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自拟芪麦汤对糖尿病小鼠糖耐量及 α -糖苷酶的影响

Effects of Qimai Decoction on Glucose Tolerance in Diabetic Mice and α -Glucosidase

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中文关键词: [自拟芪麦汤](#) [\$\alpha\$ -葡萄糖苷酶](#) [抑制作用](#) [四氧嘧啶糖尿病模型](#) [糖耐量](#)

英文关键词: [Qimai decoction](#) [\$\alpha\$ -glucosidase](#) [inhibitory effect](#) [diabetic mice model induced by alloxanin](#) [glucose tolerance](#)

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中文摘要:

目的 观察自拟芪麦汤对糖尿病模型小鼠葡萄糖耐量的影响, 体外对 α -葡萄糖苷酶的抑制作用。方法 四氧嘧啶高血糖模型小鼠随机分为芪麦汤低、中、高剂量组, 芪麦汤低、中、高剂量联合二甲双胍组, 二甲双胍组, 模型对照组及正常对照组。给药30 d, 结束后取血测空腹血糖, 接着各组动物灌胃葡萄糖 $2.0 \text{ g} \cdot \text{kg}^{-1}$, 测给糖后0.5, 2 h血糖值, 计算糖耐量。选用芪麦汤水煎液及水煎醇提液为材料, 采用体外比色法分别测定不同浓度芪麦汤药液对 α -葡萄糖苷酶的抑制率。结果 中、高剂量芪麦汤对糖尿病模型小鼠葡萄糖耐量均有明显的降低作用, 中、高剂量芪麦汤与二甲双胍合用均可明显降低模型小鼠葡萄糖耐量, 与单用二甲双胍比较有显著性差异。芪麦汤水煎液及水煎醇提液对 α -葡萄糖苷酶均有较好的抑制作用, 并有良好的量效关系, 而相同剂量的水煎醇提液比水煎液的抑制率效果更好。结论 自拟芪麦汤具有提高模型小鼠葡萄糖耐量的作用。自拟芪麦汤对 α -葡萄糖苷酶的抑制作用, 提示了该方降糖作用的可能机制之一。

英文摘要:

OBJECTIVE To investigate the effects of Qimai decoction on the glucose tolerance and to study its inhibitory effect on α -glucosidase. METHODS Diabetic mice model induced by alloxanin were divided into low-dose, middle-dose and high-dose, Qimai decoction groups, low-dose, middle-dose and high-dose Qimai decoction plus metformin groups, metformin control group, model control group, and normal control group. Fasting blood glucose was measured in those mice after 30 days of administration. Then all the mice were given stomach-lavaging of glucose ($2.0 \text{ g} \cdot \text{kg}^{-1}$), and the glucose tolerance was calculated by measuring their blood sugar level after 0.5 h and 2 h. Decoction and decoction alcohol of Qimai decoction were taken as raw material, and inhibitory rate of different concentration of Qimai decoction on α -glucosidase was measured by in vitro assay. RESULTS Middle-dose and high-dose Qimai decoction could obviously reduce glucose tolerance in diabetic mice, middle-dose and high-dose Qimai decoction plus metformin could also reduce glucose tolerance in diabetic mice and it was significant different from metformin group. Both decoction and decoction alcohol of Qimai decoction showed a better inhibitory effect than decoction. CONCLUSION Qimai decoction can improve the glucose tolerance of diabetic mice, it also has inhibitory effect on α -glucosidase *in vitro* which may indicate an possible mechanism of Qimai decoction reducing blood sugar.

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