

论著

## 绞股蓝提取物对衰老大鼠DNA损伤的影响

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**摘要** 背景与目的: 探讨绞股蓝提取物对衰老大鼠DNA氧化及烷化损伤的影响。材料与方法: 成年大鼠颈背部皮下注射D-半乳糖100mg/kg构建衰老动物模型, 同时设正常对照组, 通过人工合成饲料添加不同剂量的绞股蓝提取物(200、800、4000 mg/kg饲料)及维生素E(VE)、维生素C(VC), 8周后采血获取淋巴细胞, 用单细胞凝胶电泳法检测淋巴细胞DNA自发损伤及H<sub>2</sub>O<sub>2</sub>诱导的氧化损伤; 实验结束前1周留取大鼠24h尿液, 通过毛细管电泳法检测大鼠尿中O<sub>6</sub>-甲基鸟嘌呤(O<sub>6</sub>-MeG)的含量。结果: 各组大鼠淋巴细胞DNA自发损伤无明显差异(P>0.05)。分别采用5、10和25μmol/L H<sub>2</sub>O<sub>2</sub>氧化时, 绞股蓝各组及维生素E、C(VEC)组DNA氧化损伤均明显低于衰老对照组(P<0.05), 且绞股蓝800、4000mg/kg组DNA氧化损伤与正常对照组及VEC组无显著性差别。衰老对照组尿中DNA烷化损伤代谢产物O<sub>6</sub>-MeG含量较其他各组偏高, 但差别无统计学意义。结论: D-半乳糖诱导衰老的大鼠模型DNA抗氧化损伤的能力降低, 而DNA烷化损伤无明显改变; 在本实验条件下, 绞股蓝提取物可有效降低H<sub>2</sub>O<sub>2</sub>诱导的DNA氧化损伤, 对DNA烷化损伤没有明显作用。

**关键词** [绞股蓝](#); [DNA损伤](#); [彗星电泳](#); [O<sub>6</sub>-甲基鸟嘌呤](#)

## The Effect of Gynostemma Pentaphyllum Extract on DNA Damage of Aging Rats

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**Abstract** **BACKGROUND & AIM:** To investigate the effects of Gynostemma pentaphyllum (GP) extract on DNA oxidative and alkylating damages. **MATERIAL AND METHODS:** Adult Wistar rats received 100 mg/kg D-galactose subcutaneous injection each day to build the aging model. There was also a control group. These groups of rats were fed with fully compounded diet which was supplemented with different doses of Gynostemma pentaphyllum extract or vitamin E, C(VE+C) for 8 weeks. Whole blood was collected at the end of the trial. Spontaneous and induced oxidative DNA damages were analyzed by SCGE. Urine was collected before the end of the trial. Urinary O<sub>6</sub>-MeG was analyzed by high performance capillary zone electrophoresis. **RESULTS:** There was no statistical difference in spontaneous DNA damage among 6 groups (P>0.05). But less oxidative DNA damage induced by 5, 10, 25 μmol/L H<sub>2</sub>O<sub>2</sub> were found in the groups supplemented with Gynostemma pentaphyllum extract and the VE+C group than in the aging group(P<0.05). When supplemented with higher dose of Gynostemma pentaphyllum extract, DNA damage showed no significant differences compared with the control group and VE+C group. The level of urinary O<sub>6</sub>-MeG in the aging group was not higher than that in the other groups (P>0.05). **CONCLUSION:** D-galactose could induce DNA oxidative damage while it had no effect on DNA alkylating damage. When Gynostemma pentaphyllum extract was given to aging rats, the oxidative DNA damage induced by H<sub>2</sub>O<sub>2</sub> could be effectively decreased and the alkylating DNA damage showed no change.

**Keywords** [Gynostemma pentaphyllum](#); [DNA damage](#); [SCGE](#); [O<sub>6</sub>-MeG](#)

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