K. Kidney

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REEXAMINATION OF NORMAL Tc-99m-DTPA RENO-
-SCINTIPHOTO. S.Ikeda,S. Egawa,K.Lee,
A.Fujino, A.Ishibashi,and J.Kurokawa.
Kitasato university,school of medicine,
Kanagawa.

We reexamined the 114 cases of normal
ROI curve getting from Tc-99m-DTPA reno-
-scintiphotography. Cases were divided in
two groups:transplanted kidney(group A)
and non-transplanted kidney(group B). This
time, we compared the some kinds of para-
-meters of ROI curve with 24 C-CR.
In group B, slight correlation(r=0.5-0.7)
were showed in renogram index, concentrati-
-on rate, excretory rate and time from inj-
-ection to peak with 24 C-Cr. However, para
meter relating to excretion, for example,
excretory angle and time from peak to 75%
of peak did not correlate with 24 C-Cr.
In group A, every parameter did not cor-
-relate with 24 C-Cr.
These results indicated that it is diffi-
-cult to detect the quantitative value
about renal function from simple parameter
of ROI curve. According to group A, perfu-
-sion index might be a good indicator to
detect the renal function.

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CORREIATION OF RPF WITH RENOGRAM AND CYST-
OGRAM. M.Maeda,M.Yamaguchi,R.Hasegawa and
H,Yoshida. Department of Radiology,JNR. O-
saka Hospital.

131 I-Hippuran renogram was obtained by
the use of a gamma camera with a parallel
hole collimator and the first 1-2 minute c-
ounts were expressed as percent of counts
injected after the depth correction was ma-
de.This uptake rate(%) correlates closely
with 30 minute urinary excrtion rate(%) w-
hich can be used to calculate RPF.

30 minute excretion rate in the bladder
by external counting (gamma camera) meth-
od showed a good correlation with the rate
by urin sampling method, when the correcti-
on of bladder depth was made.
Therefore,RPF can be easily estimated f-
rom 1-2 minute excretion rate in the bladd-
er by the use of a gamma camera.
Coefficient K derived from the accumula-
tion curve (cystogram) on the bladder al-
so showed a correlation with RPF.

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EVALUATION OF METHOD OF RENAL FUNCTION ANA-
LYSIS BY RENOSCINTIGRAPHY. #Hajime Fujii,
Fumio Tanaka, Toshinobu Fukushima, Yukio
Takayama, Hiroto Washida, **Jiro Kato.
*Anjo Kosei Hospital. Anjo. **Nagoya City
University. Nagoya.

The renal clearance and Filtration Frac-
tion were able to analize by renoscintigra-
phy using Tc-99m-DTPA. 10mCi of Tc-99m-DTPA
was injected intravenously as a rapid bolus
and sequential images of the kidney were
recorded one second for 72 frames and 6 se-
conds for 244 frames. The time activity
curves were obtained from the ROI in both
kidneys, left ventricule (LV), and each back
ground. The time activity curves of LV was
fitted a exponential function by the method
of least squares. Volume of circulation
plasma flow of the patient was obtained from
standard plasma flow. DTPA-clearance was
obtained from T(1/2) and volume of circula-
tion plasma flow. DTPA-FF was determined by
correlation peak value of initial blood flow
phase and integral value of concentration
phase. It was adequate correlation between
DTPA-FF and FF using conventional method.
Without blood and urine collection, the
accuracy and easiness make this method very
useful in practical renal function test.

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EVALUATION OF PARAMETERS OF RENAL FUNCTION
USING Tc-99m-DTPA IN SOLITARY KIDNEY PA-
TIENTS. Hiroto Washida, Masayuki Tsugaya,
Noriaki Hirao, Yusuke Hachisuka, Hajime
Fujii, Toshinobu Fukushima, Yukio Takayama.
Anjo Kosei Hospital, Anjo.
There are several reports of evaluation
of renal function tests using renoscintigra-
phy. It is well known that Tc-99m-DTPA pass
through the glomelus. In this study, we
attempted to evaluate renal function pare-
meters calculated from Tc-99m-DTPA comparing
the parameters from classical methods. Pa-
tients were consisted from 23 cases (8 males,
15 females),whose age was ranged from 19 to
78 year-old, and mean was 55.7 year-old.
Time after the nephrectomy was ranged from 3
months to 28 years and mean was 6.5 years.
Nephrectomy was performed in 11 cases on the
left side and 12 cases in the right side.
There were adequatelly correlated between
creatinine clearance and DTPA-clearance (r=
0.902), GFR and DTPA-clearance (r=0.927),
filtration fraction(FF) and DTPA-FF(r=0.930)
DTPA-RPF was calculated from the results and
compared with RPF. It was correlated bet-
ween DTPA-RPF and RPF (r=0.925).
In conclusion, renal function parameters
calculated from Tc-99m-DTPA are usefull for
understanding the separated renal function
in practical nephrology.
The methods of the calcualtion was reported
by Fujii at this meeting (Abstract No. 321).