

Experimental Studies for the Zn Concentration in Pancreas

K. INAMOTO and G. YOSHII

Osaka University Medical School, Department of Radiology

No experiments have yet been made which allow to figure pancreas as contrast media for radioscintigrams. The present reports deal with some preliminary studies of Zn distribution process in pancreas tissues.

The first part of our works were carried out on some organs in abdomen to examine the ^{65}Zn distribution from 1 hour to 10 hours after injection. ^{65}Zn appeared in high concentrations in the pancreas and small intestine at 3 hours and 7 hours, respectively. The chronological change of ^{65}Zn uptake in the liver was less than in the pancreas. The blood contained the lowest concentrations of the organs studied.

Next, ^{65}Zn solution was administered orally. At 4, 7, 24, 48 hours and 7 days after administration the pancreas was quickly removed. The pancreas was fractionized in cellular components, that was, nuclei, zymogen granule, mitochondria and microsome by an usual centrifuging. In initial period after administration, the zymogen granule concentration was higher than the other components. In 7 hours after administration the zymogen granule concentration decreased rapidly. Both the mitochondria and micro-

some concentration in this time were the highest through the 7 days observation. A little quantity of Zn in the above components remained until the 48 hours observation.

In initial period the high concentration of Zn in the pancreas zymogen granule must be one of the keys of finding a new contrast media for radio scintigram. It is known that the zymogen granule is closely related with newly synthesized enzyme. The zymogen granule chromatography using DEAE-Sephadex was carried out on with Zn injected animals and on without ones. High concentration of ^{65}Zn has appeared in the one peak, which shows protein fraction. Thereafter, another chromatography, also, was made down for proteolytic enzymes. ^{65}Zn was found just in the carboxypeptidase fraction. This means that zinc must be strongly bound with carboxypeptidase. If the binding form between zinc and some precursors of carboxypeptidase. If the binding form between zinc and some precursors of carboxypeptidase will be resolved in future, organic ^{65}Zn compound must be available for radio scintigram.

Brain Scanning—Experiences in Our Clinic—

T. MITANI, K. SOMEDA, N. KAGEYAMA and H. HANDA

Kyoto University, Department of Neurosurgery

Recently, 27 patients were studied with neohydrin ^{203}Hg and merphyrin ^{203}Hg brain scan in our clinic. Among these, 21 patients were found to have brain tumor and 6 had indicates the definite localization of tumor,

non neoplastic neurological disease. Of 21 patients who had brain tumor, the scanning was positive in 13 cases, equivocal in 4 cases and negative in 4 cases. A positive scan an equivocal scan indicates abnormal isotope