developed pressure (LVDP), the maximum change rate of left ventricular pressure rise and fall (±dp/dtmax) were recorded. The activity of creatine kinase (CK) in coronary outflow, the activity of malonyldialdehyde (MDA) and superoxide dismutase (SOD) in myocardium were detected. The percentage of necrotic area were observed.

Results In adult rats, the content of CK (89.48±18.72 U/l vs 115.76±16.72 U/l, p<0.01) and MDA (9.55±3.44 nmol/mg vs 16.84±2.29 nmol/mg, p<0.01) were significantly less in IPC group than those in I/R group. In IPC group, the activity of SOD (584.7±122.62 U/mg vs 429.46±85.24 U/mg), the recovery rate of the left ventricular function, including CO, LVDP and ±dp/dtmax, were much higher than those in I/R group (78.69±6.68% vs 67.23±5.66%, 81.65±8.68% vs 67.89±6.98%, 89.79±7.78% vs 66.79±4.46%, p<0.01). And the percentage of necrotic area were lower in adult IPC group than in I/R group (5.25±4.33 vs 14.75±6.02, p<0.01). But there were no significant changes between IPC group and I/R group in elderly rats (p>0.05). However, there were great significant changes between enhanced IPC group and IR group in elderly rats, the content of CK (58.60±28.52 U/l vs 105.76±6.64 U/l, p<0.01) and MDA (3.35±3.56 nmol/mg vs 16.80±3.06 nmol/mg, p<0.05), the activity of SOD (558.87±78.66 U/mg vs 435.75±86.65 U/mg, p<0.01), the recovery rate of the left ventricular function, such as CO, LVDP and ±dp/dtmax, were much higher than those in I/R group (77.99±10.02% vs 66.26±9.78%, 85.59±6.67% vs 73.90±6.68%, 83.37±9.92% vs 68.90±5.68%, 86.01±7.66% vs 70.39±7.98%, p<0.01). The percentage of necrotic area were lower in elderly IPC group than in I/R group (7.95±6.32% vs 15.62±10.56%, p<0.01).

Conclusion The effect of IPC on ischaemic reperfused myocardium of elderly rats was weaken. Prolonged ischaemia was able to resume the protective effect of IPC on elderly rat hearts.

e0017 EFFECTS OF EXTRACORPOREAL CARDIAC SHOCK WAVE THERAPY ON ANGIOGENESIS AND EXPRESSION OF VEGF IN ACUTE MYOCARDIAL INFARCTION PIGS

doi:10.1136/hrt.2010.208967.17

Siming Tao, Tao Guo, Yang Wang, Hongyan Cai, Chao Yang. The No.2 Peoples’ Hospital of Yunnan Province; The No.1 Hospital Affiliated To Kunming Medical College

Objective To investigate the effect of different methods of extracorporeal cardiac shock wave therapy on angiogenesis and expression of VEGF in acute myocardial infarction pigs, and optimise that of methodology.

Methods 25 miniature swine were randomly divided into three groups: group of cardiac shock wave therapy (n=15), positive control group (n=5), negative control group (n=5). According to the method, the animals of cardiac shock wave therapy were divided three subgroups: standard, prolonged course of treatment and extend area. The number of capillary density, mRNA of VEGF were evaluated and compared between with every group.

Results Compared with control positive group, the number of capillary density (837.54 vs 1856.78, p<0.0001) and expression mRNA of VEGF (20.52±4.94 vs 28.56±6.84) increased in the group of cardiac shock wave therapy, especially, in group of prolonged course of treatment. Whereas, there was no significance in the difference of between standard group and extend area group in capillary density (1635±24 vs 1695±52 mm², p=0.05) and mRNA of VEGF (26.31±7.24 vs 27.44±3.59, p=0.05).

Conclusions Successful extracorporeal cardiac shock wave therapy at early stage of acute myocardial infarction could improve myocardial micro-vascular circulation. It will be a new and non-invasive angiogenic therapy.