carotid arteries feeding the brain, particularly when various types of cerbral vasodilators were given.

Namely, after intravenous administration of nicotinic acid and 5% CO_2 inhalation the CBV increased but the MCCT was considerably shortened, and as a result increased the cerebral blood flow (CBF) was calculated in those cases.

After intravenous administration of theophyllin ethylendiamine the MCCT did not show any recognitionable changes but the CBV decreased slightly. In consequence, the CBF was calculated in slight decrement.

When amylnitrite was given for 20 seconds, the CBV increased rapidly after its inhalation and reached to the maximum in 1-2 minutes and returned gradually to the pre-inhalation level between 3-4 minutes. But the MCCT was prolonged inversely in 1-2 minutes, so the CBF decreased in those cases.

The present attempt was made to study the analysis of cerebral circulatory hemodynamics when vasopresor drug and cold pressure test were given. A comparative study was also made on the physiopathological difference between the MCCT of plasma with the use of RISA and the blood cell mean cerebral circulation time using ^{51}Cr-labelled erythrocytes.

When cold pressure test was given in cerebral vascular diseases, the blood pressure increased rather rapidly and reached to the maximum in 1-2 minutes. The MCCT was shortened in 1-minutes, then it gradually returned to the pre-test level in 3 minutes but the CBV showed decreasing in 1-2 minutes and thereafter it returned slowly to the pre-test level. As a result the CBF increased in 1 minutes and it returned to the pre-test level in 3 minutes but the CBV showed decreasing in 1-2 minutes and thereafter it returned slowly to the pre-test level. As a result the CBF increased in 1 minutes and it returned to the pre-test level in 3 minutes.

After intravenous administration of n-ethyl derivative of phenlyephrine (5 mg) in the cerebral vascular diseases, the CBV showed derivative of phenylephrine (5 mg) in the minimum value in 2 minutes, then it returned slowly to the pre-injection level but the MCCT was shortened in 1-3 minutes. In consequence the CBF increased in 1-2 minutes. In normal adults the MCCT was prolonged inversely and the CBV decreased in 1 minutes but those factors returned promptly to the pre-injection level.

VI. Blood

Studies on the Function Test of Salivary Gland with ^{131}I

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It is well known that the inorganic iodine is selectively picked up the by parotid gland and excreted into saliva.

Recently, we have made studies on the function of the parotid gland with iodine-131 that is administered to patients intravenously in the form of Na^{131}I.

The results obtained from the series of this study have been presented partly in the 4th annual meeting of Japanese Nuclear Medicine already.

This time, the function of the parotid gland was tested with this method in cases with tumor. The changes in the function after the

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radiotherapy were also studied.

First, scintigram of the parotid gland was taken 20 minutes after intravenous administration of $Na^{131}I$ (400 μc). Fifty mg. of NaI was given to the patiends for two days just before the administration of the tracer material to block thyroid gland. The functioning parotid gland as well as the submandibular gland were relatively well visualized on the scan, indicating possible clinical application of this method to the scintiscanning of these organs.

In a case with mixed tumor of the left parotid gland, the normal side showed the uptake of 2.3% min. and the tumor side 1.1% min. The excretion rate was −14.7% min. in the normal side and −2.2% min. in the other, showing definite decrease of the function in the affected side. In a case with carcinoma of the left parotid gland, there was a definite decrease of the function in the affected side preoperatively and its complete disappearance was noted postoperatively. In a case with Mikulicz's diseas of the submandibular glands, the uptake as well as the excretion were found decreased bilaterally.

From these results mentioned above, it will be possible to apply this method to the diagnosis of the salivary gland tumor.

Among those with radiotherapy (tele cobalt −60), a case having right upper jaw cancer showed the function of the parotid gland decreased in the affected side after the irradiation of 8,000r. In a case with left upper jaw cancer, the test revealed the function of the left parotid gland decreased after the irradiation of only 500r. In a case having had 12,000r for right upper jaw cancer in the terminal stage, the function of the parotid gland was found decreased in the affected side as well as in the normal side.

From these results, it will be possible that the function of the parotid gland is affected by the radiotherapy.

Studies on ^{131}Triolein, RISA Absorption in Aplastic Anemia and Leukemia

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In patients with aplastic anemia, their nutrition is relatively good in comparison to the hematologic status. As part of studies on fat metabolism in aplastic anemia, ^{131}I-Triolein absorption test was performed.

Radioisotope blood levels in aplastic anemia was rapidly raised and maintained high levels for several hours; 17 per cent or higher at 1 hour after oral administration of ^{131}I-Triolein, and 23.5 per cent at 4 hours which was the maximum level.

But these patients had been receiving prednisolone 10~20 mg. and ACTH 10~20 unit daily for treatment. It was already evident that these medicine increased intestinal absorption of Triolein, so that patients with encephalomalacia being similarly treated with prednisolone and ACTH but with no evidence of gastrointestinal disease were examined.

Their blood radioactivity was also high, but the mean blood peak radioactivity value was 17.6 per cent at 4 hours after oral administration. In normal persons, the peak radioactivity value was 15.5 per cent at 4 hours.

The mean faecal radioactivity value for three days in normal persons was 4.2 per cent with a range of 1 to 8.3 per cent, in aplastic anemia 3.8 per cent with a range of 3.0 to 4.3 per cent, in encephalomalacia under treatment with prednisolone, ACTH, 2.5 per cent with a range of 2.0 to 3.0 per cent.

In RISA absorption test, blood absorption levels in aplastic anemia were higher than that in normal persons. The mean blood peak radioactivity value was 14.5 per cent at 1 hour, three days mean faecal radioactivity was 3.9 per cent in aplastic anemia.

As a result, ^{131}I-Triolein, RISA absorption in aplastic anemia was better than normal persons.

In ^{131}I-Triolein absorption test in patient with chronic myelogenous leukemia, blood radioactivity increased at early times and maintained the normal level. But in acute leukemia, blood radioactivity level was

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