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EVALUATION OF STA-MCA ANASTOMOSIS BY NON-DIFFUSIBLE RI TRACER BASED ON DECONVOLUTION ANALYSIS.

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Radio-isotope angiography following intravenous injection of bolus of ^{99m}Tc-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, imput and output curve were obtained from the region of aortic arch and hemisphere respectively. FMTT(First Moment Transit Time), MAT(Mode of Appearance Time), MDT(Mode of Disappearance Time) in the anastomosis hemisphere decreased in comparison with pre operative state. Deconvolution analysis with ^{99m}Tc-HSA is qualitatively and semiquantitatively valuable for the detection of patency of the STA-MCA anastomosis in addition to rCBF study and angiography.

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EVALUATION OF VERTICAL RI-ANGIOGRAPHY IN OCCLUSIVE CEREBROVASCULAR DISEASE.

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RI angiography in vertex view was performed in 9 patients with left carotid artery occlusion, 8 patients with right carotid artery occlusion and 10 controls without neurological deficit. Tc-99m pertechnetate were injected intravenously and dynamic images were recorded. Eight ROIs were drawn symmetrically in frontal, temporal, central, occipital and total area of each hemisphere and the time activity curves of each ROI were made and analized. Four parameters were obtained from these time activity curves were peak count(PC), appearance to peak time(APT), upward slope (US) and mode of transit time(MTT). Each PC and US were compared between right and left as PC-Ratio and US-Ratio. Differences between right and left were remarkable in temporal and total areas for MTT and APT. That differences were more marked in temporal, central, occipital and total areas for PC and US. Differences of US-Ratio and PC-Ratio were clear statistically. These results suggest that RI-angiographic study in vertex view can represent the change of blood perfusion of some focal areas in brain.

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CHANGES OF CEREBRAL BLOOD FLOW AFTER SUBARACHNOID HEMORRHAGE.

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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 H/A method at each region of 1cm x 1cm 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/100g/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.

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DIAGNOSTIC VALUE OF RADIOISOTOPE CISTERNOGRAPHY COMBINED WITH INTRANASAL PLEDGETS IN CSF RHINORRHEA (SECOND REPORT).

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