We designed the method to obtain the rate of change of coronary blood flow (ΔFlow) and of coronary vascular resistance (ΔCVR) in two different conditions by TI-201 double dose scintigraphy. As we reported previously, the rate of change of myocardial blood flow distribution (ΔPract) can be acquired from the rate of change of TI myocardial uptake. And now we developed the method to obtain the rate of change of cardiac output (ΔCO) by TI double dose, to calculate ΔFlow from both ΔCO and ΔPract, and moreover to calculate ΔCVR from the change of mean blood pressure and ΔFlow. Stewart-Hamilton formula was applied to obtain ΔCO. The initial component of histogram on heart from TI first injection was fitted into gamma function, and in the second injection subtracted component was fitted. The areas bounded by gamma functions were the first S1, and the second S2, ΔCO was calculated as (S1 - S2)/S2. When two doses were injected in same conditions, to verify the above rationale, ΔCO, ΔPract, ΔFlow, and ΔCVR converged near zero. And there was good correlation between ΔCO by this method and by dye dilution method (Y = 1.05 x - 0.08, r = 0.945).

Thus this method is useful to evaluate non-Invasively and quantitatively coronary hemodynamics in various loading.

### EVALUATION OF BI-VENTRICULAR HYPERTROPHY (BVH) AND RIGHT VENTRICULAR HYPERTROPHY (RVH) BY THALLIUM-201 MYOCARDIAL IMAGING COMPARED WITH VECTOCARDIOGRAPHY (VCG)


Comparative study on the pattern of TI-201 myocardial scintigraphy and vectorcardiography (VCG) were performed simultaneously in 27 patients with bi-ventricular hypertrophy (BVH) and right ventricular hypertrophy (RVH). TL-201 uptake in myocardial tissue is mainly depend on blood flow to the tissue and so, we measured RV/LV uptake ratio and RVVD/LVDD ratio in LAO view of TL-201 myocardial imaging. According to the classification of Chou's, we modified six patterns of horizontal plane in VCG, and compared with the each six pattern and the average of RV/LV, RVDD/LVDD ratio. TL-201 myocardial imaging was similar tendency to the assessment of the six patterns in VCG. Therefore, the assessment of the qualitative and quantitative analysis of RVH and BVH which were suggested volume overload or pressure overload, were observed in this comparative studies.

We concluded that our new method of RI-scintigraphy and VCG is useful to evaluate RVH and BVH in patients.