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Abstract

The fact that colloidal particulates of radiogold are mainly and effectively eliminated from the blood stream by phagocytic activity of Kupffer's cells of the liver has been successfully adopted to the diagnosis of certain liver diseases and the same principle has opened a new avenue to the study of the organ by obtaining scan.

Indeed, the latter procedure has been widely used for the detection of space-occupying lesions or cirrhosis of the liver. Nevertheless problem of differential diagnosis of monochromatic "cold" areas or "mottling" of the internal structure on the scan limited the value of this diagnostic modality.

The present investigation is aimed at improving interpretation of photoscan findings with the aid of blood clearance rate of the intravenously injected colloidal ^{198}Au .

Methods and Materials

Blood clearance rate was routinely measured in each patient immediately before starting photoscanning with radiogold. Eight μC of colloidal ^{198}Au suspended in 2 ml of normal saline solution was injected into the antecubital vein, and disappearing activity was recorded automatically for the calculation of $T_{1/2}$ value. Thereafter followed liver scan with an additional dose of 200 to 250 μC of radiogold.

Materials consists of 100 patients with various liver diseases:

(1) Liver cirrhosis -62 cases, (2) Obstructive jaundice -6 cases, (3) Fatty liver -4 cases, (4) Liver abscess -13 cases, and (5) Hepatoma -9 cases, (6) Metastatic tumors -6 cases.

Results and Conclusions

1) Liver cirrhosis: In advanced cases of cirrhosis, there seems to be no diagnostic problem, but mild or borderline cases were certainly benefited by clearance rate study in arriving at correct diagnosis. "Mottling" of the internal pattern without visualization of the spleen may not be taken as evidences of cirrhosis

unless significant delay in clearance rate is observed since "mottling" itself is not specific to this disease but rather is regularly observed in fatty liver or obstructive jaundice. Inadequacy of the amount of injected colloidal ^{198}Au may result in either false positive (under-dosage) or false negative (overdosage), but true state of affairs can be revealed by clearance rate study.

- 2) Obstructive jaundice: Scan patterns are more or less characterized by diffuse enlargement of the liver substance, and moderate to marked mottling which is especially pronounced in the left lobe. These findings simulate advanced cirrhosis but clearance rate is usually within the range of normal.
- 3) Fatty liver (in diabetics): Scan findings are again very much similar to those of obstructive jaundice or advanced cirrhosis. Clearance rate may be within normal limits or slightly delayed. However, unlike in obstructive jaundice, uniformity of mottling throughout entire liver on the scan seems to afford possible base for distinguishing this entity from obstructive jaundice in some cases. Of course, deepening jaundice in the latter condition is unique.
- 4) Liver abscess and primary hepatoma: Solitary abscess may be differentiated from hepatoma which is usually accompanied by or superimposed on cirrhosis. Clearance rate study finds its place in this situation.
- 5) Multiple cold areas: In cases of multiple abscesses, hepatomegaly is more or less a constant finding, whereas with metastases the liver appears to be not necessarily enlarged. Clearance rate study is not of uniform value.

18. 流行性出血熱患者에 있어서의

^{131}I -Hippuran Renograms

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^{131}I -Hippuran Renograms in Epidemic Hemorrhagic Fever

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1965年 가을에 流行하였던 流行性出血熱로 因하여 陸軍第103 後送病院에 入院하였던 患者中 13例에서 ^{131}I -Hippuran을 使用한 Radioisotope Renogram을 觀察한 바 있어 報告하는 바이다.

發熱期 1例, Shock期 1例, 乏尿期 1例, 利尿初期(第1週) 3例, 利尿中期(第2週) 2例, 利尿後期(第2週後부터 24日까지) 回復期(利尿시작되고 第25日以後) 3例에서 5mC의 ^{131}I -Hippuran을 靜注하고 Renogram을 하였다.

1. Renogram上的 變化는 全期에서 兩側性이고
2. 發熱期 變化로는 Excretory phase의 "Delay"만을 示하고 Initial spike나 Uptake phase는 正常이었고
3. Shock期 및 乏尿期에서는 亦是 正常 Initial phase 뒤에 Tubular accumulation이 約 1時間後까지 繼續되고 觀察期間中 Excretory phase를 볼수 없었고
4. 利尿期에 들어서면서 Excretory phase를 볼수 있었던바 이 segment가 完全히 正常化하기까지는 臨床的인 回復보다 더 늦어지는것 같았다.
5. 流行性出血熱에서의 腎機能障礙는 一時的인 現象으로 死亡하지 않은 例에서는 完全히 治療되는것 같다.

19. 流行性出血熱患者에 있어서 ^{131}I -Hippuran으로 測定한 腎血漿流量

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Effective Renal Plasma Flow in Epidemic Hemorrhagic Fever Determined by ^{131}I -Hippuran

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1965年 가을에 流行하였던 流行性出血熱로 因하여 陸軍第103 後送病院에 入院하였던 軍人患者中 7例에서 ^{131}I -Hippuran을 利用하여 Effective Renal Plasma Flow를 測定한바 있어 報告하는 바이다.

20. Renogram의 定量分析(第2報)

서울大學校 醫科大學
金明宰 李凡弘 金穆鉉 李章圭 李文鏞

Quantitative Analysis of Renogram(Report No.2)
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各種腎疾患에서 나타나는 Renogram上的 變化를 定量的으로 分析하려는 努力이 여러 學者들에 依하여 各各 다른 方法으로 시도되고 소개되었으나 이들의 疾患別 妥當性은 아직 確實치 못하다.

著者들은 앞서 111例의 正常 및 各種 腎疾患의 Renogram을 Stewart, Kruger, Spencer, Tobe 및 Takeuchi氏의 方法으로 分析, 各方法의 疾患別 妥當性을 比較한 바 있다.

著者들은 繼續하여 183例의 Renogram을 分析하여 各方法間의 差를 比較 報告한다.

21. ^{131}I -Hippuran Excretion Test와

^{131}I -Hippuran Renogram과의 比較觀察

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A Comparative Study of ^{131}I -Hippuran Excretion Test and ^{131}I -Hippuran Renogram

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放醫所 婦人科患者에 ^{131}I -Hippuran을 利用한 Renogram을 실시하면서 同時에 溜置 Catheter를 通하여 ^{131}I -Hippuran의 尿中排泄을 經時的으로 觀察하여 比較하였다.

^{131}I -Hippuran의 尿中排泄測定은 腎機能檢査法中 臨床에서 간편히 應用되고 있는 PSP test와 같은 原理이고 그 意義도 비슷한것 같다. Renogram像과 ^{131}I -Hippuran의 尿中排泄率 測定은 兩側性 瀰漫性 腎疾病에서는 相關關係가 있으나 一側性 腎疾病時 健側腎이 代價을 하고있으면 ^{131}I -Hippuran의 尿中排泄은 正常이었다.

22. ^{131}I -Hippuran을 利用한 Renal Plasma Flow 測定法에 考察

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A Measurement of Renal Plasma Flow using ^{131}I -Hippuran

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