EVALUATION OF PERFUSION DEFECT BY THALLIUM MYOCARDIAL SCINTIGRAPHY AND WALL MOTION ABNORMALITY BY GATED SCINTIGRAPHY IN PATIENTS WITH DILATED CARDIOMYOPATHY.


We assessed perfusion defect (PD) by Tl myocardial scintigraphy (N=31) and wall motion abnormality (WMA) by gated blood pool scintigraphy (N=19) in patients with dilated cardiomyopathy (DCM) (N=31). LV contrast angiography (N=24) and endomyocardial biopsy (N=23) were also performed. Sixteen of DCM were assessed as PD+ (apex:N=11, septum:N=6, anteriorlateral:N=5, inferior:N=4), and 15 as PD−. EDVI with PD+ was larger than with PD− (123.4±32.9 vs 101.4±24.0m1,N.S.), and EF with PD+ was lower than with PD− (26.7±10.8 vs 42.4±3.8%, P<0.05). DCM with PD+ disclosed more frequent intraventricular conduction disturbance and abnormal Q wave on ECG than with PD−. The biopsies showed that fibrosis existed more in PD+ than PD− region. WMA was classified as dyskinesia (DK), akinesis (AK), hypokinesis (HK) and normokinesis (NK) on septal, apico-inferior and lateral regions. In 14 regions with PD+, 13 had WMA (DK+AK+HK), and in 30 regions with PD−, 3 had AK and 13 had NK. In conclusion, there were more incidences of severe cases of DCM with PD+ than PD−, and greater WMA in regions with PD+ than PD−.

EVOLUTIONARY CHANGES IN RIGHT VENTRICULAR FUNCTION IN PATIENTS WITH ACUTE INFERIOR MYOCARDIAL INFARCTION.


Multigated blood pool imaging (MBPI) has a potential to get valuable informations like right ventriculography noninvasively. In order to evaluate the evolutionary changes in right ventricular function following the onset of acute infarction, we applied MBPI to 31 patients with inferior myocardial infarction in which hypokinesis or akinesis was found in RV free wall. MBPI was performed at the first day (ID), 10 day (10D) and 3 month (3M) following the onset of infarction. Right ventricular ejection fraction (RVEF) significantly increased from 1D to 10D (31.7±12.9% to 44.9±10.2%, Mean±SD, p<0.001). However, no significant improvement was found in RVEF from 1D to 3M (45.1±12.6%). These results suggest that right ventricular hypokinesis or akinesis in acute stage might reflect not only infarction, but also reversibility of ischemic right ventricle in patients with acute inferior myocardial infarction.

RADIONUCLEIDE ANGIOGRAPHIC EVALUATION OF CARDIAC FUNCTION IN PATIENTS WITH DILATED CARDIOMYOPATHY.


Dilated cardiomyopathy (DCM) usually shows diffuse dysfunction of left ventricle (LV). However, we found that regional dys-function was seen in some cases of DCM just like in ischemic heart disease. Therefore, we examined in DCM by multigated method.

In global functions, peak ejection rate, ejection fraction, peak filling rate and filling fraction were very low in almost cases, but time to peak ejection and time to peak filling were not changed.

Standard deviation (±SD) of LV phase angles was calculated as a regional function. Range of ±SD spreaded from 7° to 68° (28±13°). ±SD were particularly high in dead cases. Cases over 25° of ±SD had relatively lower LV functions than cases under 25°. In almost cases, ±SD were inversely proportional to LV functions. However, in three dead cases, high degree of ±SD was shown in spite of relatively better LV functions.

There were not significant correlations between ±SD and CTR, CO or frequency of PVCs. But all patients with VT had high ±SD exceeded 25°.

It was concluded that ±SD was a good index to estimate the prognosis of patients with DCM.