



Xuemaitong granules attenuate carotid atherosclerosis by decreasing the expression of CD14+CD16+ monocytes, IL-6, TNF- α , and hsCRP

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ABSTRACT. Carotid atherosclerosis (CAS) has been extensively studied because its position can be easily observed. Our objective was to investigate the effects of Xuemaitong granules on the generation and activation of CD14+CD16+ monocytes on the inflammatory reaction in CAS patients. In this study, 22 male apolipoprotein E (apoE)-deficient mice were fed a high-fat diet for 13 weeks. After induction of an atherosclerotic plaque, the animals were randomly divided into the Xuemaitong granule group (450.5 mg/kg via intragastric administration, N = 11) and the control group (equal volume saline

via intragastric administration, N = 11). Venous blood was obtained to analyze monocyte and CD14+CD16+ inflammatory monocyte levels, as well as interleukin (IL)-6, tumor necrosis factor (TNF)- α , and high-sensitivity C-reactive protein (hsCRP). For clinical studies, 100 CAS patients received oral administration of Xuemaitong granules for 6 months. Monocytes, CD14+CD16+ inflammatory monocytes, and the inflammatory cytokines IL-6, TNF- α , and hsCRP were analyzed. Compared with the control group, a remarkable decrease in the number of monocytes and CD14+CD16+ inflammatory monocytes as well as TNF- α , hsCRP, and IL-6 was noted in the Xuemaitong group. Compared with before treatment levels, the proportions of monocytes and their subsets of CD14+CD16+ inflammatory monocytes and the concentration of the inflammatory cytokines IL-6, TNF- α , and hsCRP significantly decreased. Xuemaitong granules played a significant role in the anti-inflammatory reactions. In addition, the granules attenuated the expression of the CD14+CD16+ inflammatory monocytes, resulting in the downregulation of the cytokines IL-6, TNF- α , and hsCRP.

Key words: Monocytes; Inflammatory cytokines;
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