normal.

② The changes of RI clearance curve by shunt operation;
  (1) RI peak time became faster than before shunt from 24 hours to 6 hours.
  (2) RI clearance after peak time at 24 hours was less than 50%, almost 30%.

③ The changes of clinical symptoms correlated to rather RI clearance curve than RI cisternogram.

④ RI clearance curve after peak time suspected the shunt patency, too.

⑤ In comparison to other clincial examinations;
  (1) The cases obtained an improvement of clinical symptoms and RI clearance curve after shunt, were seemd an ameliorations in EEG.
  (2) In CT scans of such cases, marked reductions of size of ventricular systems were observed.

Hereafter in an observations of pathological conditions of hydrocephalus after subarachnoid haemorrhage, it seems to be necessary rather RI clearance curve and CT scans than RI cisternogram.

Functional Image of Regional Cerebral Blood Flow Clinical Application to the Cases of Middle Cerebral Artery (MCA) Occlusion

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The functional imaging of regional cerebral blood flow (rCBF) is useful for understanding the hemodynamics and pathophysiology of the cerebrovascular disease. We reported the method of generating functional image of rCBF at the 16th Annual Meetings of the Japanese Society of Nuclear Medicine. Now, we report the clinical application to the cases of MCA occlusion. The cases were those with the complete occlusion of the stem of MCA in chronic stage. The rCBF study was performed at rest (control), at CO_2 inhalation, at hyperventilation and at contralateral digital compression of common carotid artery. We found that rCBF functional image of the cases of MCA occlusion offered the information of various types of pathophysiological and hemodynamic state. One case represents the generalized reduction of rCBF with ischemic focus at the territory of MCA. Another cases represent generalized slight depression of rCBF with no ischemic focus at the territory of MCA. And in this group, CO_2 reactivity of cerebral blood vessel is examined by CO_2 inhalation or hyperventilation. The case with the loss of CO_2 reactivity at the territory of MCA has also the loss of autoregulation at the territory of MCA which is assessed by the method of contralateral digital compression of common carotid artery instead of lowering systemic blood pressure. The functional image of each type is well correlated with the grade of clinical neurologic deficit and the development of collateral circulation. Consequently, rCBF functional image is very useful for detecting focal ischemia, CO_2 reactivity of cerebral blood vessel and the loss of autoregulation. And rCBF functional image will be also helpful for determining the indication of the bypass surgery (ST-MCA anastomosis).

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