

adrenal cortical hyperplasia, both adrenal gland uptakes were almost the same and much larger than those in normal cases. Further, in cases of adrenal adenoma, hot areas appeared clearly, though smaller than in cases of hyperplasia.

It was considered that Ad is by far a more effective adrenal-concentrating agent and are

possible diagnostic usefulness in man. However, a considerable uptake was observed also in normal cases were sometimes hardly distinguishable from hyperplasia of adrenal glands. These facts suggest that further clinical studies are necessary in this field.

### Measurement of $^{131}\text{I}$ Adrenal Uptake in Various Adrenal Diseases

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Adrenal scanning with  $^{131}\text{I}$ -19-iodocholesterol ( $^{131}\text{I}$ -19-CL) or 6 $\beta$ -iodomethyl-19-nor-5(10)-cholesten-3 $\beta$ -ol ( $^{131}\text{I}$ -6-NCL) is very useful for clinical diagnosis of various adrenocortical diseases. This report describes my experience in determining  $^{131}\text{I}$  adrenal uptake as a measure of adrenocortical function.  $^{131}\text{I}$  adrenal uptake was referring to a standard curve. The curve was constructed from a experinet in which radioiodines of known radio-activity were placed as adrenal phantoms at different depths in body phantom.

There was no significant difference in  $^{131}\text{I}$  uptake of normal adrenals between  $^{131}\text{I}$ -19-CL and  $^{131}\text{I}$ -6-NCL.

$^{131}\text{I}$  adrenal uptake ranged from 0.21 to 0.88 % and averaged in  $0.51 \pm 0.21$  % in normal adrenals,

while it ranged from 0.84 to 2.72 % in 9 patients with primary aldosteronism and 3 patients with Cushing's syndrome and was significantly higher than that of normal adrenals. Right-to-left uptake ratio ranged from 1.05 to 1.60 and averaged in  $1.37 \pm 0.18$  in normal adrenals, while it ranged from 2.05 to 6.32 in primary aldosteronism. Two patients with Cushing's syndrome caused by functional adrenocortical adenoma had R/L uptake ratio much greater than 9 patients with primary aldosteronism, probably due to the function of hormonal feed back mechanism.

There was fairly good correlation in primary aldosteronism between  $^{131}\text{I}$  adrenal uptake and values of blood-analyses such as Na, K, Renin activity and aldosterone.