several cases, and emphasized the usefullness 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 dealyed absorption in 5 cases.

The V-A shunt was done in 4 cases out of 6 cases of N.P.H. and remerkable 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 defferentiate 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 usefull 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-

ritan geriatric hospital. Among these cases, 64 cases were over 50 years old. Radioisotope cisternography was performed by the same method as that of the previous report using ^{169}Yb-DTPA. As an index of delayed C S F circulation, cunt rates of brain conpartment at 24 hours and 6 hours after injection (C_{24}/C_6) were compared with age and clinical signs and symptomes. These cases with the higher activity of head at 24 hours than that of 6 hours are defined to have delead C S F circulation. Patients were classified according to age and 4 clinical symptomes; mental dullness, gait disturbance, incontinence of urine and mutism.

Results; 1) Out of 64 cases over 50 years old, 43 cases (67%) showed delaed circulation of C S F. Among these 43 cases, 3 cases showed transient ventricular filling, 7 cases showed persistent ventricular filling and 33 cases showed only delaed circulation of C S F. Twenty one cases (33%) over 50 years old showed no delaed circulation of C S F. Among these 21 cases, 4 cases showed transient ventricular filling, 4 cases showed persistent ventricular filling and 13 cases showed no ventricular filling. 2) In normal control as well as in cases without 4 major symptomes the mean ratio (C_{24}/C_6) is 0.77. However, according to the increase in number of symptomes the mean ratio showed steady increase, that is with 1 symptome 1.16, with 2 symptomes 1.31, with 3 symptomes 1.34 and with 4 symptomes 1.52. 3) When these ratios wre plotted against age between 3rd end 9th decade significant correlation abetween the delaed C S F circuration and the efect of aging was observed

The Mechanism of High Protein Content of CSF in Guillain-Barre Syndrome ——Diffusion and Transport of Risa in CSF space or from CSF to Plasma——

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The high content of protein in CSF of the patients affected with Guillain-Barre syndrome (GBS) is an important item of its diagnostic criteria, but the mechanism of protein-increment have been still not explained. The one theory presented up to now is "stagnation within CSF cavity due to disturbance of absorption", and the others is "hyperpermeability of CNS capillaries".

The authers tried to study on that mechanism using ^{131}I-RISA.

CSF (C), plasma space (P) and etravascular space except CSF (E) compose the catenary three compartment system in sequence of C-P-E relating to albumin transport.

Sequential linear scanning of RISA administrated intrathecally by lumbar puncture showed rostral diffusion along the neuraxis