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EFFECT OF PROPYL GALLATE ON ANGIOGENESIS OF TUMOUR AND MYOCARDIAL TISSUE IN TUMOUR-BEARING RATS AFTER ACUTE MYOCARDIAL INFARCTION

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Objectives To investigate the effects propylgallate for Injection (PG) on angiogenesis of tumour and myocardial tissue in tumour-bearing rats after acute myocardial infarction (AMI).

Methods Thirty male Wistar rats were established into AMI model successfully, and 24 h later, survived rats were randomly divided into model control group (model group), propylgallate for Injection group (propyl gallate group) and N-nitrate-L-arginine methyl ester group (1-NAME group), which were injected the same amount of saline, propyl gallate 16.2mg/kg/d and 1-NAME 15mg/kg/d. Animals were anaesthetised and extracted samples after 14 weeks, the expression of vascular endothelial growth factor (VEGF) and basic fibroblast growth factor (bFGF) in rat myocardium were evaluated by immunohistochemistry, the serum contents of nitric oxide (NO), VEGF and transforming growth factor β 1 (TGF β 1) were examined, the number of microvessel were counted by high-powered electron microscope ($\times 400$), the mean of microvessel were detected and mean density of microvascular (MDMV) were determined as capillary number mm^{-2} .

Results Compared with model control group, the capillary density increased significantly in rat myocardium of propyl gallate group (1963.25 ± 108.24) mm^{-2} , $p < 0.01$), the serum NO level also increased significantly (26.23 ± 5.26) mmol/l , $p < 0.01$), VEGF and bFGF expression of myocardial tissue in propyl gallate group was significantly higher than that in model group ($p < 0.01$, $p < 0.05$), in addition, capillary density of tumour tissue in propyl gallate group was not inhibited significantly.

Conclusions Propylgallate for Injection, whose effect on angiogenesis inhibition in tumour tissue after AMI is not significant, promotes angiogenesis in rat myocardium after AMI.