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THE EFFECTS OF ACUPUNCTURE VIEWED FROM
POSITRON CT (PET) REPORT3

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The positron CT (PET) was used to traced
the effects of electro-acupuncture stim-
ulation 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 rese-
rvoir. 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 ref-
lux was observed in 27 cases by both cis-
ternograms, while in two cases no ventricu-
lar reflux was shown by either method. As
far as concerning ventricular reflux, there
was no disparity between two methods. Ar-
rival time of agents into ventric les 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 sever-
al cases. But no difference was clearly
shown by RI-cisternogram. Convexity flow
was more accurately delineated by CT-cis-
ternogram. Total of the head counts at 6
hour divided by total counts at 24 hours
was expressed as C24/C6, indicating an ab-
sorption 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 sensi-
tive 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.
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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.