

CLINICAL STUDIES OF RENOSCINTIPHOTOS ON 2000 CASES

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Statistics of 2411 renoscintiphotos performed in Kitasato University Hospital from May 1972 to June 1978 was made. Total number of the examinations in each year ranged 400-450. It took about 10% of all scannings. Actually the number of patients performed renoscintiphotos was 1689. Because it carried out two or more times on 371 cases. Among of them, renoscintiphotos were most frequently taken on transplanted kidneys and hydronephroses.

Allografts and hydronephroses were mainly examined with dynamic study using ^{131}I -hippuran and/or $^{99\text{m}}\text{Tc}$ -DTPA, on the other hand renal tumors and cysts which had space occupying lesions were applied with static imagings using $^{99\text{m}}\text{Tc}$ -PAC or $^{99\text{m}}\text{Tc}$ -DMS.

Nuclear Chicago gamma HP scinticamera connected with minicomputer was used for this studies. Add to this, LFOV type camera is also available, the number of renoscintiphotos gradually increases this year.

THE USE OF RADIONUCLIDE STUDIES IN RENAL FAILURE

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Renal radionuclide scans and renoscintiphoto of 158 cases with varying levels of renal insufficiency were reviewed. Three scan grades were defined in terms of ability to determine kidney location, size and overall definition. The scan grades were correlated with the level of serum creatinine and blood urea nitrogen.

result

1. $^{99\text{m}}\text{Tc}$ -DTPA (renoscintiphoto)

A good image can be obtained with creatinine levels of 2.5mg/dl. or blood urea nitrogen levels of 35mg/dl. If only informations relating to location and size are desired a scan may be attempted with serum creatine levels as high as 9.6mg/dl., and blood urea nitrogen levels as high as 96mg/dl. The $^{99\text{m}}\text{Tc}$ -DTPA renoscintiphoto appears to have value for differential diagnosis between obstructive disease and parenchymal disease of kidney.

2. ^{131}I -Hippuran (renoscintiphoto)

Serum creatinine and blood urea nitrogen levels for good scans are approximately same as renoscintiphoto of $^{99\text{m}}\text{Tc}$ -DTPA, but rarely successful when the serum creatinine level exceeds 6 mg/dl., and blood urea nitrogen level exceeds 65mg/dl.

3. $^{99\text{m}}\text{Tc}$ -DMS (renoscintiscan)

A good image can be obtained with creatinine level of over 10mg/dl. or blood urea nitrogen level of over 100mg/dl.

4. case of acute renal failure

The nuclide image successfully predicted whether there would ultimately be good renal function. The $^{99\text{m}}\text{Tc}$ -DTPA renal image appears to have value as a predictor of ultimate renal function in patients with acute renal failure, and it can be used in patient management.