

## F. Endocrine System (except Thyroid)

### 2314

CLINICAL VALUES OF ADRENAL SCINTIGRAPHY BY  $^{123}\text{I}$ -6- $\beta$ -Iodomethyl-19-Norcholesterol ( $^{123}\text{I}$ -NCL). Y. Tateno<sup>1)</sup>, F. Shishido<sup>1)</sup>, I. Kamoi<sup>2)</sup>, K. Matsuura<sup>2)</sup>, Y. Takagi<sup>3)</sup>, S. Hashimoto<sup>3)</sup>, T. Hotta<sup>4)</sup>, K. Fukushi<sup>1)</sup>, T. Irie<sup>1)</sup>, T. Ido<sup>5)</sup>, M. Kojima<sup>6)</sup>, M. Maeda<sup>2)</sup>, H. Ogawa<sup>6)</sup>, T. Itoh<sup>6)</sup>. 1) National Institute of Radiological Sciences, Chiba. 2) Kyushu University, Fukuoka. 3) Keio University, Tokyo. 4) Chiba University, Chiba. 5) Tohoku University, Sendai. 6) Daiichi Radioisotopes Laboratories Ltd, Tokyo.

Clinical values of  $^{123}\text{I}$  labeled 6 $\beta$ -Iodomethyl-19-Norcholest-5(10)-EN-3 $\beta$ -OL ( $^{123}\text{I}$ -NCL) were evaluated on 44 cases, which included 10 cases of Cushing syndrome and 12 cases of primary aldosteronism. The images obtained were superior to that of  $^{131}\text{I}$ -NCL. The average dose of administered  $^{123}\text{I}$ -NCL was 6.0 mCi, which gave a smaller absorbed radiation dose to the adrenals by the factor of 1/25 comparing to the standard  $^{131}\text{I}$ -NCL dose of 1.0 mCi. The scanning time was 48-72 hrs post injection as opposed to 6-8 days with  $^{131}\text{I}$ -NCL or  $^{131}\text{I}$ -19-Iodocholesterol. This offers a great convenience to give result in a shorter time and to be able to examine a patient in a shorter intervals, but necessitates to use some laxatives. Judging from all these findings, it was concluded that  $^{123}\text{I}$ -NCL is a useful radiopharmaceuticals for adrenal scintigraphy.

### 2316

RE-EVALUATION OF THE DIAGNOSTIC EFFICACY OF ADRENAL SCINTIGRAPHY-WITH COMPARISON OF OTHER RADIOLOGICAL EXAMINATIONS-. T. Sasaki, K. Senda, T. Ishiguchi, K. Matsubara, H. Kobayashi, O. Kaiti, Y. Kodama, S. Okae. Radiology Department, Nagoya University Hospital. Nagoya, Japan.

The diagnostic efficacy of adrenal scintigraphy was re-evaluated when compared with computed tomography, adrenal venography and aortography. The cases subjected to study were 9 cases of Cushing syndrome, 9 cases of primary aldosteronism and 11 cases of pheochromocytoma. The modes of examinations were adrenal venography, aortography and computed tomography besides adrenal scintigraphy. The Cushing syndrome cases were diagnosed 8/9 by RI-scan, 8/9 by venography and 7/8 by computed tomography. The primary aldosteronism cases were diagnosed 9/9 by RI-scan, 8/9 by venography and 6/7 by computed tomography. The pheochromocytoma cases were diagnosed 0/6 by RI-scan, 10/11 by aortography and 5/5 by computed tomography. For the diagnosis of Cushing syndrome and primary aldosteronism, RI-scan is still played a large part, but is not effective for pheochromocytoma. Therefore, it is concluded that the diagnostic accuracy for adrenal neoplasms will be improved by the co-use of the above mentioned various radiological studies.

### 2317

CLINICAL APPLICATION AND EVALUATION OF PARATHYROID IMAGING BY COMPUTER-ASSISTED SUBTRACTION TECHNIQUE WITH Tl-201 AND I-123. M. Fukuchi, K. Tachibana, H. Kitani, K. Onoue, Y. Maeda, K. Hamada, A. Kido and K. Nagai. Division of Nuclear Medicine, RI Center, Hyogo College of Medicine, Nishinomiya

Before surgery, 6 patients with hyperparathyroidism namely 4 primary and 2 secondary hyperparathyroidism were studied for detection of the lesions by a computer-assisted subtraction technique with Tl-201 and I-123. I-123 was given orally after pretreated with low-iodide diet. Six hours after administration of I-123, imaging of the neck was performed and the counts recorded into a computer. Then, Tl-201 was given by i.v. injection. The neck counts of the Tl-201 was also collected into the computer. The counts are manipulated by data analysis program and subtraction image was obtained. In 3 cases of 4 patients with primary hyperparathyroidism, surgery verified the subtraction images. One case, who had accompanied with thyroid adenoma, abnormal activity was observed in both lesions. On the other hand, in 7 of 8 hyperplastic lesions of 2 patients with secondary hyperparathyroidism, surgery also verified the subtraction images. All positive lesions in this series weighed less than 3.0 g with the smallest weighing 0.4g. Our study indicate possible imaging of parathyroid lesions at least as small as those now detected with other techniques in patient with primary and secondary hyperparathyroidism.

### 2318

EFFECTS OF IRRADIATION ON GLUCOCORTICOID RECEPTOR OF THE RAT LIVER T. Teshima, M. Mori, Y. Honke, T. Koyama, S. Katsuta, K. Tanaka, H. Kawamura, A. Miyoshi and Y. Miyachi. Department of Radiology, First Department of Internal Medicine, Hiroshima University Hospital, Hiroshima, Shizuoka Prefectural Hospital, Shizuoka.

Endocrinological changes after radiation were investigated. Irradiation of 10 Gy/1 frac. was given on rats liver. The level of Corticosterone(Bk), cyclic Nucleotides by RIA and Glucocorticoid Receptor(GR) by RRA were measured before and after irradiation. Protein was determined according to Lowry et al and DNA was to Burton et al.

After irradiation the level of Bk increased and arrived at maximal level at 1 hour in serum, 1 day in cytosol and nucleus. It was considered that above results were due to release of Glucocorticoid from right adrenal gland irradiated and severe stress.

The level of GR decreased and reached at minimal level at 1 day in cytosol. The decrease of GR suggested GR-Bk complex shifted from liver cytosol to nucleus.

Kd value (by Scatchard plot) increased 1.5 fold after 4days. It was probable that radiation provoked some change in GR after irradiation.

There was no remarkable change in the level of Protein and DNA.

The level of cyclic GMP significantly increased after 1 hour. The mechanism might suggest the process of regeneration of liver after irradiation.