cephalus.

We described the necessity of dynamic study of CSF for the diagnosis of CNS disease and one method of the observation of the dynamic study of CSF.

Radioisotope Cisternography with ^{111}In-DTPA

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Radioisotope cisternography is a very useful method for the study of cerebrospinal fluid flow and absorption. Although many radiopharmaceuticals for cisternography have been used, RIHSA has the disadvantages of beta emission, long biological half-life and causing aseptic meningitis, ^{169}YbDTPA has the disadvantages of long physical half-life and ^{99m}Tc-HSA has the disadvantage of short physical half-life.

Recently, the new radiopharmaceutical, ^{111}In-DTPA that has no these disadvantages is available. In-111 has a physical half-life of 2.81 days, no beta emission and two gamma rays that have energies of 171 and 247 KeV. Since we have a chance to use ^{111}In-DTPA (Dainabot Radioisotope Lab., LTD), we describe in this report the clinical use of this for cisternography.

Radioisotope cisternography was performed in 35 patients following the lumbar intrathecal injection of 900 μCi of ^{111}In-DTPA. Anterior and lateral cisternographic images and counts in the head were obtained approximately 4, 6, 24 and 48 hr after injection using a gamma camera (GCA-202, TOSHIBA). Blood samples were obtained at 4, 6, 24 and 48 hr and all urine was collected for 72 hrs after injection.

No side effects attributable to the injected radiopharmaceutical were observed. Ratio of counts in the head at 6 and 24 hr, rate of appearance of radioisotope in blood and urine showed no relation with cisternographic findings, such as cerebrospinal fluid flow and ventricular reflux, and the degree of neurological symptoms in any disease.

It seems that ^{111}In-DPTA leaks from subarachnoid space out of arachnoid vili. Because there was fairly good correlation between sequential counts in the head and protein contents in CSF, it seems that the behavior of ^{111}In-DTPA in cerebrospinal fluid is related to protein contents in CSF.