was thought that abscence of kidney function in progress may be a cause for cure.

2) Renogram in recurred cases

In Renogram, cases in which the recurrence was found in the pelvic cavity showed an abnormal form as compared with previous Renogram in agreement with the involved position, but cases in which distant metastasis was noted did not show an evident change.

This finding acquires much intrest about diagnosis o frecurred lesion in the pelvic cavity.

VII. Kidney

Rate of Renal Blood Flow Obtained with ^{131}I-Hippuran External Counting Method

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In order to investigate a physiopathological value of renal blood flow (RBF), which varies relatively according to the shift of cardiac output, we calculated a rate of RBF by ^{131}I-Hippuran external counting method.

Methods

^{131}I-Hippuran (IH) Radiocardiogram was recorded for the calculation of cardiac output, using a gradient of it's disappearance curve which could be analyzed as a single exponential equation putting on the detector head on the region of left ventricle.

When C represent a concentration of IH at anytime t, and K a proportionality factor, the following equation is lead.

$$\frac{dc}{dt} = KC \quad \cdots\cdots (1)$$

and then

$$C = C_0 e^{-kt} \quad \cdots\cdots (2)$$

where, C_0 is a value for concentration at zero time, $K = k$ as Fozzard mentioned.

On the other hand, $$k = \frac{F}{V} \quad \cdots\cdots (3)$$

where, F indicates flow and V is volume hence,

$$F = V \cdot k = \frac{\text{total counts/min in jected}}{C_0} \times \frac{(\log e\, C_0 - \log e\, C)}{t} \quad \cdots\cdots (4)$$

The equation of disappearance curve obtained by external IH counting method is lead as follows under the same physiological conditions.

If represents C' a external count at any time t,

$$C' = C_0' e^{-kt} \quad \cdots\cdots (2)'$$

from (2) and (2)'

$$\frac{C'}{C} = \frac{C_0' e^{-kt}}{C_0 e^{-kt}} = \frac{C_0'}{C_0} \quad \cdots\cdots (5)$$

Consequently, we can calculate V and K with above equations. And our data obtained from this index of RBF by external IH counting method is closely corelated with RBF calculated from PAH clearance.

Moreover, we can calculate the cardiac output (CO) using the following equation on above IH cardiogram

$$Q' = \frac{I \times E_0'}{S' \times B_0'} \quad \cdots\cdots (6)$$

where, Q' is cardiac output, I, S', Eo' and Bo' indicate the total amaunts of IH, the surface of IH cardiogram, the external counts on the left ventricle and the count of Well-type scintillation countor 1 ml of blood.

Here, S' recieves no influence from renal IH excretion, although we calculated the more value of Q' than that of the calculation using radioiodinated human serum albumin, but we found that those greater values are attributable to V calculation ($V = \frac{I}{B_0'}$), and we pointed out in this report that the practical index of cardiac output (Q) can be calculated as follows,

$$Q = Q' \times \alpha \quad \cdots\cdots (7)$$

where, α is propotionality constant being lead from some investigated statistical bases of physical examinations.