229 MYOCARDIAL SCINTIGRAPHY OF HYPERTROPHIC CARDIOMYOPATHY—CLINICAL SIGNIFICANCE OF RIGHT VENTRICAL DILATED CARDIOMYOPATHY—CLINICAL SIGNIFICANCE OF RIGHT VENTRICULAR DILATION—CLINICAL SIGNIFICANCE OF RVDCM

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Four cases of Right Ventricular Dilated Cardiomyopathy (RVDCM) were studied by T1-201 myocardial scintigraphy (T1 scinti.) and gated cardiac blood pool imaging (pool scinti.). Five patients with right ventricular overload (RVVO) (atrial septal defect) and 4 with pressure overload (RVPO) (3: patent mitral stenosis, multiple pulmonary thromboembolism) were also evaluated for a comparative study. In T1 scinti., RV free wall was visualized in all cases. RV/LV diameter ratios and RV/LV T1-201 uptake ratios were obtained from LAO 45° or LAO 60° view of T1 scinti. RV/LV diameter ratio of RVVO (1.31 ± 0.22) was greater than RVDCM and RVPO (1.12 ± 0.22, 0.88 ± 0.10, respectively). The shape of interventricular septum was straight in 3 cases of RVVO, but convex to right ventricle in cases of RVVO and RVDCM. RV/LV T1-201 uptake ratio was not different scintigraphically between each group. Pial perfusion defect was recognized in one case of RVDCM. In pool scinti., LV wall motion was good, but that of RV was reduced in RVDCM. In conclusion, T1 scinti. and pool scinti. could serve as a non-invasive means for assessment of RV shape and function of RVDCM.

230 DECREASED CORONARY RESERVE IN PATIENTS WITH HYPERTROPHIC CARDIOMYOPATHY.

To assess abnormality of the small coronary artery in patients with Hypertrophic Cardiomyopathy (HCM), Dipyridamole (DP) 0.5 mg/kg was injected in 22 patients with HCM and 13 healthy controls. Two Thallium-201 myocardial images were taken before and after DP, injecting 2mCi of Thallium-201 separately. An increase in myocardial Thallium uptake after DP was then calculated as an index of coronary reserve (CRI). Patients with HCM showed significantly lower CRI (173±50%) than controls (281±44%), suggesting significant coronary artery lesions. HCM patients with abnormal CRI (below mean-2SD of controls) demonstrated significantly greater septal thickness, lower exercise tolerance (greater FAI) and lower ejection fraction. Therefore, abnormal small coronary artery, suggested by decreased CRI, seemed to be an important factor relating to impaired cardiac performance in patients with HCM.

231 EVALUATION OF RIGHT VENTRICULAR DILATED CARDIOMYOPATHY WITH THALLIUM-201 MYOCARDIAL SCINTIGRAPHY AND GATED CARDIAC BLOOD POOL SCINTIGRAPHY.

Four cases of Right Ventricular Dilated Cardiomyopathy (RVDCM) were studied by T1-201 myocardial scintigraphy (T1 scinti.) and gated cardiac blood pool imaging (pool scinti.). Five patients with right ventricular volume overload (RVVO) (atrial septal defect) and 4 with pressure overload (RVPO) (3: patent mitral stenosis, multiple pulmonary thromboembolism) were also evaluated for a comparative study. In T1 scinti., RV free wall was visualized in all cases. RV/LV diameter ratios and RV/LV T1-201 uptake ratios were obtained from LAO 45° or LAO 60° view of T1 scinti. RV/LV diameter ratio of RVVO (1.31 ± 0.22) was greater than RVDCM and RVPO (1.12 ± 0.22, 0.88 ± 0.10, respectively). The shape of interventricular septum was straight in 3 cases of RVVO, but convex to right ventricle in cases of RVVO and RVDCM. RV/LV T1-201 uptake ratio was not different scintigraphically between each group. Pial perfusion defect was recognized in one case of RVDCM. In pool scinti., LV wall motion was good, but that of RV was reduced in RVDCM. In conclusion, T1 scinti. and pool scinti. could serve as a non-invasive means for assessment of RV shape and function of RVDCM.

232 QUANTITATIVE ESTIMATION OF THE RIGHT VENTRICULAR OVERLOAD ON TL-201 MYOCARDIAL SCINTIGRAPHY IN PATIENTS WITH VARIOUS RESPIRATORY DISEASES—COMPARISON OF PULMONARY HEMODYNAMIC FINDINGS—

For evaluation of the right ventricular (RV) overload, T1-201 myocardial scintigraphy was performed in patients with various respiratory diseases, and quantitative assessment of it was studied to compare these results with pulmonary hemodynamic findings. On intravenous administration of T1-201, initial transit of the tracer through the heart and the subsequent static image were recorded in LAO30° using a scintillation camera coupling to a small digital computer. The radioactivity of total injected dosis of T1(T) was calculated from the radio-nuclide angiogram, and that of RV(R) and LV plus septum(L) was done from the static image, on which the angiogram showing RV was superimposed. By these procedures, RV or LV uptake ratio of T1-201 was calculated by ratio R or L to T. (RV/LV) Results 1) RT and LT/LT were well correlated with MPAP, RVSP and PAR, respectively. 2) There was a significant difference between MPAP in RVH group (Rt>2.0, Lt<2.6) and that in no RVH one. 3) Both RT and LT/LT were useful in the diagnosis of pulmonary hypertension (MPAP>25mmHg).

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