

M. Brain and Nervous System

Quantitative and Dynamic Study on Brain Scintigraphy in Patients with Cerebrovascular Accidents

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The brain scintigraphy has been applied as a routine clinical examination for detecting intracranial lesions. In cerebrovascular accidents, the peak incidence of positive brain scintigrams was observed during the second to third week after the onset. At the stage except above duration after the onset or in mild cerebrovascular accidents, equivocal brain scintigrams were often observed.

One of the purpose of this study was to evaluate brain scintigrams quantitatively and objectively. The bilateral collation method was applied for equivocal brain scintigrams. The results of the bilateral collation method could be displayed on CRT within one second. By using this method, the equivocal brain scintigrams were evaluated more exactly and objectively.

The dynamic study on brain scintigraphy con-

sisted of the determination of distribution ratios of ^{99m}Tc in lesion to control area, the analysis of focal RI-dilution curve and the measurement of brain blood mean transit time. The distribution ratios of ^{99m}Tc in lesion to control area were less than 2.0. The focal RI-dilution curves obtained in cases of A-V malformation showed the shunt peak. The focal RI-dilution curves in early stage of cerebral infarction revealed the characteristic features involving prolonged arms to brain circulation time and prolonged mean transit time. The regional blood mean transit time were 6 to 7 seconds in normal subjects, 5 seconds in A-V malformation and 9 to 14 seconds in cerebral infarction respectively. The hemodynamic study on brain scintigraphy contributed to differential diagnosis of positive lesions and assumption of prognosis of cerebrovascular disease.

Regional Cerebral Blood Flow Measurement by Using Mini-Computer

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Data processing system for nuclear medicine using mini-computer is used generally for many purposes but it can not be said that it is practi-

cally used in routine work. It is mostly used for research purpose. For example, image processing of scintigram seems yet to be solved before it can