GW23-e1550 ALCOHOL ARTERY INTIMAL INJURY HIGH FAT DIET PRODUCED ATHEROSCLEROSIS MODEL

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Objectives To promote atherosclerosis through alcohol artery intimal injury, additional high-fat feeding produced atherosclerosis model, in order to create a convenient, reliable, inexpensive, uniform endothelial injury, operative technique is easy to grasp stability, easy atherosclerosis model.

Methods New Zealand rabbits of either sex, weighing 2.1–2.5 kg, were randomly divided into two groups: high fat diet group and the ordinary particles fed group. High-fat feed processing: 2% cholesterol, 10% lard, 88% the proportion of ordinary particles feed their own preparation. Each rabbit to give each feed 60 to 70 g, 2 times a day, daily water 200 to 250 ml. Feeding for 2 weeks, take ear blood to check blood lipid levels, plasma triglycerides (TG), Total cholesterol (TC), low density lipoprotein (LDL) and high density lipoprotein (HDL). Two groups of lipids are significant differences after arterial intimal injury surgery, choose the left carotid artery intimal injury of absolute alcohol, and choose the right carotid artery with normal saline to mimic the arterial intimal injury as controls. Intraperitoneal injection of chloral hydrate (0.1 g/kg) anesthetised animals, the supine position fixed. Intraperitoneal injection of penicillin 200 000 units before surgery to prevent infection. Dissected carotid artery, a sterile surgical technique to damage blood vessels folder blocking proximal and distal blood flow, isolated blood vessel length of about 10 mm syringe with 2 ml No. pumping heparin saline to flush the lumen, after taking the time to the vessel lumen, the injection 95% alcohol 1 ml, 5 min after taking the time to the vessel lumen, and then heparin saline to flush the lumen. Removal of vascular clamp to restore blood flow. Segment vascular injury with silk marker, the specimens were taken to prepare for the next, and the incision was sutured. Saline to mimic the control group only heparin saline to rinse the vessel lumen. In order to build four models: (1) high fat diet+alcohol arterial intimal injury (2) high fat diet fed+saline arterial intimal injury (3) ordinary particles feeding+alcohol arterial intimal injury (4) normal pellet feed fed+saline arterial intimal injury. Continue grouping after feeding, respectively after 4 weeks, 8 weeks and 12 weeks to take the ear blood to check blood lipids, respectively, using the enzymatic determination of TC, TG, LDL and HDL. After each group extracted a rabbit cut mark carotid artery with 4% formaldehyde, fixed for 24 h, the ethanol gradient

dehydration, paraffin vertically oriented embedded, each vascular intermittent cross-sectional uniform slices 8 to 10, observed by light microscopy, photography and image analysis, routine HE staining: the observation of blood vessel lumen diameter, intima-media thickness measurement of foam cells.

Results After 3 weeks of the high fat diet group lipids began to significantly increased, and 8 weeks to reach the lipid peak, lipid levels begin to decline after 12 weeks. 4 weeks after the gross specimen, see high fat diet+absolute alcohol artery intimal injury compared with the contralateral side of the carotid artery with high fat diet +saline to mimic the arterial intimal injury in carotid artery stiffness, arterial adventitia pale, decreased flexibility, pathological slice prompted intimal thickening performance, endothelial cell proliferation. 8 weeks after the more obvious intimal thickening, endothelial cell proliferation arranged in disorder. Biopsy after 12 weeks and 8 weeks after surgery. High fat diet+saline to mimic the arterial intimal injury, ordinary particles fed+anhydrous alcohol artery intimal injury and particles fed+saline to mimic the arterial intimal injury group after 4 weeks, 8 weeks and 12 weeks from the gross specimen and the biopsy observed no abnormal structure of the normal artery.

Conclusions From this set of experiments the following conclusions: (1) Hyperlipidaemia As the formation of vascular endothelial damage the necessary condition for AS. Single hyperlipidaemia or intimal injury alone can not lead to intimal hyperplasia, and prove to the satisfaction of atherosclerosis animal models independent impact factor can not be copied. (2) Alcohol, arterial intimal injury technical operations easy to grasp, stability, uniform endothelial injury, alcohol artery intimal injury additional high fat diet produce atherosclerosis model is a reliable, inexpensive, easy to promote atherosclerosis atherosclerosis model-making methods.