

黄芪注射液对2型糖尿病动物模型KKA^y小鼠肾损伤病理改变的影响

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作者 单位

E-mail

[李姝玉](#) [北京中医药大学基础医学院, 北京 100029](#)

[柴欣楼](#) [北京中医药大学基础医学院, 北京 100029](#)

[吴莹](#) [北京中医药大学基础医学院, 北京 100029](#)

[苏玮莲](#) [天津医科大学, 天津 300070](#)

[贾德贤](#) [北京中医药大学基础医学院, 北京 100029](#)

[郝钰](#) [北京中医药大学基础医学院, 北京 100029](#)

[王谦](#) [北京中医药大学基础医学院, 北京 100029](#)

wangqian@bucm.edu.cn

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中文摘要:目的:从肾功能和肾组织形态变化观察黄芪对2型糖尿病动物模型KKA^y小鼠肾脏病理改变的影响,研究黄芪对糖尿病肾病的有关作用机制。方法:雄性KKA^y小鼠饲养至14周龄时随机分成模型组和黄芪治疗组(ip,3 mL · kg⁻¹ · d⁻¹)。同龄雄性C57BL/6J小鼠为正常对照组。分别于20,24,28周龄时检测各组小鼠血糖、血清肌酐和血尿素,光镜、电镜下观察各组小鼠不同周龄时的肾脏病理变化情况。结果:模型组KKA^y小鼠从20周龄开始血糖、血尿素水平明显高于正常组小鼠($P<0.01$),24及28周龄时血清肌酐水平明显高于正常组小鼠($P<0.01$)。黄芪治疗组KKA^y小鼠从20周龄开始血糖明显高于正常组小鼠($P<0.01$),但低于模型组小鼠($P<0.05$ 或 $P<0.01$);24及28周龄时血清肌酐水平明显低于模型组小鼠($P<0.01$);从20周龄开始血尿素水平明显低于模型组小鼠($P<0.01$),与正常组比较无明显差异。从20周龄开始模型组KKA^y小鼠开始出现肾小球系膜区增宽,基底膜增厚,肾小管上皮细胞胞浆出现空泡,肾间质胶原结缔组织增多等病理变化,且随周龄增加病变加重;经黄芪注射液后治疗后的KKA^y小鼠,以上病变出现不同程度改善。结论:黄芪注射液能改善2型糖尿病KKA^y小鼠肾功能,减轻肾脏病理损害,具有肾脏保护作用。

中文关键词:[KKA^y小鼠](#) [黄芪注射液](#) [糖尿病肾病](#) [病理变化](#)

Effects of Astragalus Injection on Pathological Changes of Renal Damage in Type 2 Diabetic KKA^y Mice

Abstract:Objective: To observe protective effects of Astragalus injection on renal function, morphological changes in type 2 diabetic KKA^y mice.

Method: Male KKA^y mice were randomly divided into model group, Astragalus injection treatment group(ip, 3 mL · kg⁻¹ · d⁻¹), the same age male C57BL/6J mice were selected as normal control group. Blood glucose regularly, blood urea and serum creatinine at 20,24 and 28 weeks of age were measured respectively. Light microscopy and electron microscope were used to observ renal pathological changes in mice of different ages.

Result: At 20 weeks of age,blood glucose and blood urea levels in model group KKA^y mice were significantly higher than the normal mice ($P<0.01$). At 24 and 28 weeks of age, serum creatinine levels were significantly higher than the normal mice ($P<0.01$). At Astragalus injection treatment group KKA^y mice with 20 weeks of age, blood glucose was significantly higher than that of normal group($P<0.01$), but lower than the model group mice($P<0.05$ or $P<0.01$). At 24 and 28 weeks of age, Astragalus injection treatment group KKA^y mice serum creatinine level was significantly lower than model group mice ($P <0.01$); and from 20 weeks of age, blood urea levels were significantly lower than the model group mice ($P <0.01$), but compared with normal group, no significant difference was found. Model group KKA^y mice showed widened mesangial areas, basement membrane thickening, vacuoles in renal tubular epithelial cells, increased renal interstitial connective tissue and other pathological changes from 20 weeks of age, lesions with ages increased. Lesions in the mice treated by Astragalus injection were markedly improved. **Conclusion:**

Astragalus injection can improve kidney function, reduced pathological changes in kidney of KKA^y mice with type 2 diabetes.

keywords:[KKA^y mice](#) [Astragalus injection](#) [diabetic nephropathy](#) [pathological changes](#)

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