I. Digestive Tracts (GI Tract and Pancreas)

Pancreas Scintigraphy Using "Area of Interest" (Second Report)

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At the twelfth annual meeting we reported the clinical usefulness of pancreas scintigraphy using "Area of Interest (AOI)". The present paper concerns with a study of scintiphotos of the pancreas phantom using AOI and the results of 178 patients.

A pancreas phantom was made according to the measurement of normal pancreas of 111 corpses. Various columnar Mix-Dp targets were placed in the head, body and tail of the phantom. A liver phantom was prepared as the major background. The pancreas phantom was submerged in ^{75}Se-selenomethione solution to simulate the normal ratio of redioactivity of the pancreas, liver and background. After pancreas images in AOI were confirmed by a persistence scope, Polaroid scintiphotos were obtained with 6–8 $\times$ 10^4 counts in each exposure. The exposures with AOI improved the resolution of a 15 mm diameter target better than those without AOI. A 10 mm target in the tail was suggestively seen in scintiphotos with AOI. But it was concluded that a 15 mm diameter target was the smallest one detectable. Without AOI, scintiphotos diagnosis was difficult in 25 of 48 patients with 200–250 μCi ^{75}Se injected. With AOI, in contrast, the readout was difficult only in 18 of 130 cases with 150 μCi ^{75}Se.

Conclusion: With AOI, more distinct scintiphotos were obtained in patients with lesser doses of 150 μCi ^{75}Se given intravenously. Clinically, it seemed possible to detect tumors as small as 15 mm in diameter. Pancreas scintiphotography using AOI is superior to the conventional one because of the lesser dose of ^{75}Se required, thus a higher radiation safety and more distinct pancreas images.

Clinical Evaluations of Pancreas Scintigram

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During the past 2 years, we have carried out the pancreatic scintigraphy of 170 patients suggestive of pancreatic disorder.

Methodg: Scinticamera (102 type, toshiba) with 1,000 paralled hole collimator was used.

Serial scintigrams were obtained at 30 and 60

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