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RADIONUCLIDE VENTRIGRAPHIC ASSESSMENT OF THE EFFECTS OF CoQ10 IN MYOCARDIAL INFARCTION. T.Muto, M.Wakakura, H.Nakano, K.Okuzumi, M.Kasai, R.Aoki, S.Iida, S.Hasegawa, T.Morishita,<sup>1)</sup> and Y.Sasaki.<sup>2)</sup> 1) 1st Dept. of Int. Med., Toho Univ., 2) Dept. of Radiology, Toho Univ. Tokyo.

66 old myocardial infarction patients were divided two groups. One was given CoQ10 60mg/day (triple vessels disease 16, double vessels disease 3, single vessel disease 15), the other was control (triple vessels disease 15, double vessels disease 4, single vessel disease 13). Right and left ventricular functions were measured by radionuclide ventriculography before, six months after and one year after given CoQ10. In single and double vessels disease, right and left ventricular functions were not changed through before, six months after and one year after given CoQ10. But in triple vessels disease, LVEF and LVEF/LVET were significantly increased at six months after and one year after given CoQ10 and LVPEP/LVET was significantly decreased at one year after given CoQ10, compared with control. In triple vessels disease, left ventricular function was reduced at before. But in single and double vessels disease, left ventricular function was not so reduced. These suggested that CoQ10 was effective in myocardial infarction with reduced myocardial contractility.

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RADIONUCLIDE EVALUATION OF TRANSLUMINAL CORONARY ANGIOPLASTY (TCA). N.Kanemoto and G.Hör J-W-Goethe University. Frankfurt/Main.

The effect of TCA was evaluated by Tl-201 myocardial imaging(TMI) and radionuclide (Tc-99m) ventriculography(RNVG) at rest and exercise before and after the procedure. Subjects were 52 patients(pts, mean 48 years) with angina and critical coronary stenosis( $\geq 70\%$ ) at least in one major coronary artery. These pts were divided into 3 groups; group 1 consists of 36 pts with successful TCA, group 2, 6 pts who underwent A-C bypass surgery because of unsuccessful TCA, and group 3, 10 pts with unsuccessful TCA and medical therapy. In group 1, average coronary stenosis was dilated from  $81 \pm 8\%$  (mean $\pm$ SD), to  $33 \pm 14\%$ . Myocardial perfusion in computerized TMI 5-10 min after exercise expressed as vitality index increased from  $73 \pm 8\%$  to  $80 \pm 12\%$  ( $p < 0.001$ ) following TCA. RNVG showed statistically significant increase in EF, maximum left ventricular ejection rate divided by end-systolic and end-diastolic counts both in systole and diastole after the dilatation. In group 2, these parameters showed comparable improvement after surgery. In group 3, however, no significant changes were noted.

We conclude that TCA improves both coronary perfusion to ischemic areas supplied by critical coronary artery stenosis and left ventricular function, if luminal diameter is dilated by more than 20%.

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QUANTITATIVE Tl-201 REGIONAL WASH-OUT RATIO MEASUREMENT BEFORE AND AFTER AC-BYPASS GRAFT SURGERY. A.Tada, H.Bunko, K.Nakajima, J.Taki, I.Nanbu, K.Hisada, S.Matsushita, T.Murakami, T.Ikeda and M.Kawasuji. Kanazawa University Hospital. Kanazawa.

12 patients having undergone 18 AC-bypass grafts surgery (12 LAD, 5Lcx, 1RCA) were studied by quantitative Tl-201 stress imaging to assess the functional result of this intervention. All patients were studied pre and post AC-bypass graft, all within 4 weeks after surgery. All out of one AC-bypass graft were confirmed its patency by the post surgical coronary angiography.

In the preoperative study quantitative circumferential profile analysis of the early distribution (E-R) and wash-out ratio (W-R) detected individual coronary artery abnormality in 52%, 83% respectively. Using combined criteria, 96% of suffered coronary artery were detected individually. Post operative interpretation of the AC-bypass graft patency, when using E-R criteria alone, 8 of 17 were recognized of its improvement, but using W-R criteria 13 of 17, regional wash-out abnormality was seen with pre op studies and in the all region, regional wash-out was normalized in the post op studies.

From our result, measurement of regional wash-out ratio was very useful tool for the detection of CAD and evaluation of AC-bypass graft patency.

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EVALUATION OF LONG-TERM PROGNOSIS IN CARDIAC SURGICAL CASES BY R.I. METHOD. M.Wakakura, T.Muto, I.Okuzumi, Y.Kawamura, J.Yamazaki, S.Iida, T.Morishita, Y.Sasaki, Y.Yabe, S.Koyama, H.Komatsu. Toho University School of Medicine, Omori.

Evaluation of long-term prognosis in cardiac surgical cases were investigated using non-invasive R.I. method by cardiac parameters and Tl-201 uptake index. Total 45 cases, Mitral Stenosis 15 cases, A.S.D. 5 cases, (right ventricular overloading), Aortic regurgitation 10 cases, (left ventricular overloading), bypass graft operation 15 cases (ischemic heart disease), were performed in before operation, after operation 1 month, 6 month, 1 year by Tc-99m pooling scan and Tl-201 myocardial scan. RVEF tended to more improved rather than LVEF in mitral stenosis. Both LVEF and RVEF were slightly improved in aortic regurgitation. On the other hand, bypass graft operation was effective on regional cardiac muscle blood flow in ischemic heart disease by Tl-201 scintigram, and this method was useful for evaluation of operative prognosis.