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EFFECTS OF UPREGULATION EXPRESSION OF HEAT SHOCK PROTEIN 70 ON MYOCARDIAL CAV1.2, α 1C IN RAPID ATRIAL PACING RABBIT

Song Wei, Ma Yanhong, Zhang Ling, Zhou Qina, Yang Shanglei, Chen Hua *First Affiliated Hospital of Xinjiang Medical University*

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Objective To investigate effects of upregulation expression of heat shock protein 70 due to heat stress on myocardial Cav1.2, α 1c in rapid atrial pacing rabbits.

Methods 24 New Zealand rabbits were randomly divided into heat stress groups (n=8); pacing groups (n=8) and sham groups (n=8). After rapid right atrial pacing at 600 bpm for 6 h, HSP70, HSP70mRNA, Ca^v1.2, α 1c, mRNA and Ca^v1.2, α 1c protein of the myocardial tissues were detected by immunohistochemistry techniques.

Results The expression of HSP70mRNA and HSP70 of various myocardium sites in heat stress groups was significantly higher compared with pacing group and sham group, respectively (p<0.01). However, there was no significant change between pacing groups and sham groups. The expression of Ca^v1.2, α 1cRNA and Ca^v1.2, α 1c protein of various myocardium sites in heat stress groups was significantly higher, compared with pacing group and sham group, respectively (p<0.01). However, there was no significant change between pacing groups and sham groups.

Conclusion Upregulation expression of HSP70 can prevent the remodelling of myocardial Cav1.2, α 1c induced by rapid atrial pacing in rabbits.