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EFFECTS OF UPREGULATION EXPRESSION OF HEAT SHOCK PROTEIN 70 ON MYOCARDIAL CAV1.2, A1C IN RAPID ATRIAL PACING RABBIT

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Objective To investigate effects of upregulation expression of heat shock protein 70 due to heat stress on myocardial Cav1.2, α1c 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, $Ca^{v}1.2$, α1c, mRNA and $Ca^{v}1.2$, α1c 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 $Ca^{v}1.2$, α1cRNA and $Ca^{v}1.2$, α1c 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, α1c induced by rapid atrial pacing in rabbits.