

VISUALIZATION OF RIGHT ATRIUM IN THALLIUM-201 MYOCARDIAL SCINTIGRAPHY

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Many reports have been made about right ventricular visualization in myocardial scintigraphy with Thallium-201, which comes to the agreement that right ventricle (RV) become visualized in the pressure and volume overload to it. We had experienced 8 cases of right atrial(RA)visualization as well as RV visualization in the cases of congenital heart disease(CHD),mitral valvular disease(MVD) and Cor pulmonale(CP). The frequency of RA visualization was 23 % of the right heart(RH) overloading cases.

	Cases CHD MVD CP Others				
R H Overload.	35	9	20	4	2
R A Visualizat.	8	2	4	1	1

The RA(RA appendage),visualized well in the anterior and RAO-30°views,is located in the right upper and anterior part of the large cardiac silhouette of the scintigraphy and easy to be separated from ventricular muscle and lung tissue.

From the reference of ECG,chest X-ray and cardiac catheterization, we concluded that RA becomes visualized in the RH overload by the following reasons. The RA wall,so thin in normal to be seen,changes to be thickend as the RH is overloaded. The RA dislocates from the deep right to the most frontof the heart due to the enlargement of RA,and also of left atrium in MVD. The RA appendage consists of two walls close by each other,which takes the top seat to be seen in the right heart dislocation.

THALLIUM-201 MYOCARDIAL IMAGING: MORPHOLOGICAL EVALUATION OF VARIOUS HEART DISEASES. 2.

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Tl-201 myocardial imaging was performed in 101 consecutive cases with cardiac catheterization, consisting of 31 with valvular heart disease, 25 with congenital heart disease, 18 with coronary artery disease, 18 with cardiomyopathy and 9 with other disorders. Unprocessed photoscans in five projections were obtained 10 minutes after intravenous administration of 2 mCi of Tl-201 chloride. Cardiac catheterization was performed within 24 hours after Tl-201 myocardial imaging.

In 54 patients, the right ventricular (RV) free wall was visualized in LAO views. The extent of tracer activity in the RV free wall was graded into four degrees, by being compared with that of the background and that of the left ventricular (LV) free wall. The degree of RV visualization (RVV) was compared with the data of cardiac catheterization. RV systolic pressure(mmHg) was 22.8 ± 6.3 in 0 group, 38.2 ± 13.2 in 1 + group, 68.3 ± 40.8 in 2 + group and 121.7 ± 26.3 in 3 + group. These values showed significant differences among each group ( P 0.05 - P 0.001 ). RV end diastolic pressure, pulmonary arterial mean pressure, total pulmonary vascular resistance and RV stroke work index revealed normal values in patients without RVV and abnormally high values in patients with RVV ( P 0.05 - P 0.001 ). Of the 54 patients with RVV, all but 3 had RV overloading. Whereas of 47 patients without RVV, all but 6 did not have RV overloading.

In cases with RV volume overloading, enlarged RV decreased in size postoperatively. In cases with RV pressure overloading, most postoperative scans showed no changes. In cases with LV volume overloading, enlarged LV images decreased in size postoperatively.