Pancreatic imaging had been noninvasive and safe technique for evaluating the pancreas status in clinical cases. In order to improve the diagnostic capability of pancreas, pancreatic imaging with single photon emission computed tomography (SPECT) technique was applied. Instrument used was a autotune 2S gamma camera (Maxi Camera 400A/T) with computer (MaxiStar) on-line system. Three μCi/Kg of body weight of Se-75-selenomethionine was injected intravenously and pancreas imaging with SPECT technique was started from 30 min after injection. The plain and subtraction images were also examined to compare with the images of SPECT technique.

Our results obtained in this series were as follows; it was possible in transaxial and sagittal images with SPECT technique to distinguish the pancreas image from the liver image. In addition, it was possible to obtain the whole pancreas image clearly in oblique images. Our data suggest that pancreas imaging with SPECT technique are valuable in evaluating the pancreas status in clinical cases.

Pancreas activity by PCT was also taken up by liver and kidney (4.9 and 2.0 % dose/g at 20 min), but pancreas-to-liver ratio was 1.8 at 10 min, 1.6 at 20 min after injection. Blood, heart, and brain exhibited low amount of uptake. In the human volunteer, 12 mCi of C-11-Met was injected and clear pancreas images which were easily distinguishable from surrounding structures were obtained. Pancreas activity by PCT was gradually increasing after injection and pancreas/liver ratio came to its peak 1.8 at 30 min. Kidney showed relatively pattern and its activity was low. In the patient with pancreas carcinoma, C-11-Met accumulated only in the liver and a cold lesion was observed at the site of pancreas. C-11-Met considered to be a good physiological marker for amino acid incorporation into the tissue. In this study, we concluded that C-11-Met is quite useful in positron imaging of pancreas.