

This fact could be used for the early differentiation of CVD from malignant brain tumor without long period following up of the case by brain scanning.

There are only three exceptional cases who showed marked accumulation of ^{99m}Tc -pyrophosphate to the CVD lesions.

One of them are proved by CAG as a cerebral infarction as reported by Wenzel et al.

Brain abscess accumulated both ^{99m}Tc -pertechnetate and ^{99m}Tc -pyrophosphate. However, no accumulation of both labels was noted to the lesion of hygroma.

Another advantage of the use of ^{99m}Tc -pyrophosphate brain scan was that this label did not concentrate into the chroid plexus or salivary gland as frequently seen by conventional ^{99m}Tc -pertechnetate brain scan.

^{99m}Tc -pyrophosphate was applied as brain scanning agent because of its characteristics of early blood clearance, no accumulation into chroid plexus and salivary gland, and tumor affinity of this label.

By combining those two ^{99m}Tc -labels, ^{99m}Tc -pyrophosphate and ^{99m}Tc -pertechnetate, early differentiation of CVD and brain tumor may become possible.

Brain Scan with ^{57}Co -Bleomycin

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The ^{99m}Tc -Pertechnetate is a most favourable radioisotope for brain scan. That is diagnostically very useful for supratentorial cerebral tumors. But it is difficult to demonstrate the tumors with ^{99m}Tc -Pertechnetate which exist at the cranial basis and in the posterior cranial fossa, because that areas are covered with temporal muscles, occipital muscles and salivary glands, which have normally strong activities with ^{99m}Tc -Pertechnetate. On the other hand, the ^{57}Co -Bleomycin is actively uptaked by tumor cells. The background activities of this scintigrams are very low level. Therefore, we obtain clear hot areas in malignant cerebral tumors.

Bleomycin is an antimitotic-antibiotics, discovered by Umezawa in 1962. The ^{57}Co is a pure gamma emitter (122 KeV), and has a long

physical half-life (270 days). The ^{57}Co -Bleomycin was developed by Renault, et al. in 1971. In this study, the ^{57}Co -Bleomycin that we used contained 10mg of Bleomycin per 1 ml with an activity of 1 mCi of ^{57}Co , and were injected intravenously for 1 to 3 mCi. This was rapidly eliminated through kidneys; 85% of radioactivity was found in urine within the first 24 hours as labeled Bleomycin. Therefore, the total irradiation dosis against the patients is not so large. But it is important to collect and stock the urine during the first 24 hours. Recording were made by 5-inch crystal, 85-hole collimator at 24 hours after the injection and scanning speed was 65cm/min.

In our series, from January 1973 to February 1974, 30 patients were studied in this way. In this meeting, we showed the typical

several cases, and emphasized the usefulness of

the ^{57}Co -Bleomycin for brain scan.

RI Cisternographic Diagnosis of Normal Pressure Hydrocephalus in Elderly Patients

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In the 1965's Adams and associates reported 3 cases of normal pressure hydrocephalus (N.P.H.) with dementia and movement disorder, and showed dramatic improvement after ventricular decompression.

We analysed 16 cases of elderly patient with subarachnoid hemorrhage due to ruptured aneurysm and head injury, among them 6 cases were clinically diagnosed as N.P.H.

An air study revealed filling defect of subarachnoidal space, and Evans Index was 0.38, and callosal angle was under 120° degrees according to measurement on A-P

view.

On the other hand, in RI cisternography we recognized continuous ventricular reflux (3hr—72hr) in 6 cases of N.P.H., convexity block in 1 case and delayed absorption in 5 cases.

The V-A shunt was done in 4 cases out of 6 cases of N.P.H. and remarkable recovery was recognised in 3 cases.

We consider that marked delayed RI ventricular clearance is an important factor as an indication of ventricular shunting procedure, and then must keep in mind to differentiate brain atrophy with dilated ventricle.

Abnormal C S F Dynamics in Aged Patients

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The study of CSF dynamics by using radioisotope is known as the clinically useful examination especially for the diagnosis of the pathological state of normal pressure hydrocephalus. However, CSF dynamics in

aged patients is not extensively elucidated.

Materials and Methods; Eighty four cases (male 67, female 35) ranging 2 to 90 years old (mean 67 years old) were examined by radioisotope cisternography at Tokyo metropo-