Pitfalls in Renogram Analysis

T. KATO and H. UEYAMA

Urological Department, Kyoto University Hospital, Kyoto

M. TAKAYASU and A. HIRAKAWA

The 3rd Medical Clinic, Kyoto University Hospital, Kyoto

M. KUWAHARA

Automation Research Laboratory, Kyoto University, Kyoto

Radioisotope renography has been practised for more than ten years as a safe but qualitative individual renal function test since Taplin et al introduced this technique.

No quantitative interpretation of renograms has been successfully achieved yet, because of complexity.

Radiorenograms reflect dynamic equilibrium of intake, accumulation and excretion of the injected radioisotope into the kidney, and furthermore, background radioactivity from the tissue around the kidney.

We discussed pitfalls in radiorenogram analysis under the following headings:

[I] Technical aspects

(a) Injection method

(b) Misplacement of the scintillation counters

(c) Position of patient

[II] Intrarenal variables

(a) Background radioactivity

(b) Urine volume

To evaluate our analog computer simulation of the renogram, computed RPF values simulated independently by two operators (one veteran, other amateur) were examined by "blind-check" method. Good coincidence was found between RPF values calculated individually by two operators. We think the analog computer simulation of the renogram to be of clinical value.

Effect of Deoxidized Glutatione (Tathion) on Exerction of ^{203}Hg-MHP in Kidney

Y. OSHIUMI and K. MATSUURA

Radiological Department, Hiroshima A-Bomb Hospital, Hiroshima Red Cross Hospital, Hiroshima

S. KOMAKI

Radiological Department, Kyushu University Medical School, Fukuoka

There are three kinds of measures to reduce the exposure dose of RI administered patient: (1) use of radionuclide with short half life and low energy, (2) use of scanner with large-sized crystal, and (3) use of agents to promote the excretion of administered radionuclide.

Scanning of spleen with ^{203}Hg-MHP has become an important diagnostic method and is now widely used. However, the exposure dose to kidney amounts to 70~90 rad per 100 μCi of ^{203}Hg-MHP and cannot be neglected.

This study was undertaken to investigate the ability of Tathion to reduce the exposure