

兔动脉粥样硬化组织COX-2、mPGES-1表达及阿伐他汀的影响(PDF)

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Title: Expression of COX-2 and mPGES-1 in rabbit coronary atherosclerotic tissues and effects of atorvastatin

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摘要: 目的 通过观察环氧化酶II (cyclooxygenase-2, COX-2)、诱导型前列腺素合成酶I (membrane associated prostaglandin E-1, mPGES-1)在兔动脉粥样硬化(AS)斑块中的表达水平及阿伐他汀对其的干预作用。方法 取40只体质量为2.0-2.2 kg的3月龄健康雄性新西兰兔,随机分为正常对照组8只(普通饲料);高脂模型组32只(高胆固醇饲料)。8周后将高脂模型组再分为模型组、阿伐他汀治疗I组、II组及III组[剂量分别为2.5、5及10 mg/(kg·d), n=8]。6周后取各组兔冠状动脉,检测其COX-2及mPGES-1的表达;同时,采血检测各组血清总胆固醇(TC)、甘油三酯(TG)、高密度脂蛋白胆固醇(HDL-C)、低密度脂蛋白胆固醇(LDL-C)及极低密度脂蛋白胆固醇(VLDL-C)浓度。结果 模型组血清TC、TG、HDL-C、LDL-C及VLDL-C水平与正常对照组比较差异显著(P<0.05);而阿伐他汀治疗II组及III组上述各项指标与模型组比较差异显著(P<0.05);阿伐他汀治疗I组各项血脂水平较之模型组无显著差异(P>0.05)。与正常对照组比较,模型组动脉粥样硬化组织的COX-2及mPGES-1表达显著增高(P<0.05);与模型组比较,治疗II组、III组动脉粥样硬化组织的COX-2及mPGES-1表达明显下调(P<0.05)。结论 阿伐他汀可能通过降低COX-2/mPGES-1表达、降低血脂,进而发挥其对AS的治疗作用。

Abstract: Objective To determine the expression of cyclooxygenase-2 (COX-2) and membrane associated prostaglandin E-1 (mPGES-1) in a rabbit model of atherosclerosis and determine the effects of atorvastatin on the expression. Methods Forty male New Zealand rabbits (3 months old) were fed with normal diet (blank-control group, n=8) and high-cholesterol diet (n=32) respectively for 8 weeks. Then, the high-cholesterol diet rabbits were subsequently assigned to receive non-treatment (simple atherosclerotic model group), and treatment groups with atorvastatin at 2.5, 5 and 10 mg/(kg·d) respectively (n=8 for each group). Six weeks later, all rabbits were sacrificed and their coronaries were removed. The expression of COX-2 and mPGES-1, and serum levels of total cholesterol (TC), triglyceride (TG), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C) and very low-density lipoprotein cholesterol (VLDL-C) were evaluated respectively. Results Compared with the blank-control group, the expression levels of COX-2 and mPGES-1, and the serum levels of total TC, TG, LDL-C and VLDL-C were all significantly increased, and HDL-C was significantly reduced in model group (P<0.05). After being treated by atorvastatin with 5 mg/(kg·d) and 10 mg/(kg·d), the levels of COX-2 and mPGES-1, and TC, TG, LDL and VLDL were significantly decreased, but HDL was increased compared with the corresponding values of the model rabbits (P<0.05). Conclusion Atorvastatin may play anti-atherosclerotic inflammation role through down-regulating COX-2/mPGES-1 and reducing blood lipid.

参考文献/REFERENCES

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