[gw22-e0655]

IKS REDUCES VENTRICULAR ARRHYTHMIA DURING CARDIAC ISCHEMIA AND REPERFUSION IN RABBITS BY ENHANCING THE REPOLARISATION RESERVE

Guo Xiaogang, Gao Xiuren, Tang Lilong, Peng Longyun, He Xuyu, Zhu Yingying
First Affiliated Hospital Sun Yat-sen University, Guangzhou, China

10.1136/heartjnl-2011-300867.58

Objectives To understand the function of the repolarisation reserve provided by slowly activated delayed rectifier potassium current (I_{Ks}) in the prevention of ventricular arrhythmias during cardiac ischemia/reperfusion.

Methods The responses of monophasic action potential duration (MAPD) prolongation and triangulation were investigated following an L-768, 673-induced blockade of I_{Ks} (L-768, 673 or vehicle) with or without ischemia/reperfusion (IR or Sham) in a rabbit model of left circumflex coronary artery occlusion/reperfusion.

Results MAPD90 and MAPD60 of Group IR+L-768,673 were significantly prolonged during reperfusion and Triangulations of Group IR+L-768, 673 were increased by 31.1%, 26.5%, 19.3% at the time point of reperfusion 45 min, 60 min and 75 min respectively, when compared with those of Group IR+vehicle. Within this period, the median number of premature ventricular beats increased by 4.6-fold in comparison with that of Group IR+vehicle ($p<0.05$) and a higher ventricular tachycardia incidence was detected in Group IR+vehicle than IR+vehicle (4/8 vs 1/8, $p>0.05$).

Conclusion Blockade of I_{Ks} caused MAP triangulation, which precipitated ventricular arrhythmias.