
Recently, Ca-antagonist has been shown to prevent cell damage, especially in the ischemic myocardium. The purpose of this study is to observe the effects of Ca-antagonist on reducing myocardial infarction in dogs. Thirty-six mongrel dogs weighing about 12 kg were used. Coronary occlusion only was performed in 3 dogs, and the remaining 26 had coronary occlusion plus daily I.V. injection of drugs such as Nifedipine (0.05 mg/day) or Niludipine A (0.0 mg/day) or Niludipine B (0.1 mg/day). All dogs were sacrificed after 7 days. Infarct size was measured with TC-99m PPD scintigram. The size of myocardial infarction in the Niludipine A group was significantly smaller than that of the ligation group. However, the infarct size in both the Niludipine B group and the Nifedipine group showed no significant difference in comparison with the ligation group.


We reported the usefulness of the amplitude image and the phase image obtained from ECG gated blood pool data by Fourier analysis. The principles of this method have been described by Bitter et al and Deconinck et al on the basis of the heart motion periodicity resemblance to a part of the sine curve. Namely, by the first harmonic in the Fourier series, we were able to recognize the heart motion as the amplitude and phase of time activity curve in each matrix. The distribution of the amplitudes and phases was displayed in color scale, and then the amplitude image and phase image were acquired. Fifteen patients were studied with this method. Ten of them were myocardial infarction (anterior I, inferior I, posterior I) and the remaining five were conduction disturbance (C-LBBB 2, RV pacing 3). In the patients of conduction disturbance, the phase image visualized the inhomogeneity of the contraction process, delayed contraction of left ventricle. On the other hand, in the patients of myocardial infarction those images allowed us visualization of ischemic area even if the scar was in regions parallel to the detector. Moreover, we were able to differentiate between hypokinetic region and dyskinetic region.


A new method for the measurement of the left ventricular volume was developed and evaluated. Cardiac pool tomography was performed with a 7 pinhole collimator and the multigate method after the two injections of cold pyrophosphate and TC-99m pertechnetate. Left ventricular transaxial tomographic slices in one cm thickness were reconstructed at ED and ES and the volume of each slice was calculated by a computer. Previous to calculate the LV volume, axial distance from the apex to the base of LV was measured from LV pool image at ED and ES obtained by first pass method in RAO projection. Then LV volume was calculated by means of summation of volumes of corresponding slices to LV axial distance. LV volumes measured by the tomographic method were compared with those determined with contrast ventriculography in 13 cases with ischemic heart disease. LV volume obtained by the tomography correlated well with RSVP (r=0.87) and at ESV (r=0.93) with those assessed from contrast ventriculography. The tomographic method was thought to be useful for clinical evaluation of left ventricular volume.