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

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

Materials and methods Twenty four control group, model group and Sini Decorction group. Rabbits of control group were fed with common forage, but model group and Sini Decorction 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 Decorction group, rabbits in control group were sham operated. After operation, rabbits in Sini Decorction group were intragastric administrated with Sini Decorction (Strobal: Dried Ginger: Radix Glycyrrhiza=5:3:2) 2 g/kg once a day. All rabbits were killed four 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 Decorction 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 Decorction 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 Decorction group ($1549.75 \pm 416.53 \text{ mm}^2$ vs 0.00 mm^2 vs $646.70 \pm 121.92 \text{ mm}^2$, $p < 0.05$). The area of lumina was smaller than that of control group and Sini Decorction group ($149.80 \pm 73.21 \text{ mm}^2$ vs $526.43 \pm 155.85 \text{ mm}^2$ vs $334.55 \pm 129.63 \text{ mm}^2$, $p < 0.05$). The serum levels of TC ($31.48 \pm 3.71 \text{ mmol/L}$ vs $22.42 \pm 7.76 \text{ mmol/L}$ vs $2.5 \pm 1.55 \text{ mmol/L}$), TG ($6.27 \pm 1.69 \text{ mmol/l}$ vs $3.98 \pm 1.56 \text{ mmol/l}$ vs $1.62 \pm 0.83 \text{ mmol/l}$) and LDL-C ($22.14 \pm 8.48 \text{ mmol/l}$ vs $13.14 \pm 5.95 \text{ mmol/l}$ vs $1.33 \pm 1.03 \text{ mmol/l}$) 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 in control and model group (1.07 ± 0.77 vs 0.50 ± 0.29 , $p < 0.05$).

Conclusion Sini Decorction can lessen intimal hyperplasia and vascular stenosis, inhibit the development of arterosclerosis with iliac artery injury in rabbits, the mechanism may be connected with increasing the level of HDL-C, decreasing the serum levels of TC, TG and LDL-C.