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Antiatherogenic effect of Citrullus colocynthis seed and Carissa salicina leaves on experimental atherosclerosis in rats

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Introduction : To investigate the antiatherogenic effect and possible mechanisms of the extracts of Citrullus colocynthis seed (CCS) or Carissa salicina leaves (CSL), as well as their interaction on experimental atherosclerosis in rats

Methods : The atherosclerotic model rats were injected VD3 and ovalbumin, while fed with high cholesterol diet. After the model was determined successfully, all model rats were divided into normal group, model group, control group, CCS group, CSL group, mixture of CCS and CSL group. Each group was given the corresponding drugs for 4 weeks. After 12 weeks, blood serum were analyzed for total cholesterol (TC), triglyceride (TG), low density lipoprotein cholesterol (LDL-C) and high density lipoprotein cholesterol (HDL-C), superoxide dismutase (SOD), malondialdehyde (MDA) and nitric oxide (NO). And the blood plasma also analyzed for levels of endothelin (ET), 6-keto prostaglandin F1alpha (6-keto-PGF1alpha), thromboxane B2 (TXB2), C-reactive protein (CRP), interleukin 6 (IL-6), interleukin 8 (IL-8), tumor necrosis factor alpha (TNF-alpha) and so on. At last, the pathological observation of aorta was carried out.

Results : Compared with those in model group, the TC, TG, LDL-C, ET, TXB2 and MDA levels and TXB2/PGF1alpha ratio were reduced, while the HDL-C, the serum SOD, No and 6-keto-PGF1alpha level were raised in the intervention groups. Although the levels of CRP, IL-6 and IL-8 were lower than model group, there was no obvious effect on the releasing of TNF-alpha.

Conclusions : CCS and CSL could inhibit the atherogenesis formation and development, which might be due to regulating the lipid metabolism, enhancing the antioxidation, and reducing the release of inflammatory

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