Method Rat bone marrow stem cells were isolated and induced into endothelial progenitor cells (EPCs) transfected by VEGF plasmid. The genetically modified EPCs were transplanted into the rat chronic ischemic myocardium which was induced by sodium laurate injection. The microvessel density, concentration of serum VEGF and heart function were observed.

Results At day 28, the microvessel density in VEGF+EPCs group increased significantly compared with that in control group (12.17 ± 3.16 vs 8.17 ± 2.65 , $p < 0.05$); the concentration of serum VEGF in VEGF+EPCs group also increased significantly in comparison with the control group and a peak was observed at the day 7; heart function decreased in the VEGF+EPCs group was significantly lower than in the control group (LVEF: 72.99 ± 3.55 vs 67.95 ± 2.80 , $p < 0.05$).

Conclusion VEGF modification can effectively enhance colonisation and survival of endothelial progenitor cells after transplantation which could improve cardiac function and delay the ventricular remodelling by increasing the density of capillary network in local ischemic myocardium.

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EFFECT OF VEGF TRANSFECTED ENDOTHELIAL PROGENITOR CELLS TRANSPLANTATION IN RAT CHRONIC ISCHEMIC MYOCARDIUM

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Objective To observe the effect of endothelial progenitor cells modified by VEGF transplanted in rat chronic ischemic myocardium.