

people who usually cannot hold breath. Our present method does not require both holding breath and large doses of radioisotope, and proves

to be useful to the effect of respiratory movement on the liver imaging.

Computer Assisted Report in Liver Scintigraphy (RABUPORT)

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Using a TOSBAC 40 time sharing computer and a keymat editor (DTZ 0008A), we are developing the system to make the report in nuclear medicine. For the use of reporting liver scintigraphy we registered 80 sentences and terms although a keymat is able to contain 120 items. Most sentences have a blank or two where a radiologist fulfills with a proper term. The order of registered items is according to the order of entering sentences generally. Therefore, the sentences used for procedure are registered first, and then the sentences for interpretation, diagnosis, differential diagnoses

and recommendations are recorded. As for the terms, anatomical words are registered first, and then the names of radio-pharmaceuticals, the terms of interpretation, diagnosis and so on. Finally by ordering printing the computer prints out the necessary number of reports automatically.

We realized now that the system can improve the speed of reporting, save man power, and standardize report, but inevitably we have to take care of computer and tolerate the restrictive form of the reports and the change of daily work in the Department of Radiology.

Modeling and Parameter Estimation of I-131 Rosebengal Kinetics in Hepatic Disorders (2nd Report)

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A new processing technique for the kinetics of I-131 Rosebengal hepatograms has been developed by using a digital computer. A two-compartment model is presented by applying hepatogram analysis to the time-lag between the accumulation of the tracer in the hepatic cell pool and the intra-hepatic bile duct pool.

Structural identifiability of the model is investigated by making a comparative study between the rate constants as derived from the measured curve (Hitachi EDR-400) and those derived from a simulated curve obtained by using a middle-sized com-

puter (NEAC 2200-150, 48 KB).

The following results were obtained:

1. Different characteristic accumulation-excretion curves for the right and left lobes and the porta hepatis region, respectively, were obtained.
2. In chronic hepatitis and cirrhosis, the intra-hepatic turnover time of the dye was longer than in normal subjects.
3. The intrahepatic bile duct Appearance Time correlated well with the parameter value derived from the combined results of laboratory tests. $r=0.84$ ($P<0.01$).