Effects of Candesartan to Prevent Fetal Arrhythmias Following Acute Myocardial Ischemia and Reperfusion: An Electrophysiological Study Using Canine Hearts

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This study aimed to examine whether angiotensin II type 1 receptor antagonist (candesartan) would be preventative against acute arrhythmias through its electrophysiological effects following acute myocardial ischemia and reperfusion in dogs. Forty dogs were divided into two groups: the candesartan group (n=20) and the control group (n=20). The candesartan group received an intravenous infusion of candesartan (1 mg/kg) 10 minutes prior to the left anterior descending coronary artery (LAD) ligation. The LAD was ligated for 10 minutes. Changes in hemodynamic parameters, the effective refractory period (ERP) and intramyocardial conduction time (ICT) of the ischemic myocardial regions during ligation of the LAD and reperfusion were compared between the two groups. There were no significant differences in all hemodynamic parameters between the two groups during and after the ligation between the two groups. However, the shortening of the ERP due to ischemia was significantly suppressed in the candesartan group as compared to the control group [maximum shortening: 104.7±4.7 vs 88.5±5.6% (baseline value=100)].

The prolongation of ICT during ischemia and reperfusion also was significantly suppressed in the candesartan group (maximum prolongation: 100.1±2.8 vs 137.7±9.6%, p<0.01). The frequency of ventricular fibrillation was significantly lower in the candesartan group than in the control group (25% vs 75% (15/20), p<0.01). These results suggest that candesartan prevents critical electrophysiological changes during acute ischemia and reperfusion, resulting in decreases in fetal arrhythmias.

Conclusions:

pts (28%) DFTs were the same.

with the atdal triad configuration (Table). in 10 pts (40%) the DFT was lower with the atdal

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