

and the tumors were proved to be neurinoma, respectively. Of the other operated cases, nine were found to have intervertebral herniation, six to have thickening of the ligamentum flavum, two to have epidural varix, and one to have spinal canal stenosis. Myeloscintigram makes it

possible to find the status of the cerebrospinal cavities to a considerable extent. Because oil myelography is accompanied with considerably serious side effects, the authors believe that myeloscintigram is a test which should be made prior to oil myelography.

## **The Application of Profil Scanning to Diagnose the Stenosis of Cerebro-Spinal Space**

A. ASAHARA, S. HORIE and H. UEDA

*Department of Radiology*

I. DOHI, M. MOTOUCHI and T. TAKETANI

*Department of Internal Medicine*

*Central Hospital of Japanese National Railway, Tokyo*

Myeloscintigram with RI (RISA) is generally used for the observation cerebro-spinal space (CSS) anatomically.

The authors tried to pursue the mobility of RI in CSS observing profil scanning in series in addition to myeloscintigram. RI was injected into CSS gently by means of lumbar puncture and the patient kept supine posture at absolute rest for 3 hours. Profil scannings were made at 3 times, i.e. immediately after injection and at 1 hour, 3 hours intervals. Distribution of RI in CSS was measured quantitatively and we figured out the proportion of the brain activity to total. We call it "mobility rate to brain". 6 hours and then 24 hours later, the same procedures were made. We guess that when RI is injected into CSS without any dynamic change to CSF, the mobility of RI is due to the natural circulation and diffusion of CSF.

In normal case "mobility rate to brain" after 3 hours is above 10%, after 6 hours above 20%,

but in the case of stenosis, the mobility of RI above the lesion delays remarkably. This phenomenon is very sensitive to the slight change of CSS and the finding which was caught by myelography could be examined in very detail. "Mobility rate to brain" has significant reversed correlation to the protein of CSF, but not to the pressure of CSF. In case of positive Queckenstedt phenomenon, "mobility rate to brain" is low.

Abnormal foci found out by scanning were coincided with the of abnormal position ascertained by descending myelography or operation.

We can carry out this procedure with the least discomfort and side effect. Therefore to the patient who is suspected of the stenosis of CSS this procedure should be applied as a routine examination.

Recently,  $^{169}\text{Yb}$ -DTPA has been used, but this substance is metabolized quickly, therefore the background of whole body large. The validity is now under checking up.