EVALUATION OF THE CARDIAC PERFORMANCE WITH PERMANENT PACEMAKER BY ECG GATED BLOOD POOL SCINTIGRAPHY.


VI mode is the most common form of permanent pacing. The cardiac performance in 12 patients with VVI pacing (complete A-V block and sick sinus syndrome) were assessed by ECG gated blood pool scintigraphy (GBPS) using Tc-99m labelled red blood cell, then pacing rate were changed from 40 to 90 (every 10 bpm).

Cardiac output (CO) was measured by dye dilution method. Left ventricular ejection fraction (EF) and Phase image was calculated from GBPS images. Left ventricular stroke volume (SV), end-diastolic volume (EDV) and end-systolic volume (ESV) were also calculated, and moving images were analysed. In the result, the higher heart rate produced decreased EF, SV, EDV, slightly increased CO, and slightly decreased ESV. The asynchronous left ventricular wall motion were also observed in higher pacing rates.

ANALYSES OF EFFECTS OF PACING MODES AND PACING RATES ON LV EJECTION AND FILLING PROPERTIES BY COMPUTERIZED CARDIAC NUCLEAR PROBE.


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EXERCISE TL-201 MYOCARDIAL SCINTIGRAPHY AND HEMODYNAMICS IN PATIENTS WITH THE ISCHEMIC ST SEGMENT DEPRESSION ON EXERCISE ECG AND NORMAL CORONARY ANGIOGRAM.


Exercise testing was performed with TL-201 myocardial scan in 19 patients with ST-segment depression on exercise ECG and normal coronary angiogram in group II. And their hemodynamics on exercise was compared with those in normal subjects (group I, n=46) and in patients with effort angina pectoris (group III, n=21).

3 patients in group II showed transient defect on TL-201 scintigram soon after exercise. Left ventricular ejection fraction increased gradually in group I and group II except 2 patients with transient defect on exercise TL-201 scan. In 2 of 3 patients in group II with transient defect on exercise TL-201 scan, LVEF was decreased during exercise. Left ventricular function was examined by first-pass radionuclide angioscopy at rest and during supine ergometer exercise. There were no significant differences in heart rate at rest among the 3 groups.

In order to evaluate left ventricular function during exercise in syndrome-X (X), 13 normal controls (NC), 11 patients with X and 9 patients with effort angina and one-vessel coronary artery disease (AP) were studied. Left ventricular function was examined by first-pass radionuclide angioscopy at rest and during supine ergometer exercise. There were no significant differences in heart rate at rest among the 3 groups. Left ventricular ejection fraction at rest was increased in the order of X>NC>AP, while left ventricular end-diastolic volume during exercise was increased in the order of AP>X>NC. Although there was no significant difference in left ventricular peak filling rate (PFR) at rest between NC and X, PFR during exercise was smaller in X than in NC.

In summary, both left ventricular systolic and diastolic functions were deteriorated in syndrome-X.