

SIMULTANEOUS DUAL RADIOISOTOPE RENAL
SCINTIGRAPHY AND CT SCAN

R.FUNAKI, H.ISHIDA, S.SHIRAKAWA, W.KUTANI,
H.NISHIGAMI, M.TAKEUCHI, T.FUKUDA, M.TANAKA
and H.AKAGI

Department of Radiology, Osaka Medical
School, Takatsuki-shi.

Simultaneous renal scintigraphy with Tc-99m-DTPA and I-131-hippuran was performed on the various renal diseases. The method were as follows; 3 mCi of Tc-99m-DTPA and 300 μ Ci of I-131-hippuran were injected in bolus to the patients on prone position. The gamma-camera system with two PHAs was used and sequential data of 30 sec. intervals for 20 min. were recorded on the magnetic tape. ROI curves of the kidney area were obtained and punched out on the paper tape and were fitted by the fifth-degree polynomial expression using the personal computer. The parameters (T_{max.}, T_{1/2max.}, and T_{3/4max.}) on the hippuran, DTPA and additional curves were calculated. The accuracy of the detecting the abnormalities was better than the conventional hippuran renography. The divided curve between DTPA and hippuran was useful in differentiating the urological disease and renal parenchymal disease.

CT scans were performed on the cases which were judged by RI studies to have no function or hypo-function. The CT diagnosis included three polycystic kidneys, three hydronephrosis, two renal tuberculosis, two contracted kidneys and one solitary kidney.

In conclusion, RI studies with dual isotope technique were useful in the renal parenchymal disease, and CT examination was useful in catching the morphological findings in the kidney with declining function.