

Advantages and Disadvantages of Analog Computer Aided RI Renogram Diagnosis

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(1) RI-Renograms are taken with $20\ \mu\text{Ci}$ of ^{131}I -Hippuran or ^{131}I -Na Iothalamate injection, in sitting position. The renography test is over in 7 to 10 minutes. 25 minutes after the RI injection, the urine specimen is collected by spontaneous voiding. This urine is served for the measurement of percentile excretion of RI.

(2) Analog simulation. The transportation process of RI in the kidney is simulated as a first order system with time delay. Distribution of RI in the body is simulated as a time-varying distribution space. When the good agreement between observed renograms and the computed results is found, total RPF, its right to left ratio and mean transit time of each kidney are given by ^{131}I -Na time of each kidney are given by ^{131}I -Hip-

puran renogram. From ^{131}I -Na Iothalamate renogram GFR, its right to left ratio, FF and mean transit time are given.

(3) Disadvantages are; a) Simultaneous estimation of RPF and GER is impossible, b) Incorrect results will be given when voiding is incomplete (incorrect excretion rate), c) Kidney function of the patient must be constant during the renography test, d) The distribution space is postulated the same in every patient.

(4) Despite of above-mentioned disadvantages, the kidney function evaluation by the analog computer aided RI-renogram analysis has many advantages over the usual clearance methods; simplicity, safety and repeatability.

The Renogram of Hemorrhagic Shock and It's Analysis

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y The renogram showed that the angle in SEG 1 hadn't closely to the amounts of artificial hemorrhage, but the angle, formed by the line drawn from the B point in the peak of renogram to the point, 2 minutes before b

point, became smaller.

The angle formed by SEG 3 had markedly related to the amounts of artificial hemorrhage.