

287

THE BINDING OF I-125-QUINUCLIDINYL BENZILATE(QNB), A MUSCARINIC RECEPTOR ANTAGONIST, TO RAT PANCREATIC ACINI. E.Aoki, S.Satoh, S.Ohnishi, T.Honda, Y.Yonekura, H.Adachi and K.Torizuka. Kyoto University School of Medicine, Kyoto.

To develop a novel method for external imaging of pancreas, the binding of I-125-QNB to dispersed rat pancreatic acini was analysed as a fundamental research. (Result) I-125-QNB having a specific activity of 1350 Ci/mmol gave a single spot on thin layer chromatography. I-125-QNB stored in 50% ethanol at 4°C was quite stable for at least 3 months. The binding of I-125-QNB to pancreatic acini reached to the maximum after the incubation at 37 °C for 60 min. The binding was saturable and reversible. Specific inhibition of the binding was observed by atropine, a muscarinic antagonist, and various cholinergic agonists. These results suggested us that pancreatic acini were abundant in muscarinic receptors and I-125-QNB specifically bound to the receptors with relatively high affinity. In vivo distribution study of I-125-QNB in mouse revealed significantly high pancreas-to-blood ratio as be seen in other muscarinic receptor rich organs like brain or heart.

288

SEX DIFFERENCE IN THE BILIARY EXCRETION OF DIGOXIN AND ITS METABOLITES IN AGING WISTAR RATS. Y. Sato, S. Kanai and K. Kitani. First Laboratory of Clinical Physiology, Tokyo Metropolitan Institute of Gerontology, Tokyo.

The biliary excretion of digoxin (Dg3) and its metabolites was studied in both young (3-month-old) and old (25 and 30-month-old) Wistar rats of both sexes. The 2-hr biliary recovery (% of the dose) of iv injected [³H]-Dg3 (0.01mg/100g) radioactivity was similar between young male and female rats, while the first 10-min excretion was significantly higher in females. In old (25-month-old) male rats, the 2-hr biliary recovery of radioactivity was significantly lower than the corresponding young value. This was primarily due to the drastic decrease with age in excretion of bis-digitoxoside. On the other hand, in old female rats (25 and 30-month-old), the 2-hr recovery value was not significantly different from the corresponding young (3-month-old) value. This was due to the much higher percentage (more than 80 % of the total) of Dg3 in the female bile radioactivity which did not significantly decrease with age. The results suggest that the rate of stepwise cleavages of the sugar chain of Dg3 decreases with age more rapidly in male than in female rats as has been previously shown by the authors for digitoxin. Large sex differences observed in the age-dependent alteration in Dg3 metabolism and its biliary excretion raise a caution against a generalization of the data obtained from a single sex in this animal species with regard to the effect of aging.

289

SCINTIGRAPHIC EVALUATION IN THE POST-OPERATIVE PATIENTS WITH BILIARY-ENTERIC ANASTOMOSES. J.Okada,G.Uchiyama,K.Hayakawa, T.Araki and S.Hayashi.Yamanashi University Hospital,Yamanashi.

In order to study the significances of scintigraphic patterns of Tc-99m HIDA in the postoperative patients, cholescintigrams of 23 cases with the biliary-enteric anastomoses were reviewed.

All patients showed improved bile flows after the surgery. In patients with intra-hepatic cholelithiasis, the dilatations of the intra and extra-hepatic bile ducts were not readily improved by the surgical procedure probably due to the direct involvement of diseases to the bile ducts. On the other hands, in patients with stenotic processes in the common bile ducts, the dilatations of hepatic bile ducts were diminished after the surgery.

The location of bile leakage after the surgery was easily detected.

The retentions of Tc-99m HIDA at the site of the biliary-enteric anastomoses were not always related to the postoperative infection or stenosis.

290

CLINICAL ESTIMATION OF THE LIVER FUNCTION IN PERSONS OF ADVANCED AGE 223 CASES USING Tc-99m HIDA HEPATOBILIARY SCINTIGRAPHY T.Takahashi,M.Kubota,T.Tsuda,K.Morita and *T.Matsushima

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The persons of advanced age 233 cases with cerebrovascular disease were studied with Tc-99m HIDA hepatobiliary scintigraphy and laboratory examination for the determination of pharmaceutical dosage of treatment. As the result of it, we found 84 cases (36.1%) to have delayed biliary duct, gall bladder peak time and duodenal appearance time (more than 1 hour) of Tc-99m HIDA.

In the persons of advanced age who can not walk we found that Tc-99m HIDA hepatobiliary scintigraphy often showed abnormal view even though laboratory values were normal. This is one of the important factors to determine the pharmaceutical dosage of treatment.