

Lumbricus Reduces Cardiac Hypertrophy by Suppress ANP and BNP Expression After Myocardial Ischemia in Rats

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Background: Myocardial infarction is the major factor in causing heart failure. Heart failure from myocardial infarction to the start of the process of ventricular remodeling is still the very popular research topic, but not many studies related to Chinese medicine. *Lumbricus* (Dilong) is a traditional Chinese medicine, which has been used for the treatment of cerebral ischemia and cardiovascular diseases for hundreds of years, and many studies has found that *Lumbricus* promote blood circulation, reduced blood pressure and thrombolytic effect. This study will explore the effects of the *Lumbricus* on the heart caused by cardiac ischemia injury. Materials and Methods: After ligated left anterior descending coronary artery (LAD) in rats, surviving rats were randomly to three groups and treated with distilled water, *Lumbricus* 0.5 and 1g/kg/days for four weeks. After sacrificed, observed *Lumbricus* effect in heart remodeling by determination of serum, echocardiography, histological analysis, Reverse transcription polymerase chain reaction and western blot. Results: The *Lumbricus* group had significantly improve the heart function by increased ejection fraction and fractional shortening of the left ventricle, ameliorated left ventricular wall thickness and dilatation, reduced sizes of infarction, cell size and fibrosis. *Lumbricus* also could down regulate the myocardial atrial natriuretic peptide and brain natriuretic peptide gene and protein expressions after myocardial infarction. Conclusions: The studies demonstrated that *Lumbricus* can reduce myocardial infarction caused by cardiac hypertrophy, and may be due to a reduction of ANP and BNP expression in the protein and RNA level to protect the heart from detrimental remodeling.