

male, 8 cases with acute hepatitis, 8 with chronic hepatitis, 8 with liver cirrhosis, 4 with primary hepatoma, 3 with metastatic hepatoma, 2 with drug induced hepatitis and 3 with alcoholic liver disease).

In 9 normal cases, the ratios were above 95%, indicating that this method was more accurate and reliable than the traditional hippuric acid test using titration or spectrophotometric method, in which normal value had been reported above

50%.

In 36 patients with various liver disease the ratios were scattered in wide range. These results were compared with those of liver function tests commonly used now in clinical medicine. It seems that the present method the authors have tried is almost as sensitive as those routine liver function tests, moreover it provides us with the different point of view in understanding the disturbance of liver function.

The Effect of Bucolome (Canalicular Choleretic) on the Biliary Excretion of ^3H Digitoxin in the Rat

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The authors previously reported the marked increase in the biliary excretion of i.v. injected ^3H ouabain in the rat previously administered bucolome (Kanai & Kitani, Jap. J. Nucl. Med. 12: 517, 1975). Greenberger et al. (J. Lab. Clin. Med. 81: 241, 1973) suggested that the biliary excretion of digitoxin is also dependent on bile flow rate.

In the present study, we examined whether the biliary excretion of digitoxin can be also increased by bucolome induced choleresis in the rat.

Under nembutal anesthesia, the biliary excretion of i.v. injected ^3H digitoxin (0.18 mg, 0.27 mg/100 g) was compared between control and bucolome administered rats for 2 hrs. Bucolome

induced 50–60 percent increase in the bile flow rate. The biliary excretion rates of digitoxin (% of the dose) for 1 and 2 hrs after injection were; control rats, 14.1 ± 1.7 , 25.7 ± 3.4 ; BC rats, 13.4 ± 3.1 , 23.9 ± 5.9 , for rats given 0.18 mg/100 g, and control, 11.0 ± 0.9 , 20.6 ± 1.7 ; BC, 11.1 ± 1.4 , 19.9 ± 3.4 for rats given 0.27 mg/100 g digitoxin.

It was concluded that the choleresis induced by bucolome is ineffective in increasing the biliary excretion of digitoxin. The results indicate that the bile flow dependency of digitoxin excretion previously suggested by Greenberger et al. needs further reevaluation. Furthermore, the results suggested the difference in the regulatory mechanism of biliary excretion of ouabain and digitoxin.

Preparation of $^{99\text{m}}\text{Tc}$ and Aldehyde-Glutamic Acid Complexes

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In 1975, Baker et al found $^{99\text{m}}\text{Tc}$ labeled pyridoxal-glutamic acid ($^{99\text{m}}\text{Tc}$ -PG) as a hepatobiliary radiopharmaceutical. It was also known that other aldehydes and glutamic acid complexes gave almost the same results.

At present, the chemical studies of these complexes were carried out for a simple labeling.

Methods

Aldehyde and 2 equimolar portions of glutamic acid was solved in the $^{99\text{m}}\text{TcO}_4^-$ saline solution, and adjusted to pH 7.5 with 0.1 N NaOH. The mixture was heated at 120° for 30 min. The UV absorption spectra of the mixture was measured. The thin layer chromatography was performed on