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EFFECTS OF SINI DECOCTION ON VASCULAR STENOSIS OF ILIAC ARTERY AND LEVELS OF SERUM CHOLESTEROL IN RABBITS AFTER INJURED BY BALLOON

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Objective To investigate the effect of Sini Decoration on preventing vascular restenosis after iliac artery balloon injury in rabbits, and the levels of serum cholesterol.

Materials and methods Twenty four New Zealand albino rabbits were randomly divided into three groups, named control group, model group and Sina Decoration group. Rabbits of control group were fed with common forage, but model group and Sini Decoration group were fed with high fat diet (1.0% cholesterol, 10% lard). Two weeks later, the iliac arteries of rabbits were injured by balloon for model group and Sini Decoration group, rabbits in control group were sham operated. After operation, rabbits in Sini Decoration group were

intragastric administrated with Sini Decoration (Strobal: Dried Ginger: Radix Glycyrrhiza=5:3:2) 2 g/kg once a day. All rabbits were sacrificed 4 weeks after operation and serum samples were stored to assay the levels of serum cholesterol, the microstructure of iliac arteries was observed by optical microscope, the ultrastructure of iliac arteries was investigated by transmission electron microscope and scanning electron microscope.

Results Endotheliocytes lined up in order in iliac arteries of control group and Sini Decoration group, but the endotheliocytes desquamated in that of model group. Endothelium was completed and no foam cells were found in control group, but the endotheliocytes were desquamated and a great deal of foam cells were found in model group, endotheliocytes were normal and less foam cells were found in Sini Decoration group. The lumina was wider and intima was thinner in SND group than that of model group. The thickness of intima in model group exceeded that in control group and Sini Decoration group (1549.75±416.53 mm^2 vs 0.00 mm^2 vs 646.70±121.92 mm^2, $p<0.05$). The area of lumina was smaller than that of control group and Sini Decoration group (149.80±73.21 m^2 vs 526.43±155.85 mm^2 vs 334.55±129.63 mm^2, $p<0.05$). The serum levels of TC (31.48±3.71 mmol/l vs 22.42±7.76 mmol/l vs 2.5±1.55 mmol/l), TG (6.27±1.69 mmol/l vs 3.98±1.56 mmol/l vs 1.62±0.83 mmol/l) and LDL-C (22.14±8.48 mmol/l vs 13.14±5.95 mmol/l vs 1.33±1.03 mmol/l) were higher in rabbits of model group than that of SND group and control group ($p<0.05$). On the other hand, the serum level of HDL-C was higher in SND group than that of in control and model group (1.07±0.77 vs 0.50±0.29 vs 0.27±0.12, $p<0.05$).

Conclusions Sini Decorction can decrease intimal hyperplasia and vascular stenosis, inhibit the development of artherosclerosis with iliac artery injury in rabbits. The mechanism may be connected with the increased the level of HDL-C, along with the decreased serum levels of TC, TG and LDL-C.