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ESTIMATION OF LEFT ATRIAL VOLUME BY RADIO-
NUCLEIDE ANGIOGRAPHY. K.Hayashi, T.Nishimura, Y.Dehara, C.Ohtsuki, Y.Kimura, and T.Kozuka. National Cardiovascular
Center, Department of Diagnostic Radiology. Osaka.

With 20 cases of valvular disease, we attempted to measure left atrial (LA) volume by first pass method by radio-
nuclide angiography (RNA). The real quanti-
ty of LA volume could be accurately by
non-gated cardiac computed tomography (CCT).

Three parameter derived from RNA
compared with LA volume from CCT; those
were (1) The area of left atrium in films
(2) LA peak count and 50 frames of LA
count that those were corrected by counts
of 0.1ml blood at equilibrium stage.

There was correlation between the area
of LA and CCT with R=0.780, between
corrected LA peak count and CCT with R= 0.913 and between corrected 50 Frames of LA count and CCT with R= 0.952.

Corrected 50 Frames of LA count could
be best indicator for LA volume and can
be used for evaluation of volume change
between pre and post operation.

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PERIPHERAL CIRCULATION IN SYSTEMIC SCLER-
DERMA BY Xe-133 CLEARANCE TECHNIQUE : EVA-
LUATION OF TISSUE IN PARTITION CO-
EFFICIENTS. H.Mizuuti, T.Hamaguchi, T.Kita-
o, T.Nakagawa, Mie University School of
Medicine. Tsu.

Increased Xe-133 clearance rate in scler-
odermaus hand and normal clearance rate
in sclerodermaus hand treated with oral
steroid were reported in 19th annual meet-
ing of J.S.N.M. Skin manifestations of scler-
oderma never imply increased tissue blood
flow. Tissue blood partition coefficients, the
other factor influence in calculation of
tissue blood flow by Xe-133 clearance
technique, were measured in scleroderma,
scleroderma treated with steroid and normal
control. Partition coefficients in patholo-
gical states are smaller than normal : scler-
odermaus skin(0.28), sclerodermaus skin
with treated with steroid(0.45), normal skin(0.56)
sclerodermaus subcutaneous tissue(3.18),
sclerodermaus subcutaneous tissue treated with steroid(6.33), normal subcutaneous tis-
ue(6.99). After correction of partition co-
efficients, tissue blood flow in scleroder-
maus hand(6.4ml/100g.min) and scleroder-
maus hand treated with steroid(8.3ml/100

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SIGNIFICANCE OF EARLY AND DELAYED TI-201
WHOLE BODY SCINTIGRAPHY IN PERIPHERAL ARTE-
RIAL DISEASE. M.Mashimo, T.Miyamae, K.Suzuki,
K.Nishimura, S.Kinoshiita and Y.Doki. Saitama
Medical School. Saitama.

TI-201 scan is one of useful methods to
evaluated muscle perfusion with peripheral
arterial disease as well as coronary arte-
rnal disease.

Early and delayed TI-201 whole body scans
were performed in 27 abnormal subjects
during exercise using ergometer, and 35 normal
subjects at rest (18 cases) and during ex-
ercise using ergometer (10 cases) and treadmill (7 cases) in the lower extremities,
investigating significane of the redistrbution
of muscle perfusion.

It was calculated radioactivity rates of
bilateral thighs and calves to whole body in
early and delayed scan.

Results:
1. TI-201 redistribution was seen to rest-
ing and insufficient exercising segments
not to full exercising segments.
2. It was suggested that redistribution
(D/E) of all segments were inversely
proportion to momentum.
3. TI-201 redistribution was seen to af-
fected side more than normal side in abnor-
mal subjects.
4. It will be required to grasp exact mo-
mentum in the future.

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VASODILATOR THERAPY FOR CONGESTIVE HEART
FAILURE(3)—THE EVALUATION OF THE NEW TECH-
NIQUE FOR MEASURING PERIPHERAL HEMODYNAMICS
WITH THE USE OF RADIONUCLIDE. Y.Todo,
M.Ohyangaki, K.Sakuyama, K.Kawai, I.Iwasaki; and
H.Fukuchi, Hyogo College of Medicine. Nishinomiya.

To assess the effectiveness of the
treatment for congestive heart failure(CHF),
we evaluated the new technique for measur-
ing peripheral hemodynamics with the use of
in vivo Tc-99m labelled red blood cell iso-
tope count rate of forearm were measured
every 5sec,while venous occlusion technique
was performed with inflating to 40 mmHg
a collecting cuff around the upper arm.
subsequently, forearm blood volume(FBV),
flow(FBF),venous capacity(FVC), and
vascular resistance(FVR) were calculated with
these data by computer. We compared
these indices between 10 normal subjects( Gr.1) and 10 patients with CHF(Gr.2). FBV
of Gr.1 was higher than that of Gr.2(6.6±1.0
VS 4.9±1.0 m1/100ml,p<0.005). FBF was
also higher in Gr.1(4.4±1.2 VS 1.9±0.5 m1/
100ml/min,p<0.001). FVC was similar in both
groups(3.2±1.2 VS 2.6±0.8 m1/100ml,NS).
FVR was lower in Gr.1(19.6±5.6 VS 55.9±14.8
mmHg/m1/100ml/min,p<0.001). Furthermore,we
observed an improvement of these indices
in cases with CHF on treatment with vasodilators(Nifedipine and Prazosin). We con-
cluded that this technique seems to be
useful for assessment of CHF.