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论著

柿叶不同溶剂萃取物对糖尿病小鼠抗氧化能力的影响

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摘要:

目的: 研究柿叶不同溶剂萃取物对链脲佐菌素(STZ)糖尿病模型小鼠抗氧化能力的影响。**方法**: 柿叶乙醇总提物分别用氯仿、乙酸乙酯、正丁醇依次萃取,得到不同溶剂萃取物。经乙醇提取后得到柿叶残渣,经水煮乙醇沉淀后得水提醇沉萃取物。将实验小鼠随机分成:正常对照组,模型组,格列本脲组[25 mg/(kg·d)],不同溶剂萃取物低、高剂量组。连续灌胃给药15 d,在相应时间采血测定丙二醛(MDA)、超氧化歧化酶(SOD)等指标。**结果**: 乙酸乙酯萃取物和水提醇沉萃取物显著降低STZ所致糖尿病小鼠肝脏MDA含量和提高肝脏SOD活力(P<0.01或0.05),提高肝脏抗氧化能力;氯仿萃取物和正丁醇萃取物对STZ所致糖尿病小鼠无抗氧化作用。**结论**: 提高糖尿病小鼠机体抗氧化能力可能是柿叶乙酸乙酯萃取物和水提醇沉萃取物降糖作用的机制之一。

关键词: 柿叶 乙酸乙酯萃取物 水提醇沉萃取物 降血糖作用 SOD

Influence of different extracts from persimmon leaves on the antioxidant activity in diabetic mice

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Abstract:

Objective: To investigate the antioxidant effect of different solvent extracts from persimmon leaves (PL) in diabetic mice induced by streptozotocin (STZ). Methods: The total ethanol-extracted fraction of PL was further extracted with chloroform, ethyl acetate and n-butanol, in that order, the residues after ethanol extraction were water-extracted and alcohol-precipitated, and concentrated. The hypoglycemic effects of different solvents extracts from PL were evaluated in diabetic mice induced by STZ. The experimental mice were randomly divided into groups: control group, model group, glibenclamide group, low and high dosage groups of the various solvent extracts. The drugs were administrated to mice in every morning for 15 days. During this time period, the contents of malondialdehyde (MDA) and superoxide dismutase (SOD) were determined. Results: The water-extracted and ethanol-precipitated fractions and the ethyl acetate-extracted fraction markedly reduced the content of MDA and increased the activity of SOD in the livers of STZ-induced diabetic mice (P<0.01 or P<0.05). The chloroform-extracted and n-butanol-extracted fraction did not markedly reduce the content of MDA nor increase the activity of SOD in liver of STZ-induced diabetic mice (P>0.05). Conclusion: The ethyl acetate-extracted fraction, water-extracted and ethanol-precipitated fraction of persimmon leaves have potential value in the treatment of diabetes. The mechanism of action of the antioxidant is related to the hypoglycemic effects of extracts from persimmon leaves.

Keywords: persimmon leaves ethyl acetate-extracted fraction water-extracted and ethanol-precipitated fraction hypoglycemic effect superoxide dismutase

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