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RI ANGIOGRAPHY OF BRAIN BY SEQUENTIAL ADMINISTRATION OF Tc-99m PERTECHNETATE-EFFECT OF PAPAVERINE FOR OCCLUSIVE CEREBROVASCULAR DISEASE. O.Shimamura,T.Ishizu,M.Ochiai. Rakutoh Hospital,H.Adachi,H.Ijichi. Kyoto Prefectural Univ. of Med., Kyoto.

We performed RI Angiography of brain by Tc-99m intravenous injection sequentially for patients with occlusive cerebrovascular disease and control patient. In 320 seconds interval of these two studies, we administered one of vasoactive drugs (Angiotensin, Methoxamin and Papaverine) for the patient and calculated six parameters (appearance to peak time, mode of transit time, peak count, peak count ratio, up slope value and up slope ratio) on time activity curves which were obtained from ROI on left hemisphere and right hemisphere of brain. There was good coefficient of correlation between these studies on each parameter of 10 control patients. In patient groups administered Angiotensin and Methoxamin, "Up slope value" decreased remarkably and "up slope ratio" decreased. But, changes of other four parameters were not so remarkable. In 11 patients with cerebrovascular disease in chronic stage administered Papaverine, "Up slope value" increased significantly only in non affected hemispheres and "Up slope ratio" increased remarkably. On the other hand, changes of "Up slope ratio" in patients with CVD of acute stage and subacute stage were not constant. The result may suggest that the blood perfusion in normal hemisphere have been more influenced by drugs than in the lesion site. We concluded that this method is useful to evaluate the reactivity of cerebral vessels for drugs.

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TOMOGRAPHIC IMAGING OF CEREBRAL BLOOD FLOW WITH Tc-99m.HAM AND A ROTATING GAMMA CAMERA. H.Etani, K.Kimura,S.Yoneda,Y.Tsuda,(Osaka University Medical School), M.Miyai, K.Tanaka ,S.Uzi,J.Oda,H.Ohnishi and T.Nukada (National South Osaka Hospital), Osaka.

The purpose of the present study is to evaluate the tomographic imaging of cerebral blood flow with a rotating gamma camera and Tc-99m labeled human albumin microspheres (HAMS).

After injection of Tc-99m HAMS (15µm in diameter, 80,000 particles) into the common carotid artery, tomographic imaging of the brain was carried out using a rotating gamma camera ECT system (Hitachi Medico).

In all cases studied ECT reconstructions provided assessment of relative cerebral blood flow perfusion in different structures. In patients with completed stroke, ECT images demonstrated location of low flow clearly. However, in cases with lacunar infarction, ECT imaged did not provide the perfusion abnormality.

This method seemed to be useful for evaluating the regional cerebral blood flow perfusion tridimensionally in cases with cerebrovascular disease.