systematized parameter of "postprandial blood sugar on visit (BS on Visit)" at least for 6 months.

The serum IRI response during the GTT was characterized and defined as the following patterns: NORMAL: with a peak either 30 or 60 minutes after the glucose ingestion, DELAY: with a peak later than 120 minutes, HYPER: with a peak higher than 100 mU/ml, and LOW: with a peak lower than 30 mU/ml. These typing of the IRI patterns in the diabetics were correlated to the various clinical factors including age of onset, familial disposition, variety and range of complications, the glucose level during the GTT, the insulinogenic index, variety and amount of medications, and stability of therapeutic control during the follow-up.

The results were summarized as follows. 1) For the long-term follow-up of the diabetics, a recognition of the pattern of the serum IRI response during the GTT in such a way as NORMAL, HYPER, DELAY, and LOW is highly significant and helpful to evaluate clinical severity of diabetes correctly. 2) The order of the IRI pattern as NORMAL, DELAY, and LOW closely represents a progress of severity of diabetes both in the obese and non-obese groups.

**Diagnosis of Adrenal Disease By Visualization of Human Adrenal Glands with 131I-19-Iodocholesterol**

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Radioisotopic visualization of adrenal glands of eleven patients was performed by the use of 131I-19-iodocholesterol. They included 7 patients of primary aldosteronism, two with Cushing's syndrome and two with normally functioning adrenal tissue. Doses of 1.0 mCi per 50 kg of body weight were dissolved in absolute alcohol and then diluted to a 10 per cent solution with physiologic saline and 0.2 per cent polysorbate 80 for intravenous administration. Five to 9 days after the administration, the patient's adrenal glands were imaged with scintiscanner with dual NaI (TI) crystals 5" in diameter.

Scintillation scanning gave clear visual evidence of concentration of radioactivity at the site of adrenal adenoma of 3 patients with primary aldosteronism. The gland contralateral to the tumor was also visual with the scintillation scanning. The other three patients with primary aldosteronism exhibited diffuse adrenal uptake of radioactivity without an area of concentration, and at surgery disclosed small adrenal adenomas measured below 10 mm in diameter. A left adenoma in a patient with Cushing's syndrome was measured 35 by 30 mm on scan, with no uptake in the opposite gland. There was no indication of radioactive concentration in the region of the contralateral adrenal gland compatible with functional suppression of that gland with adrenal adenoma. The position of the tumors was confirmed surgically. A patient with Cushing's syndrome due to ACTH excess showed adrenal glands approximately equal in size and radioactivity concentration. In primary aldosteronism, special preoperative studies disclosed that the uptake of radioactivity was completely inhibited with dexamethasone in the contralateral gland, while uptake was brightly visible on the tumor side.

It is concluded that the administration of
Differentiating bilateral adrenocortical hyperplasia from unilateral adrenocortical adenoma.

Clinical Studies on the Metabolism and Plasma Protein Binding of Flucortolone

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Twenty μCi (5 mg) of 1, 2, 4-3H-flucortolone (6x - fluoro - 16x - methyl - 1 - dehydrocorticosterone) was administered orally to three normal male volunteers and radioactive substances in the blood plasma, urine and feces were analyzed for 72 hours. Total 3H and ethyl acetate extractable free 3H in the plasma reached maximum values 2 hours after the administration. 3H-flucortolone itself in the plasma reached maximum value 2 or 3 hours after the administration, and the radioactive concentration at that time was equivalent to about 2 or 3 μg of non-radioactive flucortolone per 100 ml plasma. Of the administered 3H, 45–61% was excreted into urine in 24 hours, 53–64% in 48 hours, and 55–64% in 72 hours. Of the total 3H in 24 hour urine, 3–18% was in free fraction, 66–75% was in glucuronide, 2–3% was in sulfate and 9–13% was in the remainder. In one case 5% of the administered 3H was excreted into feces in 72 hours. In this feces, 61, 17, 9 and 13% of total 3H were found in free fraction, glucuronide, sulfate and remainder, respectively. Radioactive fractions or hydrolyzed fractions in 24 hour or 6 hour urine were analyzed using thin-layer or paper chromatography and radiochromatogram scanner. In the free fraction, at least 5 radioactive peaks with corresponding UV-absorbing spots were found on the chromatogram. None of them corresponded to flucortolone itself. In the glucuronide fraction, at least 6 radioactive peaks with corresponding UV-absorbing spots were found. Two of them were considered to be flucortolone and 11-dehydroflucortolone. In the sulfate fraction, at least 4 radioactive peaks, three of which had corresponding UV-absorbing spots, were found. One of them was thought to be flucortolone. One to 100 ng of non-radioactive flucortolone reduced % binding of 3H-cortisol to CBG to a small extent, indicating slight binding of flucortolone to CBG.

Evaluation of Portopulmonary Shunt Based on the Measurement of Aldosterone in Peripheral Plasma by a Double Isotope Dilution Method

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Splenopneumopexy was devised as a surgical treatment for portal hypertension, especially for Budd-Chiari syndrome. And this splenopneumopexy has been proved to be an effective procedure for portal hypertension by extensive experimental and clinical investigations.

In this paper, the effect of splenopneumopexy on the hyperaldosteronism caused by constric-