

M. Digestive Tracts (GI Tract and Pancreas)

DYNAMIC CHANGES OF ^{75}SE -SELENOMETHIONINE IN THE PANCREATIC JUICE AND BILE

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[Purpose]: Attempts were made to elucidate the dynamic changes of ^{75}Se -selenomethionine in the pancreatic juice and bile using thin layer chromatography and autoradiography, especially for the elucidation of the site of conjugation of RI.

[Methods]: In male rats 8-10 weeks after birth, $60\text{-}80\mu\text{Ci } ^{75}\text{Se}$ -selenomethionine was injected into the femoral vein, and the pancreatic juice, bile and mixture of these were obtained 20, 40, 60, and 80 minutes later. The samples were subjected to thin layer chromatography and the mode of conjugation of RI was studied by autoradiography. Ethanolwater mixture was used for development.

[Results]: 1. RI appearing on the autoradiograph was accumulated at 3 sites on a thin layer plate different from that of the ^{75}Se -selenomethionine used as the control.
2. Radioactivity in the pancreatic juice was located at the origin, probably bound to a high molecular weight compound.
3. Three sites of accumulation of RI on the film are assumed to represent the radioactivity in the bile combined with compounds present in minute quantities, possibly the degradation products of ^{75}Se -selenomethionine.

4. Thin layer chromatography and autoradiography of pancreatic juice-bile mixture obtained 20, 40, 60 and 80 minutes after intravenous injection revealed more pronounced RI accumulation as time goes on up to 60 minutes.

PANCREAS CT-SCANS IN CASES WITH AN ABNORMAL PANCREAS RI-SCAN

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Pancreas CT-scans using Hitachi CT-W2 (seven second scan time) were performed on 68 cases with an abnormal RI-scan and 18 cases with a normal RI-scan.

After the intravenous administration of ^{75}Se -selenomethionine scintiphoto of the pancreas was taken by using gamma camera angled the detector seven degrees. The CT-scan with the patient supine was also performed angled the gantry 10 degrees with the top tilted in a cephalad direction. After an oral administration of 2% Gastrografin the repeat scan of the pancreas was done with the patient in the right lateral decubitus position not angled the gantry.

In cases with the RI-scan showing an abnormal reduction in uptake, the high frequency of pancreas atrophy was found by the CT-scan included 1 cancer of the pancreas and many chronic pancreatitis. In many cases with the RI-scan showing non-visualization, the pancreas atrophy was also found by the CT-scan but some localized or diffuse enlargements of the pancreas were found in several cases included some cases of cancer of the pancreas and a few cases of chronic pancreatitis. Some cases were found normal by RI-scans but abnormal by CT-scans, these cases included 1 insuloma and 1 cancer of the pancreas, while some other cases were found normal by CT-scans but abnormal by RI-scans, these cases included a few cases of gastric ulcer. Diagnosis accuracy in studies of the pancreas may be increased by combining a RI-scan and a CT-scan.