

## Scintigraphical Studies with New High Resolution Gamma Camera

Y. KOKUBO and N. ARIMIZU

*National Institute of Radiological Sciences, Ciba*

N. KUMANO

*Toshiba Ltd., Kawasaki*

The experience in a high resolution new gamma camera was reported. This camera (GCA-401 Toshiba) has a maximum resolution power of 3.2 mm. From analysis of the 34 cases of brain scintigraphy, 2 cases of cisternography and 5 cases of RI-labeled red cell angiography, the following results were obtained.

1. The structures and the lesions in the skull were visualized clearly in their details, especially

small lesions of the posterior and middle fossa.

2. Superior sagittal sinus was recognized along its entire course separately from the scalp and the skull.
3. In RI-angiography, the smallest visualized arteries were arcus palmaris superficialis and profundus.
4. During the procedure, the strict fixation of the patients was required.

## Numerical Analysis of the punched out Data in the Brain Scanning

E. TAKEYAMA, S. YOSHIDA, I. UENO, M. YAMAMOTO, H. KADOWAKI, H. IMANAGA,  
M. JIMBO, K. KITAMURA

*Neurosurgical Department, Neurological Institute, Tokyo Women's Medical College*

The numerical way to analyze scintiscan data was presented. In this study, the scan data were obtained from isocount scanning system, which has been already reported elsewhere. The count rates at each measuring point in the lateral scanning were printed out. Three areas were selected as ROI for numerical analysis, namely, the area responsible for the lesion (L), the area of the non-lesion, which represented normal brain (B) and the area of the lateral sinus (V). L/B and B/V were introduced as parameters to express the RI uptakes quantitatively.

22 patients with various brain diseases were

studied by this method. In 15 of 22 cases brain scans were repeated at various intervals after the injection of  $^{99m}\text{Tc}$ -pertechnetate. In normal controls, average B/V was  $0.78 \pm 0.02$  (SD) 30 minutes after the RI injection. Brain scans performed 30 minutes after the RI injection showed that high B/V was obtained in one case of epidural hematoma, cerebral embolism and meningioma, 0.91, 0.94 and 0.92 respectively. On the other hand, high L/B was obtained in one case of meningioma, sarcoma, glioblastoma multiforme and cerebral thrombosis, 2.00, 1.44, 1.37 and 1.39 respectively. The repeated scans revealed that L/B ratio reached to its maxi-