

ional image, superimposed one.

METHOD:

For the detection of pancreatic mobility was used the PHO/GAMMA III scintillation camera. As an agent, 100 μCi of ^{75}Se -selenomethionine was injected intravenously in each case. The time of scan was 30-40 minute in superimposed position and 40-50 minute later in upright position. Total counts of 50 K was collected for the each scintigram in 10 minutes. The standard ^{57}Co coin-shaped marker was attached on the xiphoid process during the pancreas scanning.

CLINICAL EXPERIENCE:

Trial has been performed in a series of 98 cases including 17 cases of pancreas head carcinoma, 23 cases of pancreas body carcinoma, 28 cases of metastatic carcinoma of the pancreas and 30 cases of normal pancreas.

The mobility of the pancreas body was 3.31 (0.5-5.9) cm on an average of 29 cases of normal pancreas.

The phenomenon of the loss of the pancreatic mobility was found in a majority of 68 cases of malignant tumor of the pancreas; 98.5% (67/68).

The Approach to the Pancreatic Disease by the Pancreatic Scintigraphy

(in comparison with the results of EPG and P-S test)

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The pancreatic scintigraphy was performed with ^{75}Se -Selenomethionine in 244 patients during 3 years since 1971.

The Endoscopic Pancreatography (EPG) was carried out in 88 and also the Pancreozymin-Secretin (P-S) test was done in 46 out of the same 244 cases.

This paper concerns with the comparison and the analysis of these results.

1) Both pancreatic scintigraphy and EPG were performed in 88 cases (49 with subsequently proven diagnosis). The rates of a correct diagnosis of carcinoma were 79% by the scintigram and 82% by EPG. The rates

of false positives were 21% and 18% respectively. P-S test was abnormal in 33% of all cases with carcinoma.

2) The rates of a correct diagnosis of chronic pancreatitis were 73% by the scintigram and 89% by EPG. P-S test was abnormal in 71% of the cases with chronic pancreatitis.

3) According to the analysis of the false positives of carcinoma, the major pitfalls of erroneous diagnosis are considered as follows: the "neck" area and the decreased uptake in cachexy on the scintigram and, concerning EPG, an excess of interpretations of the partial obstruction and sclerosis of the duct,

chronic pancreatitis and the false obstructive picture of the duct in the tail due to air interposition.

In cases with relatively localized lesions, P-S test was apt to result in abnormality only when they are associated with the obstruction of the duct in the head. Thus, it was found

out that those 3 examinations had their own purposes. It is necessary to evaluate those results collectively together with those of the angiography and the cytology of the direct pancreatic aspirates in order to improve the accuracy of the diagnosis.

¹⁴C-Trioctanoin Digestion Absorption Test

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In rat experiments, the radioactivity curves of expired ¹⁴CO₂ and of incorporated ¹⁴C into various organs in 24 hours after the administration of 5 μ Ci of ¹⁴C-trioctanoin with 0.4ml of trioctanoin, increased to reach a peak at 2 hours (¹⁴CO₂), and 30 minutes (¹⁴C incorporation). Thereafter, the specific activities decreased rapidly. Trioctanoin was metabolized quickly.

Based on the rat experiments, ¹⁴C-trioctanoin digestion absorption tests were performed in human subjects. 5 μ Ci of ¹⁴C-trioctanoin with 8g of trioctanoin were administered orally after overnight fasting, and then ¹⁴CO₂ in exhaled breath were collected in a liquid scintillation counting vial which contained 1ml of 1M hydroxide of hyamine and 2ml of ethanol, with one drop of phenolphthalein solution, with the aid of Sasaki's apparatus, from 30 minutes to 24 hours. In the healthy

subjects, radioactivity increased to reach a peak at 3 hours after trioctanoin intake, but in the subjects with bile flow disturbance, radioactivity had the tendency to reach a lower peak at 6 hours. Maximal specific radioactivity of expired ¹⁴CO₂ was lower in cholecystopathy, pancreatitis, intestinal disorders than in control subjects. Relationship between ¹⁴C-trioctanoin digestion absorption test and ¹³¹I-triolein digestion absorption test was not parallel. The results are seemed to be clearly explained by the fact that the mechanisms of absorption of trioctanoin and that of triolein are different at each stage of digestion and absorption. ¹⁴C-trioctanoin digestion absorption test is useful not only for the diagnosis of malabsorption syndrome, but also for the indication of trioctanoin administration by combination of ¹³¹I-triolein and ¹⁴C-trioctanoin digestion absorption test.