ESTIMATION OF LEFT ATRIAL VOLUME BY RADIO-

With 20 cases of valvular disease, we attempted to measure left atrial(LA) volume by first pass method by radio-
uclide 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 CTT with R=0.780, between
corrected LA peak count and CTT with R=
0.913 and between corrected 50 frames of
LA count and CTT 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
during pre and post operation.

PERIPHERAL CIRCULATION IN SYSTEMIC SCLERO-
DERMA BY Xe-133 CLEARANCE TECHNIQUE: 
EVALUATION OF TISSUE IN PARTITION CO-
EFFICIENTS. H.Mizutani, T.Hamasuguchi, T.Kita-
o, T.Nakagawa, Mie University School of
Medicine. Tsu.

Increased Xe-133 clearance rate in scleroderma
tissue and normal clearance rate in scleroderma
hand treated with oral steroid were reported in 19th annual meet-
ing of J.S.N.M. Skin manifestations of scleroderma 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 pathe-
ological states are smaller than normal: scleroderma skin(0.28), scleroderma skin treated with steroid(0.45), normal skin(0.56), scleroderma subcutaneous tissue(3.18), scleroderma subcutaneous tissue treated with steroid(6.33), normal subcutaneous tis-
ue(6.89). After correction of partition co-
efficients, tissue blood flow in scleroderma
tissue(8.4ml/100g min) and scleroder-
matous tissue treated with steroid(8.31ml/100
g.min) revealed decreased than normal hand (10.5ml/100g.min).

SIGNIFICANCE OF EARLY AND DELAYED TL-201
WHOLE BODY SCINTIGRAPHY IN PERIPHERAL ARTE-

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

Early and delayed TL-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 significance of the redistribution
of muscle perfusion.

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

Results:
1. TL-201 redistribution was seen to rest-
ing and insufficient exercising segments
not to full exercising segments.
2. It was suggested that redistribution
rates (D/E) of all segments were inversely
proportion to momentum.
3. TL-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.

VASODILATOR THERAPY FOR CONGESTIVE HEART
FAILURE(3)—THE EVALUATION OF THE NEW TECH-
NIQUE FOR MEASURING PERIPHERAL HEMODYNAMICS

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.1.1so-
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),
blood 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). FBF
of Gr.1 was higher than that of Gr.2(6.6±1.0
VS 4.9±1.0 ml/100ml,p<0.005). FBF was
also higher in Gr.1(4.4±1.2 VS 1.9±0.5 ml/
100ml/min,p<0.001). FVC was similar in both
groups(3.2±1.2 VS 2.6±0.8 ml/100ml,NS)
FVR was lower in Gr.1(19.6±5.6 VS 55.9±14.8
mmHg/ml/100ml/min,p<0.001). Furthermore, we
observed an improvement of these indices
in cases with CHF on treatment with vasodila-
tors(Nifedipine and Prazosin). We con-
cluded that this technique seems to be
useful for assessment of CHF.