

Evolutionary changes in left and right ventricular function in acute myocardial infarction

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To determine the evolutionary changes in right and left ventricular function in acute myocardial infarction, 3 serial gated blood pool scans were performed in 76 patients within 24 hours (24 H), at 10 days (10 D) and 3 months (3 M) following the onset of myocardial infarction. The patients were divided into 3 groups: ANT (anterior MI), INF (inferior MI without right ventricular dysfunction) and RVF (inferior MI with right ventricular dysfunction). LVEF in ANT was significantly lower than that of INF and RVF at 24 H, 10 D and 3 M. The ratio of right ventricular volume to LV volume (RVV/LVV) was compared among 3 groups. The mean values of RVV/LVV in RVF were 1.3 through 24 H and 3 M and they were significantly higher than the other two groups. The RVV/LVV in ANT and INF were around 1.0. LVEDVI in RVF was rather smaller than that of ANT and INF. LVESVI in ANT at 24 H was significantly larger than that of INF and RVF and the mean value of LVESVI in ANT were around 60 ml/M² from 24 H to 3 M. LVEF in ANT, RVF and INF did not increase significantly during peak exercise at 3 M. However, quantitative regional wall motion analysis revealed that regional wall motion of R2 (posterolateral wall motion) in ANT and R5 (septal wall motion) in INF decreased significantly during peak exercise. These impairments in regional wall motion might be due to the exacerbation of ischemia of non-infarcted area.

Key words: Acute myocardial infarction, Left ventricular function, Right ventricular function, Regional wall motion