

pancreatic diseases such as chronic hepatitis, liver cirrhosis, liver tumour, chronic gastritis, gastric cancer, cholecystopathy, retro-peritoneal tumour and others.

The visualization of pancreas in non-pancreatic diseases is 96.6%. The types of the pancreas is classified into 4 categories following observing 376 normal pancreas scintigrams: i) classic type 33.5% ii) club-shaped type 40.9% iii) reversed S type 13.9% iv) horseshoe type 11.9%.

64 cases of chronic pancreatitis show normal scintigram in 25 cases, non-visualization in 25

cases, defect in head in 9 cases, defect in body in one case and defect in tail in 4 cases.

28 cases of pancreas head cancer show defect in head in 25 and non-visualization in 3. 29 cases of pancreas body and tail cancer show defect in body and tail in 24 and non-visualization in 5.

The diagnostic reliability of scintigraphy compared to angiography is 80% by the former and 70% by the latter in pancreas head cancer. On the other hand, that of pancreas body and tail cancer is 86.7% in both.

Clinical Application of Scinticamera **Report IV. Comparison of Scintiphotography and Angiography** **for Pancreatic Carcinoma and Cyst**

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The comparison of scintiphotogram and angiogram was studied on 33 cases of pancreatic carcinoma and 4 cases of pancreatic cyst.

1. The scintiphotogram of pancreatic carcinoma was classified into six patterns regarding to the locus of the lesion.

Abnormal patterns were obtained in 31 of 33 cases of pancreatic carcinoma and in 3 of 4 cases of pancreatic cysts.

2 cases of false negative were found to have the region in the pancreatic head.

2. 17 cases of pancreatic carcinoma and 4 cases of pancreatic cysts underwent selective celiac

and superior mesenteric angiography.

The abnormal findings in angiogram were classified into 4 types, and their incidence was studied according to the locus of the lesion. Abnormal patterns were obtained in 15 of 17 cases of pancreatic carcinoma.

In 2 of 17 cases, false negative diagnosis were made.

In one case, the pancreatic body was involved and in another case, whole pancreatic tissue, respectively.

3. Three interesting cases were also represented.

Experimental Dynamic Study of the Accumulation Curves of **⁷²Se-Methionine in the Pancreas**

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Object: The aim of this study is to see the possibility of functional diagnosis by the aid of time-lapse accumulation curve of ⁷²Se-methionine

in the pancreas with computer processing data.

Methods: Immediately after intravenous injection of ⁷²Se-methionine, data are stored on

video tape recorder through the scintillation camera, one hour later play-back is done, and time-lapse accumulative curves are drawn by the minicomputer by subtracting the value of pancreas from the background values of regions of interest under the pancreas.

Results: In the present trials we selected 5

individuals with normal clinical findings, and the curves obtained coincided fairly well with $C = K + A(1 - C^{-kt})$.

We intend to study on this problem further with cases of tumors and inflammatory lesions in future.

Significance and Limitation of 24 Hour Image in Scintigraphy of the Pancreas: Study of 189 Cases

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In interpretation of a pancreas image, it sometimes is not easy to decide whether the filling defect suspected is true space occupying lesion in nature or not.

By comparing carefully the images of 20 minute and 24 hour after intravenous administration of ^{75}Se -selenomethionine, retention of radioactivity in the pancreas can be easily detected indicating narrowing and obstruction of the pancreas duct.

Pho/Gamma III scintillation camera was used for obtaining the pancreas image.

As an agent, 100 μCi of ^{75}Se selenomethionine was injected intravenously in each case.

In criteria of evaluation of images of the pancreas, we used "positive" for the persistent retention of radioactivity in the pancreas at 24 hour image and "negative" for complete removal of radioactivity from the pancreas based on good passage of pancreatic duct.

In 55 cases of malignant lesions of the pancreas were obtained 53 positive cases including 29 cases of cancer of the pancreas, 18 cases of metastatic cancer of the pancreas and 4 cases of cancer of the Vater's papilla. False negative was 3.6% (2/55) in them. In 134 cases of normal and benign lesion of the pancreas, 112 cases were negative except 16 cases of chronic and acute pancreatitis, 2 cases of pancreatic adenoma and 4 cases of past-surgical situation. False positive was 16.4% (22/134).

The 24 hour image scintigraphy of the pancreas using scintillation camera and ^{75}Se -selenomethionine was useful for detection of narrowing and obstructing condition of the pancreas duct due to invasion of a malignant neoplasm or other organic change on the sound basis of persistent retention of radioactivity within the pancreas.