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THE EFFECTS OF ACUPUNCTURE VIEWED FROM
POSITRON CT (PET) REPORT 3

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The positron CT (PET) was used to traced the effects of electro-acupuncture stimulation on CBF,OEF and CMRO₂.

(Method)

Subjects included healthy volunteer, and brain tumor and CVA patients.

As a quantitative measurement ¹⁵O₂ and C¹⁵O₂ gas radioactively labeled as ¹⁵O were inhaled through the use of a spirometer.

For stimulation points, Shosanli-Hoku selected, with 2Hz voltage and current applied locally for 10 minutes at an intensity capable of causing light muscle twitching.

The ROI were established inside the PET images, with values traced for CBF, OEF and CMRO₂.

(Results)

The PET images in term of CBF and OEF was different following electro-acupuncture stimulation.

Subjects of accelerated activity in both sides of the cortex were recorded.

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Computerized Single Probe System : Assessment of CSF Flow Rates through the Shunting Devices. M. Matsumae, M.Ueda, O.Sato, T.Murakami, U. Suzuki. Tokai University School of Medicine. Isehara, Kanagawa.

Using CdTe (Cadmium telluride) as a detector, the authors have developed a computerized single probe system designed for CSF shunt flow assessment. The CdTe detector is so small in size that the device can be snugly attached to the scalp over the reservoir after some 100 microcurie of Tc-99m pertechnetate, less than 0.01 ml in volume, is being introduced into the reservoir. The data obtained is stored in micro-computer. The total study time can be arranged between 3 sec. and as long as several hours depending on the purpose of the study. Flow rate was computed by the following formula

$$\text{Log } F = 3.66 - 1.01 \log T_{1/2}$$

Advantageous points with this method are : the measurement can be continuously assessed, if required. The measurements are only feasible when the patients are in their horizontal position in most of the cases and real flow rates are hardly available when the patients are in their semi-sitting or upright positions. Some clinical data will be presented and discussed.

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COMPARISON OF RI-CISTERNOGRAPHY WITH
CT-CISTERNOGRAPHY

H.Nishino, J.Nagashima, A.Yamagata, M.Tanno, K.Chiba and H.Yamada. Tokyo Metropolitan Geriatric Hospital, Tokyo.

RI- and CT-cisternograms were compared regarding ventricular filling and convexity flow in 29 aged patients. Ventricular reflux was observed in 27 cases by both cisternograms, while in two cases no ventricular reflux was shown by either method. As far as concerning ventricular reflux, there was no disparity between two methods. Arrival time of agents into ventricular was not significantly different between these methods. However, amount of the dye entered into ventricles seems to be significantly different in 6-hour CT-cisternogram in several cases. But no difference was clearly shown by RI-cisternogram. Convexity flow was more accurately delineated by CT-cisternogram. Total of the head counts at 6 hour divided by total counts at 24 hours was expressed as C24/C6, indicating an absorption rate of CSF by RI-cisternogram. A counterpart of C24/C6 by CT-cisternogram was calculated by summing densities of the Sylvian fissure, ventricles, brain tissue and sulci. A good correlation was obtained between both RI and CT C24/C6 ratio. RI-cisternogram was concludes as a sensitive method as CT-cisternogram regarding diagnosis of ventricular reflux.

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CEREBRAL BLOOD FLOW MEASUREMENT IN
EPIDURAL HEMATOMA MODEL RATS BY

RADIONUCLIDE AUTORADIOGRAPHIC TECHNIQUE. H.Sumiya*, H.Matsuda*, H.Seki*, H.Ishida*, S.Tsuji*, K.Hisada*, K.Ikeda**, H.Mori***, K.Shiba*** and K.Kojima****. Dept. of Nucl. Med.* and Dept. of Neurosurgery**, School of Med., Radioisotope Center*** and School of Paramedicine****, Kanazawa University, Kanazawa

Regional cerebral blood flow (rCBF) changes in epidural hematoma model rats were analyzed by reference sample method using N-isopropyl-p-I-125-iodoamphetamine. Gummy balloon was set in epidural space of the rat brain and arterial and venous catheterization was performed. After 0.1ml of water was injected into the balloon by one minute, I-125-IMP was injected intravenously and continuous arterial blood sampling was immediately performed for three minutes. Rats were decapitated and autoradiography was performed. Perfusion defect was observed at the compressed area but increase of perfusion that shows the increase of rCBF was also observed around the compressed area. rCBF value was almost 0 at the perfusion defect area but that of the perfusion increased area where normal rCBF value was under 200ml/100g/min. was over than 300ml/100g/min.. This technique seems to be useful for understanding the pathophysiology of subdural hematoma.