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LOW-DOSE, SHORT DURATION DOBUTAMINE RADIONUCLIDE VENTRICULOGRAPHY (DOB-RNV) IN ASSESSING MYOCARDIAL VIABILITY: A COMPARATIVE STUDY WITH DOBUTAMINE ECHOCARDIOGRAPHY (DOB-UCG)

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To evaluate the usefulness of low-dose, short duration (5 γ for 4 min.) DOB-RNV in assessing myocardial viability, we compared its findings to 5 min. incremental multistage (5, 10, 20, 30 γ) DOB-UCG in 10 patients with hypoperfused asynergic left ventricular segment. The segments were divided into defect (D) or low perfusion (LP) area according to the regional TI-201 uptake. In DOB-RNV, wall motion improved in 2 of 4 D segments and all 6 LP segments. These 8 segments also demonstrated improvement both in wall motion and in systolic wall thickening in the early stage of DOB-UCG. However, ischemic change (deterioration of wall motion abnormality or ST depression on ECG) occurred in 5 of these segments in the later stage of DOB-UCG. The wall motion in the other 2 D segments did not improve neither in DOB-RNV nor in DOB-UCG. In summary, the findings of DOB-RNV completely agreed with those in the early stage of DOB-UCG on assessing myocardial viability. Low-dose and short duration DOB stress RNV can assess myocardial viability correctly without inducing apparent myocardial ischemia.

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WHAT IS THE MOST IMPORTANT FACTOR WHICH EFFECTS THE PROGRESSION OF THE PRE-INFARCTED AREA, THE INFARCTED SIZE AND THE SALVAGED MYOCARDIUM ?

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We studies the factors which effects the progression of the pre-infarcted area, the infarcted size and the salvaged myocardium using Tc-99m Tetrofosmin 555MBq or Tc-99m MIBI in the 36 patients with acute myocardial infarction before and after acute coronary interventions. The results are as follow : A) The factor on the pre-infarcted area is 1) LAD as infarcted artery (partialcorrelation=0.69), 2)Reperfusion injury(0.41), 3)Successful reperfusion(0.36). B) The factors influenced the infarcted size is 1)LAD as infarcted artery (0.72), 2)Collateral flow(0.55), 3)Reperfusion injury(0.51). C) The factors salvaged myocardium is 1)Collateral flow(0.74), 2)Successful reperfusion(0.66), 3)Reperfusion injury(0.53).

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CLINICAL APPLICATION OF MYOCARDIAL THREE-DIMENSIONAL (3D) DISPLAY (3D POLAR MAP). J.YAMAZAKI, M.TAKANO, H.HOSOI, S.ISHIGURO, H.MUTO, H.YAMASHINA, T.MORISHITA, (Toho University, Tokyo), J.SUGITA, (K.J.T.Corp., Tokyo) and M.TAKAHASHI. (Shimadzu Corp., Kyoto).

Three-dimensional imaging has the potential to provide more accurate information on the extent and severity of ischemia, which cannot be detected by two-dimensional polar map. Accordingly we developed a new program (Myocardial three-dimensional Polar Map) by using the Application Visualization System-Medical Viewer(AVS-MV; K.G.T. Corp.). Thallium-201 myocardial single photon emission computed tomography was performed in 25 patients with previous myocardial infarction before and after treatment with calcium antagonists, and the effects of therapy on myocardial perfusion was evaluated by a newly developed software. The myocardial 3D polar map provided stereoscopic assessment of the change of myocardial perfusion following treatment with calcium antagonists, and detected the extent and severity of ischemic or infarct lesions. The myocardial 3D polar map was useful for evaluation of the efficacy of medical treatments.

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PROGNOSTIC VALUE OF TC-99M-GSA SCINTIGRAPHY IN PATIENTS TREATED WITH TRANSCATHETER ARTERIAL EMBOLIZATION FOR HEPATOCELLULAR CARCINOMA. J.Okada, Y.Imai, H.Onishi, H.Tamada. Narita Red Cross Hospital, Chiba, Japan.

With the use of anticancer drugs with lipiodol in transcatheter arterial embolization (TAE) for hepatocellular carcinoma (HCC), frequency of hepatic failure caused by TAE is increasing. We evaluated prognostic value of Tc-99m-GSA scintigraphy before TAE in 31 patients with HCC. Hepatic uptake of Tc-99m-GSA did not significantly impact on overall survival rate. However, as a prognostic factor for hepatic failure, the uptake was useful. We recommend that patients whose LHL are lower than 0.7 are not indicated for whole liver TAE.