

论著

高脂血症小鼠心脏和肺组织中eNOS及HO-1的表达

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摘要

目的 观察高脂饲料喂养的小鼠心脏和肺组织中内皮型一氧化氮合酶(endothelial nitric-oxide synthase, eNOS)及血红素氧合酶-1(heme oxygenase-1, HO-1)的含量变化,探讨高脂血症对eNOS和HO-1表达的影响。方法 高脂饮食组(n=8)和普通饮食组(n=8)C57BL/6小鼠分别经高脂饲料和普通饲料喂养18周后,测血清总胆固醇(total cholesterol, TC)、甘油三酯(triglyceride, TG)、高密度脂蛋白(high density lipoprotein, HDL)和低密度脂蛋白(low density lipoprotein, LDL)含量,采用Real-Time PCR检测心脏和肺组织中eNOS及HO-1的mRNA水平,以免疫组化方法检测其蛋白表达。结果 高脂饮食组TC、TG和LDL明显高于普通饮食组, HDL则低于普通饮食组;高脂饮食组心脏和肺组织中eNOS的mRNA和蛋白水平低于普通饮食组, HO-1的mRNA和蛋白水平高于普通饮食组。结论 高脂饲料喂养能使小鼠形成高脂血症,并引起心脏和肺组织中eNOS的表达降低,同时HO-1的表达升高。

关键词 [高脂血症; 内皮型一氧化氮合酶; 一氧化氮; 血红素氧合酶-1; 一氧化碳](#)

分类号

Expression and significance of eNOS and HO-1 in heart and lung tissues of hyperlipidemia mice

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Abstract

Objective To explore the effects of hyperlipidemia in high-fat diet mice on expression of endothelial nitric-oxide synthase (eNOS) and heme oxygenase-1 (HO-1) in heart and lung tissues. Methods C57BL/6 mice were fed a high-fat diet as high-fat diet group (n=8, high-fat diet group) and were fed a normal diet as control (n=8, normal diet group). 18 weeks later, serum lipid profiles including total cholesterol (TC), triglyceride (TG), high density lipoprotein (HDL) and low density lipoprotein (LDL) were detected. eNOS and HO-1 mRNA expression in heart and lung tissues were determined by Real-Time PCR, as well as protein expression by immunohistochemistry. Results Levels of serum TC, TG and LDL significantly increased in high-fat diet group, while HDL decreased. mRNA and protein expression of eNOS in heart and lung tissues reduced in high-fat diet group, while HO-1 increased. Conclusion High-fat diet may lead to hyperlipidemia in mice, which may down-regulate eNOS expression and up-regulate HO-1 expression in heart and lung tissues.

Key words [hyperlipidemia](#) [eNOS](#) [NO](#) [HO-1](#) [CO](#)

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