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AN EVALUATION OF THE SINGLE PHOTON EMISSION CT (SECT) OF THE BRAIN. K. Matsumura, K. Takeda, H. Maeda, T. Nakagawa, M. Taguchi, T. Kitano, M. Kakegawa, S. Matsui, Department and Clinical Lab. of Mie University Hospital, Tsu, and Toshiba Co., Nasu.

SECT was clinically evaluated in patients with various tumors or vascular diseases of the brain. Patients were injected 15mCi of Tc-99m DTPA, and SECT scans were performed at 10min. and 2hr. after injection. The instrumentation used in this study was Toshiba GCA-70AS with dual opposed large-field-of-view gamma cameras, which rotate 180° about the patient. Selected scanning time was 6min. The transaxial, sagittal and coronal sections were reconstructed with convolution algorithms. In cases with acoustic and fifth nerve neurinoma and a cases with suprasellar germinoma, all of which were proved at surgery to be 1-2cm in diameter, the lesion detection was negative or equivocal on conventional images, whereas definitively positive on SECT images. SECT was considered, therefore, to be especially useful in the evaluation of small basal lesions, because basal activity and other overlapping vascular activities are separated from the lesion activities. Availability of the informations in three-dimensional fields of view elucidates the exact location of the disease, confirming the diagnosis. SECT was useful to realize the shape and the extent of the lesions which were valuable for estimating the grade of the disease.
