tract and if it is on the left lower part, decreased effective liver flow, and general cardiovascular disorder or proliferation of the liver stroma are suggested.

A Hepatic Function Test by Radioisotopes

S. NISHINO, M. ONISHI, E. OKUMURA, N. YAMANAKA and S. IWATA
The Second Clinic, Department of Internal Medicine, Osaka Medical School
H. FUKUMORI, S. OTA and H. AKAGI
Department of Radiology, Osaka Medical School

1) A method for estimation of the hepatic function were presented using radiogold (^{198}Au) and ^{131}I labeled rose bengal dye.
2) Continuous recordings of external counting were performed by four scintillation counters (two of $2\times3\ \phi$ inches) and two of $2\times2\ \phi$ inches NaI X tals) which were connected to pulse-hight analyzers, rate meters and with a four channel tape-recorder and a two penrecorders. The probes were collimated with lead and one of them placed on a little up to the heart and the another on the right lobe of the liver.
3) The Radiogold was injected into the anticubital vein. Two curves (liver and heart) were analyzed by substration each other to estimate the true ^{198}Au concentration in blood and ^{189}Au in liver. The blood samples being collected after injection, radioactivities of the samples were measured by a well-type scintilation counter. Comparing both data of calculating and blood sampling, this method seemed to be reliable.
4) Injecting ^{131}I labeled rose bengal dye into anticubital vein and sampling bile from duodenum, the excreation of the dye was delayed in hepatitis compared to normal cases.
5) The curve obtained from a counter on the liver was expressed as a straight line on a bi-logarithmic paper, and some difference in slope was found between normal group and patients with liver diseases.

Classification of ^{198}Au Liver Scintigram Patterns and Their Diagnostic Approach

K. HISADA, T. HIRAKI, H. KAWANISHI and M. YUNOKI
Department of Radiology, School of Medicine, Kanazawa University, Kanazawa

A new information of a relationship between the patterns of the ^{198}Au liver scintigram and the liver diseases is reported. 631 liver scans by colloidal radiogold (^{198}Au) were performed on 517 patients during the period between May 1962 and July 1965. Established diagnosis were given on 301 patients by
1) autopsy
2) surgical exploration
3) needle biopsy or peritoneoscopy
and
4) clinical course and clinical finding (followed up over 2 years).

301 liver scintigrams were classified into the following patterns in accordance with the size, shape, position and internal configuration of the liver and the degree of the spleen visualization.
1) Standard (pattern)
25 of 33 cases which showed this pattern were proved to be normal.
2) Spleen visualization
3) Mild hypertrophy of the left lobe.

Presented by Medical*Online

hepatic neoplasms but according to this pattern no one could not differentiate whether primary or secondary.

4) Hypertrophy of the left lobe
   12 of 31 cases (39%) were the disease of bile duct system.
5) Hypertrophy of the left lobe and moderate visualization of the spleen.
   13 of 17 cases (76%) were postnecrotic hepatic cirrhosis.
6) Marked spleen visualization.
   All 3 cases were Banti's syndrome.
7) Atrophy of the right lobe, hypertrophy of the left lobe and the spleen visualization.
   This is a typical pattern which we should like to emphasize.
   37 of 38 cases (97%) were exclusively postnecrotic hepatic cirrhosis.
8) Poor appearance of the liver, visualization of the spleen and the bone marrow.
   Three of four cases were postnecrotic hepatic cirrhosis.
9) Hypertrophy of the both lobes.
   Generally no diagnostic specificity in this pattern but in mottled appearance of this pattern 6 of 7 cases were probed to be metastatic hepatic cancer. In the moderate visualization of the spleen in addition to hypertrophy of the both lobes, 4 of 6 cases were hepatic cirrhosis.
10) A huge filling defect
    55% of this pattern were primary hepatic cancer.
11) A solitary filling defect
    90% of this pattern were malignant
12) Multiple filling defect
    79% of this pattern were metastatic hepatic cancer.
    As a rare case a hepatic tuberculosis and a polycystic desease of the liver showing this pattern were found out.
13) Other intersting cases
    Complete defect of the left lobe were seen in two benign tumor, hemangiom and cyst.
    Huge defect of the right lobe and hypertrophy of the left lobe were noticed in two cases, the first of hemangiom of the liver and the second of the case with left lobectomy of the liver.
    Liver is easily movable in position and changeable in shape by extrinsic factors such as abdominal mass, ascites or plural effusion.
    It should be emphasized that not only the localized liver diseases but also the diffuse diseases to some extent could be diagnosed according to the size, shape and position of the liver and the intra-and extra-hepatic distribution of ^{198}Au.
    For example, when the typical pattern of atrophy of the right lobe, hypertrophy of the left lobe and visualization of the spleen is obtained, we may diagnose the case as postnecrotic cirrhosis.

A Preliminary Study on the ^{131}I Rose Bengal Test for the Liver Function

Y. KAWANO and S. BANDO

Department of Medical Radiology, School of Medicine, Tokushima University

The ^{131}I rose bengal (^{131}I RB) test for the liver function was reported by many investigators as one of the excellent method to secure of the liver function. Some analytical methods of the liver uptake and excretion curve of ^{131}I RB were also reported. However, above mentioned methods could not analyze enough the uptake and excretion curves of the liver under the pathological conditions.

In this report, an analytical method of the ^{131}I RB uptake and excretion curves of the rabbit liver was examined on the materials of the normal and X-ray irradiated conditions.

Experimental method and results were as

Presented by Medical*Online