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EARLY RENAL IMAGE AND RENOGRAM WITH Tc-99m MDP. A.Kido, Y.Ohoishi, H.Yamada, K.Chiba, H.Murata, M.Noguchi, E.Ohotake, T.Machida, M.Miki, M.Ueda, M.Yanagisawa Department of Nuclear Medicine and Radiological Science, Tokyo Metropolitan Geriatric Hospital. Department of urology, The Jikei University School of Medicine. Tokyo

An evaluation of early sequential renal images and renograms with Tc-99mMDP was studied in 15 nonazotemic cases with malignant diseases, which were compared with those of I-131hippuran renogram.

High incidence (47%) of renal abnormality was found on view of the early sequential renal images but only 7% in delayed images.

The times to peaks of MDP and hippuran renograms were compared in 16 kidneys, which were not correlated between MDP and hippuran. The mean value of peak times of MDP was 3.9 ± 1.4 min. and Tl/2 times was 15.7 ± 3.7 min.

The MDP renograms, which represent the renal function with accuracy, showed the three dimension of typical renogram pattern, however the excretion phases were slightly decreased.

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STUDIES ON RENAL TOMOGRAPHIC IMAGING USING THE SLANT COLLIMATOR. Y.Ohishi, T.Machida, M.Miki, A.Kido, M.Yanagisawa, N.Kondoh, H.Toyama, S.Chiba, K.Chiba, H.Murata and H.Yamada Department of Urology, The Jikei University School of Medicine. Tokyo and Tokyo Metropolitan Geriatric Hospital. Tokyo

An evaluation of slant collimator equipped with a 15" gamma camera LFOV was performed in order to obtain better renal tomographic images. The subjects examined were 7 patients with renal cyst and 1 patient with angiomyolipoma. Renal images were taken after intravenous injection of 5 mCi of Tc-99m-DMSA by means of LFOV, to which a slant collimator with a 30 degree angle of inclination was equipped. Renal tomographic images were reconstructed with a gamma camera computer system (COSNM-TMGH). Ten tomographic images were reconstructed by spacing at 1 cm intervals from the original images by successive approximation. The slant collimator interfaced with the 15" gamma camera LFOV has an even wider visual field and can overcome the narrowness of the 10" slant collimator. In addition, renal SOL was satisfactorily outlined in clinical cases. Renal tomographic imaging using a slant collimator with LFOV was found to be useful as a diagnostic tool on the basis of three dimensional images and for the clinical determination of renal space occupying lesion because of its easiness and lack of expense.

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A BASIC ANALYSIS OF Tc-99m-DTPA RENOSCINTI-PHOTO. S. Ikeda*, A. Fujino**, and A. Ishibashi** *:Department of Urology, Kitasato Institute Hospital, Tokyo. **: Department of Urology, Kitasato University, School of Medicine, Sagami-hara.

Tc-99m-DTPA renoscintiphoto is widely used for renal dynamic study, but fine investigation of this substance for its intrarenal transportation has not been well defined. In this paper, we report the results of microautoradiographic studies with Tc-99m-DTPA in rat kidney using a method which prevents diffusion of soluble radionuclides until exposure to the autoradiographic emulsion is completed. Moreover, optimal conditions for the satisfactory autoradiography of Tc-99m, which is the substance of γ -emitter, and short physical half-life were determined together. Autoradiographs demonstrated the site of Tc-99m-DTPA accumulation to be present almost exclusively in the glomeruli and this uptake was striking. There were little accumulation in the tubules or collecting ducts. These results suggested that Tc-99m-DTPA is filtrated through the glomerulus and rapidly transported to excretory system

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COMPARISON OF RENAL SCINTIGRAPHY AND COMPUTED TOMOGRAPHY IN RENAL DISEASES. C. Saitoh, K.Itoh, N.Ohashi, T.Shiba and R.Koshiba Department of Radiology and Urology, Sapporo City General Hospital. Department of Radiology, Hokkaido University Hospital. Sapporo

With recent development of many imaging modalities available, non-invasive and detailed diagnostic work-up of the renal diseases has been established.

We reported qualitative analysis of dynamic renal scintigraphy in renal space-occupying lesions on last Annual Meeting.

Now, nuclear medicine and computed tomography were performed and were evaluated in 76 patients. This study was oriented to clarify following; 1) detectability of renal space-occupying lesions on computed tomography and nuclear imaging 2) diagnostic accuracy of both imaging modalities 3) mode of renal masses on computed tomography 4) problems inferring a diagnosis on computed tomography and nuclear imaging.

From the result of this study, we are intending to refer to the diagnostic system of renal diseases, especially renal space-occupying lesions, in our hospital.