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REGIONAL CEREBRAL BLOOD FLOW MEASUREMENT BY Xe-133 INHALATION METHOD IN MOYAMOYA DISEASE. K.Tsuchiya,T.Machida,J.Nishikawa,K.Machida,M.Tio and M.Tio*. Faculty of Medicine, University of Tokyo.*National Nakano Hospital. Tokyo.

Regional cerebral blood flow (r-CBF) demonstrated by the Xe-133 inhalation method was reviewed in cases with Moyamoya disease. Findings of r-CBF measurements were compared with those of clinical findings, cerebral angiograms and X-ray CT scans and also with PET findings. In a case in which encephalomyosynangiosis was performed, follow-up r-CBF measurement was also presented. Although in restricted number of cases, our experiences of r-CBF measurements with Xe-133 inhalation method was found to be useful for the evaluation of cerebral blood flow in Moyamoya disease.

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DETECTION OF INTERNAL CAROTID ARTERY OCCLUSION : COMPARISON OF CEREBRAL RADIONUCLIDE ANGIOGRAPHY WITH X-RAY CT. H.Seki,T.Maeda, H.Matsuda,H.Ishida,N.Tonami and K.Hisada. Kanazawa University School of Medicine. Kanazawa.

The diagnostic value of cerebral radionuclide angiography (RNA) was assessed in 26 patients who underwent RNA and X-ray CT and were proved to have the internal carotid occlusion and/or stenosis by carotid angiography (CAG).

10 occluded arteries were all detected by RNA, while X-ray CT revealed low density areas in 50% of the cerebral hemispheres on the occlusion sides. On the other hand, in cases that have internal carotid stenosis (less than 70%), 2 of 19 arteries were detected by RNA and X-ray CT revealed abnormalities in involved cerebral hemisphere in 11 of the 19 arteries.

Thus RNA is not sensitive in detection of carotid artery stenosis but seems to be excellent in that of completely occluded arteries.

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RI ANGIOGRAPHY AND CT SCAN IN OCCLUSIVE CEREBROVASCULAR DISEASE. O.Shimamura, T.Ishizu, M.Ochiai, Rakutoh hospital, Kyoto. H.Adachi, H.Ijichi. Kyoto prefectural Univ. of Med., Kyoto.

RI angiography of brain by ^{99m}Tc injection method was compared with X-ray cerebral angiography, CT scan and clinical outcome for 38 patients with occlusive cerebrovascular disease. Patients were classified to three groups by CAG findings: The patients with little change of CAG was included in group A, patients with unilateral middle cerebral artery occlusion in group B, patients with unilateral internal carotid artery occlusion in group C. In each group, the roles of CT finding, clinical outcome and RI angiographic finding were evaluated. CT finding sometime were at variance with CAG finding and clinical outcomes. Changes in some parameters from RAG (appearance to peak time and mode of transit time) had good agreement to the occlusion of main artery and the grade of distances in upward slope ratio may represented the degree of clinical outcome.

We came to the conclusion that RI angiography could be more useful than CAG or CT scan to anticipate the clinical outcome of patient with occlusive cerebrovascular disease.

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EVALUATION OF VENTRICULAR-PERITONEAL SHUNT FUNCTION BY RADIONUCLIDE CISTERNOGRAPHY. H.Ishida,T.Maeda,H.Matsuda,H.Seki,N.Tonami and K.Hisada.Kanazawa University School of Medicine.Kanazawa.

Radionuclide cisternography was performed to 28 patients who had V-P shunt, using intrathecal In-111-DTPA injection method. At 2hr, 5hr, 24hr and 48hr after injection, head counts of anterior view was measured and anterior, posterior and lateral views were recorded. In 21 patients with persistent ventricular reflux, 13 patients had normal shunt function and their C24/C5 (the ratio of head counts measured at 24hr and 5hr) was 0.43 ± 0.1 . On the other hand, 5 patients had shunt trouble and C24/C5 value was 1.18 ± 0.30 . In 7 patients without ventricular reflux, there was no correlation between C24/C5 value and existence of shunt trouble.

We think C24/C5 value is very useful to evaluate V-P shunt function when ventricular reflux was found in cisternogram. But patients without reflux have non-communicating hydrocephalus or shunt independent hydrocephalus. So, other method (ex. shunt flow study) must be performed.