Objectives To explore the effect of tirofiban on cardiac function after myocardial ischaemia reperfusion in dogs.

Methods Thirty hybrid dogs were randomised into three groups, sham operation group, model control group and tirofiban treatment group (10 dogs in each group). Coronary arteries of hybrid dogs were ligated to establish the models of myocardial ischaemia reperfusion. While the dogs in sham operation group didn't underwent occlusion of coronary artery. One-month after operation, hemodynamic parameters and cardiac function in all survival dogs were evaluated. Then the hybrid dogs were executed and the hearts were obtained for cardiac pathological analysis: to analyse quantitatively the thickness of left ventricular free wall (LVWT) in infracted region, septum (SPT) and ratio of SPT/LVWT, myocardial across area in septum (MAAS) and collagen volume fraction (CVF) in noninfarcted and infracted region.

Results The hemodynamics analysis showed SBP, DBP, LVSP, $\pm dp/dt_{max}$ in model control group and tirofiban treatment group were significantly lower than those of sham operation group $p<0.05$), however, LVEDP was obviously higher than that of sham operation group $p<0.05$). The$\pm dp/dt_{max}$ in tirofiban treatment group was significantly higher than that of model control group $p<0.05$), but LVEDP was lower than that of model control group $p<0.05$). After 1 month ischaemia reperfusion, LVWT in model control group and tirofiban treatment group was significantly lower than that of sham operation group $p<0.05$), however, SPT/LVWT, MAAS, CVF in infracted region were obviously higher than those of sham operation group $p<0.05$). The LVWT in tirofiban treatment was obviously higher than that of model control group $p<0.05$), while SPT/LVMT, MAAS, CVF were obviously lower than those of model control group $p<0.05$).

Conclusions Tirofiban can improve cardiac function after myocardial ischaemia reperfusion in dogs.

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