biliary excretion of bucolome or its metabolites was measured from its radioactivity. Two hrs. biliary recovery of ^{14}C-bucolome activity was 24.5±4.0 (%) n=3, in rats given 10mg/100g, and 19.0±4.0 (%) n=3 in rats given 20mg/100g. The cumulative biliary excretion was almost linear for 2 hrs in both groups. The relation between bile flow rate (μl/min/100g, Y) and biliary excretion rate of bucolome (μmol/min/100g, X) was found to be $Y=27X+3.87$ ($r=0.85$ $n=60$). It is suggested that bucolome (possibly in glucuronide conjugates form) is excreted apprecaibly in the rat bile and that cholresis can be explained as an osmotic cholresis with the assumption that 27 μl of bile can be produced by the excretion of 1 μmol of bucolome or its metabolite(s).

The effect of Spironolactone Pretreatment on the Biliary Excretion and Renal Accumulation of Mercury in the Rat

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An agreement has not been achieved in the literature concerning the effect of spironolactone (SP) pretreatment on the biliary excretion of iv administered inorganic mercury ion (Hg^{++}). Haddow et al, and the authors reported more than 10 times increase in the biliary excretion of mercury in SP pretreated rats, while Selye, Garg and more recently Klaassen independently reported the absence of a singificant increase of the biliary excretion of mercury by SP pretreatment. The authors pursued in the present study the cause for this discrepancy, by comparing several different experimental conditions. In male SPF, SD rats (250g), SP (5mg/100g) was given intrperitonea (IP) or orally (Oral) 1–3 hrs prior to the mercury study. Aldactone A tablets (A) was ground into powder and was suspended in water (W), ethylene glycol (EG) or propylene glycol (PG). Pure SP material (SP) was also tested in the same preparation. 203Hg was used as a tracer for inorganic mercury. When the mercury dose of 0.2mg/100g was used as a challenging mercury, the biliary excretion of mercury for 2 hr. (% of the dose mean ±SD) was significantly and similarly increased $P<0.01$, in all treated groups (Oral-W-A 13.13±3.08, IP-W-A 10.49±1.62, IP-EG-A 12.99±1.61, IP-EG-SP 12.58±1.39) compared with control rats given PG only (1.45±0.12). Renal accumulation at 2 hrs post injection in treated rats, was 28.52±4.00, 17.68±1.50, 13.73±5.67, 6.58±2.65 respectively which were all significantly lower than control value (34.77±4.18). But difference in it was concluded that the difference in the effect of SP on the biliary excretion of mercury observed in the past reports might be most probably due to the difference in the mercury dose used and not due to the difference in the preparation or administration of SP.

On the other hand, the difference in the preparation or administration of SP was shown to affect significantly the renal accumulation of mercury in the rat.

Changes in Liver Scan Following Splenectomy

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Changes in liver size, shape and hepatic uptake constant (KL) were studied in liver scan of 11 patients following splenectomy. The patients were diagnosed as liver cirrhosis with esophageal varices and hypersplenismus. They underwent splenectomy and showed better clinical course except one.

A preoperative liver study is compared with the study done 3 to 35 months following splenectomy. Liver size was measured and left to right lobe area ratio was calculated in anterior liver image using

minicomputer system.

Postoperative liver scan showed an enlargement of liver size in all cases. An increase in left to right lobe area ratio was observed in postoperative liver scan in 8 of 11 cases. Left lobe enlargement which elongated in to the left upper quadrant, mimicking residual or accessory spleen was observed in 10 of 11 cases. Most of the patients in better clinical course showed little changes or slight decrease in hepatic uptake constant following splenectomy.

A Filing System for Diagnostic Observation of Liver Scintigram and Operation Finding of Liver by Computer

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The hepatoscintigraphy is a useful technique to diagnose not only tumor of liver, but also other diseases with diffuse region. However, there are some failure in detecting liver lesions by scintigraphy because of such factors as size and anatomical site of tumor, physiological and pathological shape of liver, etc. For the purposes of delecting Space Occupaying Lesion (SOL) in liver scintigrams more exactly, we are developing a filing and retrieval system for the information of liver scans with cooperation of the Department of Surgery, Chiba University Hospital. Two kinds of work sheets are used in this study, one of them is filling up the information of diagnostic observation from the hepatoscintigram, such as a deformation, a disorder of histological site and swelling or atrophy of liver, number of detected SOL on each site of liver, a disorder and swelling of spleen, etc. at the Hospital of NIRS, named scinti-sheet. The other is for filling up the information of surgical operation finding contain almost same items corresponding to the scinti-sheet for the same patient to be operated at Chiba University Hospital, named surgery-sheet. Moreover, at the same time, static digital images of 64 × 64 matrix are gathered by a on-line acquisition interface of the computer and rolled out onto a magnetic tape.

The medical records are punched into IBM cards from the work sheets and rolled out onto magnetic tape using input file program that processed various error check and rearranged linkage of scinti-sheet and surgery-sheet respectively with the same patient by his identifications.

Thus, this filling system would be used for (1) the analysis of failure factors for detecting SOL, (2) the development of digital processing method to the images contained undetectable SOL and (3) the medical training by means of scintigraphic computer data-base with confirmed diagnosis.

Statistical Studies on Carcinoembryonic-Antigen (CEA) Level in Relation to Liver Function

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The discovery of Carcinoembryonic antigen (CEA) by Gold et al, which is specific to some digestive cancers originated from endoblast, has enabled us to diagnose some digestive cancers by measurement of CEA level in serum. However, a high level of CEA in serum is reported even in some cancers except the digestive cancer, and in benignant digestive diseases, hepatic disorders and heavy smokers.

The author reported the basic studies on the measurement of CEA and the relationship between CEA level in serum and smoking.

This report describes the studies on CEA level in relation to hepatic disorders and the statistical analysis of the measured values.

(Subject)

The subject is the patients with suspected hepatic disorders among the out-patients and the hospital-