CLINICAL EVALUATION OF COMBINED STUDY OF BODY CT SCAN WITH RI SCAN FOR THE DIAGNOSIS OF RENAL DISEASE

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In this study, clinical evaluation of combined use of body CT scan (CT scan) and radioisotope renal scan (RI scan) was made for the kidney and urinary tract diseases. 45 patients were examined. The 45 cases were consisted of 15 renal carcinoma, 3 renal angiomyolipoma, 10 renal cyst, 8 polysystic kidney, and 9 other renal disorders. In all cases, CT scan and RI scan were performed. As instrumentation for this study CT/T scanner, ACTA scanner SF DI00, PHO/Gamma camera and PHO/CON were used. In CT scan, enhancement by intravenous contrast agent was used. The renal images were obtained after intravenous injection of $^{99m}$Tc-DMSA or $^{99m}$Tc-(Sn)DTPA. The results were as follows: (1)Body scan CT was found to be useful to evaluate the anatomical detail of the extent of renal lesion and the relationship of the lesion to the adjacent organs and tissues. (2)RI scan was found to be useful to evaluate renal dynamic function such as blood supply and renal function. (3)The diagnostic procedures of combined use of body CT scan and RI scan was found to be especially of aid for the differentiation of avascular type carcinoma of the kidney from benign renal cyst. In summary, in spite of the fact that recent introduction of excellent body transmission CT has modified the diagnosis of renal disease, RI procedure still remained to be useful screening procedure and only means to evaluate physiologic renal function especially in cases with severe condition and of old age.

SCINTIGRAM AND COMPUTED TOMOGRAPHY IN THE DIAGNOSIS OF RENAL DISEASE

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The role of radioisotope image (RI) and computed tomography (CT) was studied in 19 cases of renal lesions(hypernephroma 4, Wilms 1, cyst 2, polycystic disease 3, hydronephrosis 3, hematoma 2, hamartoma 1, renal stone 2, other 1). RI was recorded with Toshiba GCA1025 and pho/gamma LFOV after intravenous administration of 2-3 mci of 99m Tc DMSA or gluconate. CT was obtained with GE CTT7800 or AS&E apparatus with and without contrast infusion.

The ability of identification and localization of renal disease and the evaluation of contour were studied.

In detecting abnormality there was almost no difference between RI and CT. But CT was superior to RI in the diagnosis of renal diseases containing cyst, fat and calcification with better anatomical delineation including surrounding area. Further examinations using other radiopharmaceuticals were necessary to evaluate the local lesions and the surrounding organs in RI.