MOVING EJECTION FRACTION IMAGE: A NEW SCINTIPHOTOMIC METHOD FOR ASSESSING LEFT VENTRICULAR WALL MOTION. H. Yoshio, T. Iwasaka, H. Koi, A. Sakai, M. Inada, S. Natsuzumi, A. K. Sato, T. Shiraishi and A. Kasahara. The 2nd Department of Internal Medicine, Kansai Medical University, Osaka.

The moving ejection fraction image which made 3-dimensional assessment of regional wall motion possible consists of continuous EF images (0.05sec/P) throughout the cardiac cycle obtained by system77 multicrystal gamma camera. We studied 19 patients with old myocardial infarction: Group A comprised 4 patients with EF > 55%, Group B comprised 7 patients with 31%EF < 55%, Group C comprised 8 patients with EF < 30%. Group A showed a low EF image in late diastole and early systole but a high EF image in late systole. The patients in Group B had a low EF image areas in late systole and the diastolic expansion in these area terminated earlier than other areas. Group C showed low EF image throughout the cardiac cycle. In this study we could assess the enhanced image which was modified according to maximum regional EF value as base line (100%).

AN ANALYTICAL APPROACH FOR CORRECTION OF BACKGROUND COUNTS AND ITS CLINICAL APPLICATION. Y. Suzuki, M. Nakamura, M. Sugihara and H. Tomoda. Tokai University Medical School, Isehara, Japan.

A new method for calculation of left ventricular ejection fraction (LVEF) based on the analytical correction of background counts by the complex demodulation technique was presented.

First pass radionuclide cardiographies were done in 25 patients. Six different regions of interest (ROI) were selected as following criteria; carefully selected entire LV, laxly selected entire LV, small central portion of the LV, laterolateral half of the LV, septal half of the LV and both left and right ventricles. The time-activity curve of each ROI was taken and its LVEF was calculated by the new method. LVEFs were compared each other.

The LVEFs obtained from the ROIs covered entire LV did show good agreement, but those of obtained from the ROIs covered only partial LV were different each other. The conclusion is that our new method of calculation of LVEF is not dependent on the size of the ROIs, but whether or not the ROIs cover entire LV is very critical.