

IX. Pancreas

A New Technical Investigation about the Pancreas Scintiphotography

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As a conventional pancreas scintiphotography were utilized the static anterior views in the last several years.

Recently, it is realized important to obtain the informations of the pancreas images as many as possible in a limited administration of the agent.

Our new technics was applied in 180 cases including suspected pancreas metastasis of the gastric cancer, chronic pancreatitis, pancreas tumor and cyst. The methods and conclusions were as follows;

1) As a equipment, Pho/Gamma III scintillation camera was superior to conventional scanner in the serial rapid pancreas imaging.

2) Each case was injected ^{75}Se -Selenomethionine 110–90 μCi (2–1.5 $\mu\text{Ci}/\text{Kg}$) intravenously and imaging of the pancreas was successful in almost all cases.

3) The detector was placed as closely to the abdominal wall as possible keeping an angle between the detector and abdominal wall 5° upwards. In this way, the pancreas image can be separated from the liver image very easily. Exposure time of dynamic images was 0–4 minutes, 5–9 minutes and 10–14 minutes after administration of a tracer.

4) The 50 K-Counts image of the pancreas were taken at 15–24 minutes after intravenous injection. In the double marked imaging at laying position for the purpose of marking the length on the scintiphotograph,

positive coin marker of ^{57}Co 9.5 μCi was placed on the xiphoid edge and the negative coin marker of plumbum was attached at the middle of the right costochondral margin; 10 cm in distance from the positive coin marker. In the imaging of the pancreas at the upright position the positive coin marker was used indicating the site of the xiphoid edge. Exposure time of each image was 25–34 minutes and 35–44 minutes after intravenous injection respectively.

5) The mobility of the normal pancreas was 3 to 7 cm according to the result of comparison of the images of the pancreas at laying position and those at upright position. It was possible to give the evidence of the immobility of the pancreas which showed the invasion of the pancreas lesion into the retroperitoneum.

6) The image of the normal pancreas can never be visualized 24 hours after tracer administration because of excretion of ^{75}Se -Selenomethionine as a pancreatic juice. In the case of carcinoma of the duodenal papilla and pancreas cancer the remaining image of the pancreas was visualized due to the stenosis of the pancreas duct. Therefore, the 24 hours (or 48 hours) pancreas image was useful to differentiate the obstructive jaundice due to bile duct stenosis and that due to pancreas duct stenosis.