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**THE EFFECT OF BERBERINE ON ARRHYTHMIA CAUSED BY STRETCH OF ISOLATED MYOCARDIAL INFRACTED HEARTS IN RATS**

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**Objectives** To study the effect of berberine on arrhythmia caused by stretch of isolated myocardial infarcted (MI) hearts in rats.

**Methods** The study was carried out in the laboratory of Heilongjiang traditional Chinese medicine university. 40 Wistars were randomly divided into 4 groups: normal control group, berberine group, MI group, MI+ berberine group. After perfused on Langendorff, the model of MI was made with ligation of left anterior descending branch for 30 min. Berberine was dissolved in Tyrode's solution at a concentration of  $300 \mu\text{mol l}^{-1}$ . The hearts were stretched for 5 s by 0.2 ml. The effect of stretching was observed for 30 s, including 90% monophasic action potential ( $\text{MAPD}_{90}$ ), premature ventricular beats (PVB) and ventricular tachycardia (VT). Quantitative data were compared with ANOVA. Qualitative data were compared with a  $\chi^2$  test. Differences with a value of  $p < 0.05$  were considered statistically significant.

**Results**  $\text{MAPD}_{90}$  in normal control and MI group obviously lengthened after the hearts were stretched ( $p < 0.01$ ). And  $\text{MAPD}_{90}$  in MI group was even longer than that of normal control group ( $p < 0.05$ ). Berberine has no influence on  $\text{MAPD}_{90}$  of basic condition ( $p > 0.05$ ), while it could reduce the lengthened  $\text{MAPD}_{90}$  after stretched ( $p < 0.05$  or  $p < 0.01$ ). The incidence rate of PVB and VT in normal control and MI group increased after stretched.  $300 \mu\text{mol/l}$  berberine could reduce the incidence rate of PVB, and obviously inhibit the occurrence of VT ( $p < 0.01$ ).

**Conclusions** Berberine could obviously inhibit the occurrence of stretch-induced arrhythmias after myocardial infarction.