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EFFECT OF VALSARTAN ON EXTRACELLULAR MATRIX REMODELLING IN RATS WITH HEART FAILURE AFTER MYOCARDIAL INFARCTION

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Objectives To investigate the effect of Valsartan on the change of Disintegrin metalloproteinases (ADAMs10,17) expressions in the heart failure (HF) process after myocardial infarction (MI).

Methods Based on UCG (LVEF<45%) results, the successfully MI-operated Wistar rats were divided into three groups: HF group, placebo group and Val group, which were given Valsartan by gavage. After 16 weeks, all rats were assessed by hemodynamic evaluation and serum TNF-α from LV was measured by ELISA (R & D, USA). In addition, their left ventricular (LV) muscle samples were extracted from the ischaemic segments, and then the ADAMs 10,17 expression were measured by immunoblotting.

Results In this study, heart failure (LVdp/dtmax, LVdp/dtmin and LVSP) was significantly elevated in Val group than the others (p=0.006, p=0.015, p=0.003), and the LVEDP level was decreased (p=0.002). At the same time, the TNF-a level in Val group was lower than HF groups (p=0.023). The ADAM17 and TNF-R_1 expressions in Val group was lower compared with those in HF group (p=0.011, p=0.022). However, ADAM10 expression is unchangeable in the four groups.

Conclusions Valsartan may reduce the ADAM17 and TNF-R_1 expression in the ischaemic zone of myocardium, decrease the TNF-a concentration in LV so as to inhibit cardiac remodelling and improve the heart function after MI.

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