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DYNAMIC OF REDISTRIBUTION ON STRESS MYOCA-
RDIAL SCINTIGRAPHY. --ISCHEMIC HEART DISE-
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igata University School of Medicine.H.Hama,
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We examined the change of proper myoca-
rdial count on redistribution of ischemic
heart disease. It was compared with the
grade of coronary artery stenosis,the exi-
stance of collateral circulation, and the
appearance time of redistribution. Redist-
ributions were seen in 16 segments of 11
cases until 2.5 hours after exercise. The
proper myocardial count(Cmt) was gained
from next formula[Cmt = Ct - BG, Ct: Raw
Myocardial Count, BG: Background Count,].
Cmt was collected about 4 views at immedi-
ately(CmO), 1 hour(Cml) and 2.5 hours(Cm2,5)
after exercise. Redistributions were seen
in 10 segments at 1 hour and 6 segments at
2.5 hours after exercise.In normal regions,
Cml/CmO and Cm2.5/CmO were 0.87+0.12 and
0.70+0.17,respectively. In regions of red-
istribution, they increased to 1.04+0.16
(P<0.01) and 0.86+0.16(P<0.02),respective-
ly. We thought that the observation of re-
distribution was enough until 2.5 hours
after exercise. Redistribution appeared
early in case of less severe stenosis or
more developing collateral circulation.

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SIGNIFICANCE OF REGIONAL MYOCARDIAL WASHOUT
RATE OF Tl-201. S.Wakasugi,N.Shibata,
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To evaluate the significance of myocard-
ial washout rate of Tl-201,stress-redistri-
bution Tl-201 magnified scintigrams were
obtained in 58 patients(pts)with coronary
artery disease(CAD). Normalized washout pr-
ofile method(NWM) had higher sensitivity
for detection of CAD(71%,53% and 67% for
LAD,RCA and LCX),compared to not-normalized
washout profile method. Initial distributi-
on profile method(IDM) had the best sensi-
tivity for LAD and RCA(90% and 63%),but NWM
had the best sensitivity for LCX lesion.
Prediction of three-vessel disease in pts
with myocardial infarction was 65% by IDM,
and significantly improved(88%)by combinat-
ion of IDM and NWM. 80% of 74 ischemic seg-
ments with initial defect had redistributi-
on index(RI) more than 30%, but only 59% of
those segments showed abnormal slow washout
(SW). The significant SW was not necessari-
ly found in ischemic segments. 24 ischemic
segments had SW without initial defect.
Abnormal SW were recognized in 30% of isch-
emic or infarct segments which had RI less
than 30% and slight redistribution or pers-
istent defect. These data indicate that wa-
shout rate has significant value not depen-
dent on initial distribution and redistri-
bution.

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ASSESSMENT OF INDIVIDUAL CORONARY ARTERY
LESION BY THE Tl-201 WASH-OUT RATE PROFILE
IN EXERCISE MYOCARDIAL SCINTIGRAPHY.
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In order to evaluate the diagnostic accu-
racy of the regional Tl-201 wash-out rate
in exercise study for detection of indi-
vidual coronary artery lesion(CAL), 11
normals and 33 patients with CAL underwent
myocardial scintigraphy immediately after
and 2.5 hours after symptom-limited maximal
exercise. Tl-201 distribution profile(DP) at
peak exercise and the percent wash-out rate
profile(WP) were determined quantitatively
by computer processing. If profiles deviate
below the lower limits determined in 10
normal volunteers from the 2 standard devi-
ation of these two profiles, we considered
them as abnormal. Results obtained in the
left anterior descending(LAD), left circum-
flex(LCX) and right(RCA) coronary arteries
were as follows:

		sensitivity	specificity	accuracy
LAD	WP	96%	100%	95%
	DP	81%	92%	84%
LCX	WP	89%	80%	84%
	DP	79%	60%	68%
RCA	WP	80%	54%	66%
	DP	75%	67%	70%

These results suggest that the regional
Tl-201 wash-out rate(WP) is highly sensitive
in detecting the individual coronary lesion.

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THE DIAGNOSTIC EFFICACY OF RADIONUCLIDE
METHOD FOR MYOCARCIAL INFARCTION. N.
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gy, Tokyo University School of Medicine.
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To evaluate the diagnostic efficacy of
radionuclide methods for myocardial
infarction(MI), Tl-201 myocardial scan,
multigated pool scan and ECG were examined
in 52 patients who were confirmed their di-
agnoses by left ventriculography(LVG) and
coronary angiography(CAG). They were 25 MI,
25 angina pectoris and 2 cardiomyopathy.
Sensitivity in the diagnosis of MI was 84%
in Tl-201 scan, 88% in wall motion study,
96% in wall motion study with phase analysis
and 64% in ECG. Sensitivity in the diag-
nosis of LV asynergy was 74% in Tl-201 scan,
71% in wall motion study and 79% in wall
motion with phase study. Furthermore, the
diagnostic efficacy of radionuclide methods
and ECG was analyzed with ROC analysis. The
ROC curve of multigated pool scan showed
higher efficacy than those of Tl-201 scan
and ECG in the diagnosis of MI. However,
the ROC curve of wall motion study combined
with phase analysis revealed the best diag-
nostic efficacy in the diagnosis of MI and
also in the diagnosis of LV asynergy.
In conclusion, the wall motion study with
phase analysis is very useful noninvasive
method in the diagnosis of MI.