

## H. Endocrine (except thyroid) Metabolisms

### Adrenal Scintigraphy Using Pin-Hole Collimator

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Usefulness of pin-hole collimator (P-C) for adrenal scintigraphy is emphasized in this study.

We tried to demonstrate shape of each adrenal gland separately to detect mainly adenoma by using P-C since we had felt the diagnostic difficulty to determine the lesion by merely depending upon the difference of size and density between both images on the scintigram obtained by employing diverging collimator (D-C).

Scintigraphy was performed 5-9th day after intravenous administration of 200~800  $\mu$ Ci of  $^{131}\text{I}$ -Adsterol by scinticamera. P-C was set just on the point of back skin of prone patient above each gland which was determined by using D-C.

Data processing such as smoothing, 3-dimentional display was also performed by minicomputer.

The size and location of adenoma of 2 cases of primary aldosteronism was clearly demonstrated on P-C scintigram in which even the affected side could not be presumed by D-C because of

almost equal uptakes between both glands.

Adenoma of another 2 cases of primary aldosteronism and Cushing's syndrome was comformed by P-C in which the affected side could be presumed by D-C. We could also neglect the presence of adenoma in patient with hypertension due to aortic and arterial anomaly whose D-C scintigram showed remarkable uptake difference between both glands. P-C scintigrams of another two cases of essential hypertension and pheochromocytoma were also showed.

In the experimental study for presumption of detectable minimum size of adenoma by P-C, using two series of model normal adrenal gland (N) and adenoma (A) which were made out of paper clay ( $^{131}\text{I}$  concentration of A is equal to N in one series and 4 times as strong as N in the other), we could detect A whose diameter is 5 mm in the former and 3 mm in the latter.

### Tissue Distribution of $^3\text{H}$ -Prostaglandin $\text{F}_{2\alpha}$ in Pregnant Mouse

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The tissue distribution of intravenously injected  $^3\text{H}$ -prostaglandin  $\text{F}_{2\alpha}$  were studied in a pregnant mouse. Macroautoradiographs obtained from sagital sections of the whole body showed high concentration of  $^3\text{H}$  in the kidney and liver. The observed uptakes probably reflect the formation and elimination of metabolites by these organs.

The concentration of  $^3\text{H}$  in the lungs was also considerably high, suggesting participation in the biological inactivation. Also, significant uptake of  $^3\text{H}$  in the myometrium and fetuses was observed. This demonstrate that the effect of prostaglandin  $\text{F}_{2\alpha}$  has a physiological significance of parturition.