Analysis of Abnormal Scans
-- Comparison between ^{203}Hg-Neohydrin and ^{99m}Tc-pertechnetate —

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Brain scans using ^{203}Hg-Neohydrin were evaluated in 94 patients with brain tumor, intracranial hematoma and cerebrovascular disease, respectively. Positive scan was obtained in 66 cases and its accuracy for diagnosis was 70.2 per cent.

Among ^{203}Hg-Neohydrin, ^{131}I-RISA and ^{99m}Tc-pertechnetate, ^{203}Hg-Neohydrin accumulated to the highest level in edematous cerebral tissue of the rats.

The positive brain scan in closed head injury, subdual hematoma and cerebral infarction in the early stage might be caused in cerebral edema to some degree as reported by us previously.

In a case having the A-V malformations, the ruptured one showed positive, while other two A-V malformations revealed negative.

Whether the metastatic tumor is solitary or multiple, is necessary for surgery. In such two cases above, brain scan was definitely superior to other conventional diagnostic methods.

In 14 cases, two scannings were performed in the same patient with ^{203}Hg-Neohydrin and ^{99m}Tc-pertechnetate, respectively. Six months after the operation the scan showed positive in case of ^{99m}Tc-pertechnetate, while it was negative in case of ^{203}Hg-Neohydrin. It was suspected, therfore, the scan of ^{99m}Tc-pertechnetate after the craniotomy did not suite for the follow up study of tumor.

Two months after the removal of meningioma, the brain scan was performed with ^{203}Hg-Neohydrin and ^{99m}Tc-pertechnetate in the same case respectively. The place of positive scan of ^{99m}Tc-pertechnetate was more anterior than that of ^{203}Hg-Neohydrin.

The former corresponded to the place of tumor bed and might indicate cerebral edema, and the latter corresponded to the place of skin incision and might show the increased vascularity of scalp corresponding to the operation wound.

In the basal lesion such as olfactory groove meningioma, the brain scan with ^{99m}Tc-pertechnetate was not clearly delineated from the basal structure because of the large accumulation of the isotope in this region.

Clinical Experience with ^{203}Hg-Neohydrin Brain Scanning

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Brain scans using ^{203}Hg-Neohydrin were made in 70 patients with suspection of intracranial diseases.

47 cases of 70 were histologically verified as brain tumor by operation or autopsy. About 75 per cent (35 cases) were correctly localized in this method.

Some basic factors which have influence on scanning expression of positive scans were studied in comparison with the structure of tumor tissues in various types of meningiomas.

Then, we studied about vascularization of various types of meningiomas. On each cases, blood vessels were calculated in various parts of the tumor tissues, microscopically, through "Integrating Eyepiece" of Zeiss.

And tissue vessel ratios were compared to