EVALUATION OF STA-MCA ANASTOMOSIS BY NON-DIFFUSIBLE RI TRACER BASED ON DECONVOLUTION ANALYSIS.* K. Horibe*, K. Akagi†, T. Ikeda†, Y. Iwata**, T. Kanekal**, K. Kusumia*** and S. Takeda**** *Department of Neurosurgery, Osaka National Hospital. ** Department of Neurosurgery, Osaka University. ***Department of Radiology, Osaka University. ****The Institute of Scientific and Industrial Research, Osaka University.

Radio-isotope angiography following intravenous injection of bolus of 99mTc-HSA was performed pre and post operatively in seven patients of STA-MCA anastomosis. T/A curve was obtained from paired ROIs of equal selected to cover the affected portion and identical area in the other hemisphere and another ROI at the aortic arch. Fitting the curve to Gamma function and using the simple matrix algorithm, input and output curve were obtained from the region of aortic arch and hemisphere respectively. PMTT (First Moment of Transit Time), MDT (Mode of Appearance Time), MDT (Mode of Disappearance Time) in the anastomosis hemisphere decreased in comparison with pre operative state. Deconvolution analysis with 99mTc-HSA is qualitatively and semiquantitatively valuable for the detection of patency of the STA-MCA anastomosis in addition to rCBF study and angiography.

CHANGES OF CEREBRAL BLOOD FLOW AFTER SUBARACHNOID HEMORRHAGE. T. Maeda, H. Matsuda, K. Nakajima, M. Oguchi, K. Hisada, H. Kobayashi and M. Hayashi* Department of Nuclear Medicine, *Department of Neurosurgery, University of Kanazawa, Kanazawa

The CBFs after SAH were measured with clearance method of Xe-133 injected into an internal carotid artery. The CBF was calculated based on the II/A method at each region of Icm x Icm with a gamma camera equipped with computer. The m-CBFs of the Grade I, II, III and IV of Hunt and Hess classification were 42.3 ± 12.6, 35.0 ± 6.2, 33.3 ± 9.5 and 27.8 ± 4.3 ml/100 g/min, respectively, but they showed significant overlap inter grades. The m-CBFs at the levels of disturbed consciousness showed significant overlap inter groups. The m-CBFs in confirmed cases with diffuse cerebral vasospasm were decreased according as the development of spasm but they were 47.6 ml/100g/min in acute phase without vasospasm. In cases with cerebral infarction complicated by SAH, m-CBF were 29.5 ± 3.5 ml/100g/min and the smallest r-CBFs at the region corresponding with the infarction on X-CT were 20.9 ± 2.4 ml/100g/min. The NPH complicated by SAH also showed significantly decreased m-CBF, 28.7 ± 3.0 ml/100g/min. The many cases with decreased m-CBF in the group of clear consciousness or in the low grade of Hunt and Hess classification were diffuse vasospasm, developed cerebral infarction or NPH.

DIAGNOSTIC VALUE OF RADIOISOTOPES CISTERNOGRAPHY COMBINED WITH INTRanasAL PLEDGETS IN CSF RHINORRHEA (SECOND REPORT). K. Okada, H. Hiratsuka, T. Fukumoto, K. Nishimoto, Y. Inaba, M. Kasegawa, H. Suzuki and T. Okuyama Departments of Neurosurgery, Otolaryngology and Radiology, Tokyo Medical and Dental University, Tokyo

We reported the usefulness of intranasal pledges for localization of CSF rhinorrhea combined with radioisotope cisternography. The normal value of radioisotope activity by well-type scintillation counter was presented. The cotton pledges are placed in 1) sphenoethmoid recess, 2) middle meatus and 3) cribiform. The radioactivity of blood was also counted. We noticed that the radioactivity of pledges were closely related to that of blood, namely radioactive tracer ratio of pledges to blood was under 30% in normal case. The possibility of diagnosing small leak is emphasized with this method.