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EVALUATION OF COFFEE EFFECTS ON CARDIOVASCULAR RESPONSE BY ECG-GATED CARDIAC BLOOD POOL SCINTIGRAPHIC STUDIES.

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To evaluate the acute cardiovascular effects of coffee, ECG-gated cardiac blood pool scintigraphic studies were performed in 7 normal volunteers(N) and in 10 patients(pts) with coronary artery disease(CAD). After 12 hours of caffeine abstinence, the subjects received a cup of coffee contained 90mg of caffeine. In pts with CAD, significantly decreased heart rate(HR) and increased blood pressure(BP), but there were not significant changes in pressure rate product, left ventricular volume and ejection fraction, stroke volume, cardiac output and total systemic resistance after the ingestion of coffee. In N, the effects of coffee were similar to those in pts with CAD except for HR and systolic BP. Coffee brought trends toward a decrease HR and an increase systolic BP in N, but these did not reach statistical significance. We consider, that there is not clinical difference related with the acute coffee effects on cardiovascular response between N and pts with CAD.

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Scintigraphic diagnosis of postinfarction left ventricular aneurysm(LVA) and the prediction of the postoperative EF using ECG gated pool SPECT. T.Tsuda, M.Kubota, K.Kumaoka, K.Morita and T.Matsuzaki; T.Kazui; S.Komatsu; Department of Radiology, Second department of Surgery; Sapporo Medical College, Sapporo.

In this study, noninvasive diagnosis of postinfarction left ventricular aneurysm(LVA) with radionuclide was examined. An attempt was also made to estimate the changes of cardiac function after excision of LVA in 5 patients. The subjects consisted of 49 patients with myocardial infarction. They were all examined by LVG, CAG, Tc-99m blood pool and Tl-201 SPECT. In 16 cases of myocardial infarction with LVA, In-111 labeled autologous platelets scan was carried out. LVA was diagnosed by the presence of regional protrusion or of dyskinesis of the LV wall on LVG. ECG gated blood pool SPECT can be a useful technique for detection of LVA location, for estimation of the noncontractile volume and for evaluation of the LV contraction pattern with LVA quantitatively and non-invasively. In the 16 cases of LVA, 6 cases had active platelet deposition within their aneurysms, but a history of thromboembolism was not occurred in these patients. The postoperative EF could be reasonably predicted ($r=+0.96$, $p<0.05$) by estimation of contractile and noncontractile volumes of LV using ECG gated pool SPECT functional images.

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The evaluation of the effect of therapy in 108 patients with AMI. J.Yamazaki, Y.Kawamura, I.Okuzumi, T.Muto, M.Wakakura, T.Morishita, T.Saito, G.Kamijima, H.Ohsawa, Y.Yabe and Y.Sasaki*. Toho Univ. of med. and Gunma Univ. of med.*

We assessed the effect of therapy in 108 patients with AMI by analysis of Tl-scintigraphy and Tc-gated pool study in CCU. Patients were classified (I) U.K. group treated with intravenous U.K., (II) PTCA+PTCR group and (III) control group. The U.K. group showed significant increase of LVEF as compared with the control group in patients with A/S AMI. But no significant differences were observed between U.K. and PTCA groups in LVEF and Tl-defect ratio. Significant correlation were recognized between Tl-defect ratio and Peak-CPK levels in three groups. Also significant correlation were found between Tl-defect ratio and LVEF. No significant differences were observed between 96×10^4 U group and 120×10^4 U group. On the other hand, the group treated with intravenous U.K. within 6 hours from onset showed significant increase of LVEF and decrease Tl-defect ratio as compared with the control group in patients with A/S AMI. PTCA was effective in patients with impending AMI.

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Analysis of Regional Left Ventricular Systolic and Diastolic Function in Coronary Artery Disease by First-pass and Multigated Radionuclide Angiography. S.Kawakita, T.Inoue, M.Sawamura, M.Kinoshita, S.Kawakita, T.Suzuki, Y.Ikemoto, K.Masuda. Shiga University of Medical Science, Shiga.

To analyze left ventricular global and regional volume curves, first-pass and multigated radionuclide angiography was performed in 27 coronary artery disease (12: angina pectoris (AP), 9: anterior, 6: inferior infarction (MI)) and 9 normal subjects. AC/SV (atrial contraction) and PFR-AC (peak filling rate during atrial contraction) were obtained from backward left ventricular volume curve in 9 coronary artery disease (4: EF>50% (G1), 5: EF<50% (G2)) and 4 normal subjects. LVEF was decreased in MI patients. PFR was significantly reduced in apex in AP patients and in infarcted regions in MI patients. Time to peak filling rate was significantly prolonged in LV (RAO and LAO) and apex in AP patients. AC/SV was significantly higher in G1 (EF>50%) patients, but was rather low in G2 (EF<50%) patients. This indicates the existence of compensatory mechanism of atrial contraction for impaired LV diastolic filling in coronary artery disease with normal LVEF.