study, we used Automated Image Registration (AIR) for standardization of Tc-99m HMPAO brain SPECT images. Standardized CBF images of patients with Alzheimer's disease (AD), n=20, and control subjects, n=15, were used for group comparison with the help of SPM96. Significant differences were displayed on the respective voxel to generate three dimensional Z-maps. Voxel based covariance analysis was performed on standardized images taking age of patients, severity of disease (CDR, MMS, PSMS) and atrophy indices (calculated on X-CT scans) as independent variables.

There was significantly decreased rCBF in the frontal, parietal and temporal regions in patient group ($p < 0.001$), more marked in those patients having severe dementia. Covariance analysis revealed that aging and severity of disease have pronounced effect on rCBF especially that of left parietal region. Atrophy and daily activity did not show any significant correlation with rCBF of intact cortical areas. **Conclusion:** Brain SPECT images can provide valuable information regarding stage and severity of AD.

IS-7

The Delayed I-123-IMP Studies and Regional Cerebral Blood Flow as Estimated by ARG Method

Leo G. Flores II, Seishi Jinnouchi, Shigeki Nagamachi, Takashi Ohnishi, Shigemi Futami, Hiroshi Nakahara, and Shozo Tamura
Department of Radiology, Miyazaki Medical College

A total of 24 patients were included in the study with mean age 45.8 ± 20.8 . Patients were grouped as Control (C), Degenerative Syndromes (DS), Degeneration Associated with External Factors (DEF), Degeneration Associated with Focal Neurologic Lesion (DFN) and Demyelinating Disease (DM). Images were acquired 15 minutes for early and 4 hours for delayed studies after IV infusion. The rCBF was calculated using the IMP autoradiographic (ARG) method. Uptake ratio (UR) was calculated as Delay/Early count. Weak correlation noted between rCBF and UR ($r = -0.050$, $p < 0.0001$). The UR with patients grouped according to various disease processes did not show significant difference in various areas of the brain. In the rCBF of the various areas of the brain, significant difference were noted in various disease groups. In conclusion, UR from delayed study is more reflective of metabolic changes making delayed study less useful in neurodegenerative diseases. Nevertheless, the rCBF was effective in separating both various areas of the brain and disease entities.

IS-8

ANEURYSMAL BONE CYST OF PATELLA.

Rakesh Kumar, Sriram M, Senthil Kumar, Kumar PG, A Malhotra.
Departments of Nuclear Medicine, AIIMS, New Delhi.

We are presenting an interesting case of aneurysmal bone cyst (ABC) of patella, which is a very rare condition. In this case the classical X-ray and bone scan features of aneurysmal bone cyst were absent. A 15 year girl presented with non-tender, non-pulsatile swelling of the left knee associated with dull ache for a period of 1 year. X-ray of left knee showed a "soap bubble" lesion involving the entire left patella. This was suspected to be a giant cell tumour and the patient was sent for bone scan to rule out bony metastasis.

A multiphase bone scan depicted an increased perfusion and blood pool in angiographic and tissue phase images of the left knee joint. Four hour delayed images showed intense increased radiotracer uptake in entire left patella with no central area of decreased radiotracer uptake. There was no evidence of any skeletal metastasis. Excision biopsy findings were consistent with ABC of patella.

IS-9

ROLE OF Tc-99m MDP BONE SCAN IN HEEL PAIN

Rakesh Kumar, Vikas Gupta*, Chetan Patel, Sriram M, Senthil Kumar, Kumar PG, Bandopadhyaya GP, Malhotra A.

Departments of Nuclear Medicine & Orthopaedics*, AIIMS, New Delhi.

The cornerstones of diagnosis of various conditions leading to heel pain are the history and physical examination. We planned to evaluate the role of bone scan in the management of such patients. 15 patients were included in this study and all underwent plain x-rays of the heel as well as multiphase bone scans after injection of Tc-99m MDP intravenously. X-ray lesions were seen in only 5 patients, whereas bone scan showed abnormal uptake in 14 patients. More extensive workup revealed the following results

Condition	Number	+ve Bone Scan	+ve X-Ray
Plantar fasciitis	11	10	04
Heel pain Syndrome			
Others	04	04	01

Follow-up results after local injection of corticosteroids are awaited in the patients with Plantar fasciitis and "Heel pain Syndrome". Bone scan may be useful in early detection and followup after treatment of this group.