

## Radioisotope Diagnosis of Pancreatic Diseases

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Clinical studies were carried out on radioisotope diagnosis of pancreatic diseases by means of pancreas scanning using  $^{75}\text{Se}$ -selenomethionine with a Nuclear Chicago Anger Scinticamera. The results obtained are as follows:

- 1) In 454 cases to which pancreas scintigraphy was applied, 344 were clinically of the normal pancreas and their scintigrams proved normal in 92% and false positive in 8%.
- 2) In 45 cases of pancreatic cancer, pancreas scintigrams showed abnormalities in 42 (93%). Correctness of the site and size of cancer detected by the scinticamera was confirmed in

14 (41%) of 34 on which operative surgery or autopsy was performed. Incorrectness by scintigraphy resulted mainly from associated pancreatitis. False negativity was present in 3 (7%).

- 3) Diagnostic positivity in 26 cases of pancreatitis was 69%. In the advanced cases of chronic pancreatitis requiring operative surgery and pancreatolithiasis, pancreas scintigram showed abnormalities in all.

In the suspected cases of chronic pancreatitis, 46% showed normal uptake.

## Clinical Assessment of Dual Pancreatic Images Checking of Pancreas Duct Stenosis and Pancreas Mobility in Combination with Two Colour Depiction

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Two pancreas study checking of pancreas duct stenosis and pancreas mobility may add another useful information to conventional single image.

### METHOD

For the detection of pancreas duct stenosis and pancreas mobility was used the PHO/GAMMA III scintillation camera. The equipment for two

colour depiction consist of two mono-chromatype TV cameras, colour mixer, colour TV and VTR. As an agent, 100  $\mu\text{Ci}$   $^{75}\text{Se}$ -selenomethionine injected intravenously in each case. 4 pancreas images was depicted in superimposed, upright, 20 minutes after and 24 hours after.

### CLINICAL EXPERIENCE

Two study has been performed in a series of 103 cases of normal pancreas, 17 cases of acute pancreatitis, 59 cases of chronic pancreatitis, 20 cases of the carcinoma of the pancreas head, 26 cases of the carcinoma of the pancreas body, 2 cases of the carcinoma of the pancreas tail, 36 cases of metastatic carcinoma of the pancreas, 6 cases of partial resection of the pancreas, a case of lithiasis of the pancreas, a case of diverticulum of the duodenum and 2 cases of the pseudo-cyst of the pancreas. As summarized result, was shown negative PDS (Pancreas Duct Stenosis) and positive M (Mobility) in all cases of 103 normal pancreas (100%), 8 cases out of 17 acute pancreatitis (47.1%)

and 33 cases out of 59 chronic pancreatitis (55.9%).

As a malignant series, was shown positive PDS and negative M in all cases of 20 case of the carcinoma of the pancreas head (100%), 26 cases of the carcinoma of the pancreas body (100%) and 34 cases out of 36 cases of metastatic carcinoma (94.4%).

Dual pancreatic information checking of pancreas duct stenosis and pancreas mobility in combination with two colouring (red and blue) will be provided a valuable adjunct in differentiating the pancreas carcinoma from chronic pancreatitis or normal.

### **A Preliminary Study of Angioscanography with $^{99m}\text{Tc}$ -MAA in Cancer of Thoracic Esophagus**

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Angioscanography (named by Viamonte, Jr. in 1964) with  $^{99m}\text{Tc}$ -MAA was performed on 14 patients with cancer of thoracic esophagus. Except two patients selective injection of an arbitrary dose (500  $\mu\text{Ci}$ ) was succeeded via feeding arteries.

Thirty minutes after the injection of  $^{99m}\text{Tc}$ -MAA, scanning was carried out in four projections and scintigram was compaired with angiogram taken prior to MAA study. Good accumulation

was clearly visualized in 13 patients out of 14, the positive ratio of 92.8%. In two cases, other hot spots apart from the main tumors were observed in the right hilar lesion and in the right side of lower mediastinum, which could not be opacified by selective angiographies.

The procedure, results and the possibility of further usefulness of this study in clinical radiology was discussed.