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A RANDOMISED, DOUBLE-BLIND AND PLACEBO-CONTROLLED STUDY OF THE EXTRACORPOREAL CARDIAC SHOCK WAVE THERAPY FOR CORONARY ARTERY DISEASE

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Objective To evaluate the feasibility, security and efficiency of extracorporeal cardiac shock wave therapy (CSWT) for treatment of coronary artery disease.

Methods A total of 25 patients with old myocardial infarction (OMI without thrombolysis or PCI or CABG) were included in this study (mean age 65 years old). According to random digits table, using the method of Double-Blind, patients were divided into the experimental group (14 patients were treated with the shock wave energy, 200 shots/spot at 0.09 mJ/mm^2 for 9 spots, amount to 9 times within 3 month) and the placebo control group (11 patients were treated with the same procedures but without the shock wave energy). Before and after treatment, all patients received the examinations include the ^{99m}Tc-MIBI myocardial perfusion SPECT and the 18F-FDG myocardial metabolism SPECT, Canadian Cardiovascular Society (CCS) class sores, NYHA, Seattle Angina Questionnaire (SAQ), 6 min walk test (6MWT), Left ventricular ejection fraction (LVEF), the use of nitroglycerin and so on. compare the mortality, rehospitalisation, myocardial perfusion and myocardial metabolism before and after shock wave therapy and so on, in placebo control group and experimental group during follow-up (8.40±1.84) months.

Results 25 patients completed the therapy based on the method of double-blind, without procedural complications or adverse effects. There was no mortality in the placebo control group, but 1 patient died in the experimental group ($p>0.05$). 7 patients suffered from rehospitalisation, 2 from the experimental group, 5 from the placebo control group ($p>0.05$). After treatment of CSWT, the NYHA, CCS class sores and the use of nitroglycerin were less than pretherapy in the experimental group (P all<0.05), but SAQ, 6MWT, myocardial perfusion, myocardial metabolism, LVEF were more than pretherapy (P all<0.05). Whereas, all the parameters of the placebo control group had little change (P all>0.05).

Conclusion Extracorporeal cardiac shock wave therapy is a safe, non-invasive and effective therapeutic option for CAD.