VI. Symposium II Scintigram

Diagnosis of Intracranial Diseases by Brain Scanning with Chlormerodrin ^{203}Hg

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Brain scans in 22 patients with intracranial diseases were made with a dot-recording system and the chlormerodrin ^{203}Hg. The chlormerodrin ^{203}Hg was injected intravenously a dose of 10 μCi/kg 3 to 5 hours perior to scanning. Stable chlormerodrin 1 ml was also given 24 hours perior to the scan to reduce kidney up take. 22 brain scans of patients with intracranial diseases were studied, 11 cases of them were brain tumors, one A-V malformation, one neuro-syphilis, one subdural hematoma and 8 non-neoplasmatic diseases. 11 cases of brain tumor histological verified included 5 astrocytoma, 3 meningioma, 2 metastatic tumors and one oligodendroglioma. Brain scan localization of these tumors were judged good in 8 patients and doubtfull in 3 cases. Negative scans were seen in one neuro-syphilis, one subdural hematoma. Of 8 non-neoplasmatic diseases, 7 revealed negative scintigrams. Suspected scan was seen in one A-V malformation.

Diagnostic Significance of Brain Scanning for the Detection of Intracranial Lesions Using ^{203}Hg Labeled Neohydrin

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Since 1964 we have performed 57 brain scans in 49 patients using ^{203}Hg labeled Neohydrin. We have already presented that this procedure is useful for the detection of not only brain tumor but also intracranial hematoma and head injury.

In this study, the total diagnostic accuracy of brain scan in 49 patients is 71.4%. And the accuracy for brain tumor, intracranial hematoma, head injury and cerebrovascular disease are 83.3%, 92.3%, 70.0% and 50.0% respectively. We studied on the relationship between positive scans and brain edema which might accompany with these disease by classifying the patients into following four groupes.

Group 1, Brain Tumor: There was significant uptake of Neohydrin not only by the tumor tissue but also by the edematous brain tissue adjacent to the tumor. So the positive scan of the tumor might often look larger than its actual size.

Group 2, Intracranial Hematoma: We obtained the highest diagnostic accuracy with this group. This group consists of 10 cases with subdural, 2 with epidural and one case with intracerebral hematoma. In 8 cases of subdural hematoma, we found the fact that the uptake of Neohydrin by the hematoma was not higher than that of blood, and the