

black of the patient held in the sitting position. Additional later scintiphotos may be obtained if necessary. Scintigraphic findings thus obtained are classified roughly into 2 types, normal and abnormal, according to their pattern of changes with time. In the normal type, the kidney, renal pelvis and ureter are successively visualized and then disappear, while the radioactivity in the bladder becomes progressively increased. In Contrast, the abnormal type, especially a pattern of obstructive type, is characterized by a delayed functional image of  $^{131}\text{I}$ -Hippurate and its image retained or remained in the upper portion of the urinary tract.

We performed this procedure in children with

nephritis or pyelitis with a protracted course or repeated recurrences and evaluated the degree of functional integrity of the kidney and ureter from serial renal RI images. Findings thus obtained in part of the patients permitted us to confirm the presence of obstruction at the renal pelvis or ureter.

In this paper some of our cases with malformation or stricture of the upper urinary tract demonstrated by this radiodiagnostic procedure were presented, together with a comparison of renal scintigram and excretory pyelogram particularly with regard to their diagnostic efficiency in upper urinary tract obstruction.

### **Clinical Evaluation of Renoscintiphoto in Hydronephrosis**

S. IKEDA\*, A. ISHIBASHI\*, K. ISHII\*\*, K. YODA\*\*, and S. HASHIMOTO\*\*

\**Department of Urology, School of Medicine, Kitasato University*

\*\**Department of Radiology, School of Medicine, Kitasato University*

Renoscintiphoto is one of the methods to assess functional impairment of renal tissue damaged by hydronephrosis and may predict the potential reversibility of the kidney function.

A total of 248,  $^{131}\text{I}$ -Hippuran image studies in 89 hydronephrotic patients were reviewed.

After bolus injection of  $^{131}\text{I}$ -Hippuran (200–500 uCi), renoscintiphotos were taken by means of Nuclear Chicago's Pho/Gamma HP scintillation camera. Minicomputer CDS 4096 was used to process the data.

The obtained images were divided into 3 main groups according to the figure, accumulation and excretion, and subdivided into four, three, and

seven subgroups respectively. Each group was compared with ROI renogram and scored 0 to 5, according to its function. Generally, small score means good function.

The total score of each case correlated to renogram pattern and I.V.P. pattern.

For clinical study, photographs of pre- and post-operative cases were studied using this score index. Operative cases scored below 5 showed significantly high reversibility of the renal function, while cases beyond 5 seldom restored their function.

This scoring method seems to be useful to predict prognosis of hydronephrosis.

### **Evaluation of Renal Images by $^{99\text{m}}\text{Tc}$ -DMS in Tuberculous Kidneys**

M. UEDA, A. KIDO, M. MIKI, Y. OHISHI, M. YANAGISAWA and T. MACHIDA

*Department of Urology, Jikei University School of Medicine*

Renal imaging by  $^{99\text{m}}\text{Tc}$ -DMS is useful in investigating the renal parenchyma. Excretory urograms generally show changes of calyces and pelvis in tuberculous kidneys, but hardly give clear images of the renal parenchyma.

Tuberculous 85 kidneys in 65 cases, 40 males were investigated by renal imaging with  $^{99\text{m}}\text{Tc}$ -DMS (1-10 mCi) and renal images were compared with excretory urograms. The apparatus used were Aloka's RVE 204 and Nuclear Chicago's