

Effects of antiarrhythmic agents on left ventricular function during exercise in patients with chronic left ventricular dysfunction

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This study was designed to determine the effects of antiarrhythmic agents on global left ventricular (LV) function during exercise in patients with chronic LV dysfunction. Thirty-five patients with LV dysfunction [LV ejection fraction (LVEF) < 45%] and ventricular arrhythmias were studied. They were randomly classified into 3 groups: patients who received a single oral dose of 6 mg/kg disopyramide phosphate (n = 12), those who received a single oral dose of 4 mg/kg mexiletine hydrochloride (n = 12), and those who received a single oral dose of 4 mg/kg pilsicainide hydrochloride (n = 11). First, all patients were subjected to baseline rest and peak exercise, equilibrium-gated cardiac-pool scintigraphy with ^{99m}Tc -human serum albumin of 740 MBq (baseline data). Second, on a separate day, they were given drugs once, and were subsequently subjected to rest and peak exercise equilibrium-gated cardiac-pool scintigraphy. Exercise LVEF and peak ejection rate (PER) after administration were significantly lower in the disopyramide and pilsicainide groups than in the mexiletine group ($p < 0.05$, respectively). The changes in LVEF and PER from rest to peak exercise after administration were significantly less than the baseline changes in those in the disopyramide and pilsicainide groups ($p < 0.05$, respectively). However, no significant changes in functional parameters were recognized in the mexiletine group. Due care should be taken when disopyramide and pilsicainide are administered to patients with chronic LV dysfunction since they reduce systolic LV function during exercise.

Key words: antiarrhythmic agents, negative inotropic actions, LV function, exercise, chronic LV dysfunction