

I. Digestive Tracts (GI Tract and Pancreas)

Diagnostic Significance of the Pancreatic Displacement on Scintigram

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Pancreatic scintigraphy has been accepted as an easy procedure of obtaining pancreatic image, though ^{75}Se -Selenomethionine available for its purpose has many problems. A localized or total defect is a common abnormal finding on the pancreas scintigram, but occasionally pancreatic displacement is observed. We reported that the pancreatic displacement associated with an area of low activity adjacent to the pancreas was of value in the differential diagnosis of the upper abdominal tumor.

Materials and Method

855 pancreatic scintigraphy performed from June 1968 to May 1974 in our department were reviewed. Scintigraphic examinations were carried out as follows. No premedication was done. $250\mu\text{Ci}$ of ^{75}Se -Selenomethionine was given intravenously. Pancreatic image was obtained 30 min. after the injection by Scintillation Camera (Nuclear Chicago, Pho/Gamma III).

Results

Scintigraphic findings of the pancreas were classified into 5 groups; normal, faint visualization, non visualization, localized defect and displacement. Scintigraphic examination revealed the pancreatic displacement in 18 cases and an area of lower activity than background adjacent to the pancreas in 19 cases. Both findings were demonstrated in 12 cases. Of these cases, 7 cases (58%) were pancreatic cyst and 2 choledochal cyst, 1 retroperitoneal tumor, 1 splenic cyst and 1 hepatic cyst. On the other hand, there were 13 cases of pancreatic cyst in this series. In 7 cases (54%) out of 13 pancreatic cyst, both findings were concomitantly present on scintigram. We conclude that the pancreatic displacement associated with an area of lower activity than background adjacent to the pancreas is highly suggestive of the cyst of the retroperitoneal organ, especially the pancreatic cyst.

Clinical Assessment of Scintigraphic Detection of Mobility of the Pancreas

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The pancreas image in upright position may

add another important information to covent-

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,