

论著

管花肉苁蓉麦角甾苷对衰老小鼠端粒酶活性和免疫功能的影响

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摘要 目的 观察管花肉苁蓉麦角甾苷(CTWA)对实验性衰老小鼠心、肝和脑组织中丙二醛(MDA)含量、端粒酶活性和免疫功能的影响。方法 小鼠sc 10% D-半乳糖 $10\text{ mL}\cdot\text{kg}^{-1}$, 每天1次, 连续8周, 建立亚急性衰老模型。给药组小鼠从造模第9周起, 分别ig给予CTWA 10, 20和 $40\text{ mg}\cdot\text{kg}^{-1}$, 每天1次, 连续2周。硫代巴比妥酸比色法检测MDA含量; PCR-ELISA法检测端粒酶活性; [^3H] TdR掺入法测定淋巴细胞增殖反应; 中性红实验测定小鼠腹腔巨噬细胞吞噬功能; 放射免疫法测定外周血白细胞介素2(IL-2)含量。结果 模型组小鼠心、肝和脑MDA含量明显增加, 心和肝端粒酶活性明显降低, 淋巴细胞增殖反应、腹腔巨噬细胞吞噬功能和外周血IL-2含量均显著下降。给予CTWA 2周, 小鼠心、肝和脑MDA含量明显降低, CTWA $40\text{ mg}\cdot\text{kg}^{-1}$ 组小鼠心和脑组织端粒酶活性明显升高, 淋巴细胞增殖反应、腹腔巨噬细胞吞噬功能和外周血IL-2含量明显升高。结论 CTWA能拮抗自由基损伤, 增强衰老小鼠心和脑组织端粒酶活性和机体免疫功能, 这些可能与CTWA的抗衰老作用有关。

关键词 [管花肉苁蓉](#) [衰老](#) [丙二醛](#) [端粒](#), [末端转移酶](#) [免疫](#)

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Effect of *Cistanche tubulosa*(Scheuk) Whight acteoside on telomerase activity and immunity of aging mice

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Abstract

AIM To study the effect of *Cistanche tubulosa*(Scheuk) Whight acteoside (CTWA) on malondialdehyde (MDA) content, telomerase activity in heart, liver and brain tissues and immune function of experimentally aging model mice.

METHODS Mice were given sc 10% D-galactose $10\text{ mL}\cdot\text{kg}^{-1}$, once daily for 8 weeks to establish model of aging mice.

CTWA 10, 20 and $40\text{ mg}\cdot\text{kg}^{-1}$ were given ig, respectively, from the ninth week once daily for 2 weeks. The MDA content and telomerase activity were measured with thiobarbituric acid colorimetric method and PCR-ELISA, respectively. The lymphocyte proliferation was measured by [^3H] TdR incorporation test. Phagocytosis of peritoneal macrophages was tested by neutral red test. The interleukin-2 (IL-2) content in peripheral blood was measured by radioimmunoassay.

RESULTS In model group, MDA content was significantly increased in heart, liver and brain, telomerase activity was significantly decreased in heart and liver, and lymphocyte proliferation, phagocytosis of peritoneal macrophages and blood IL-2 content were obviously decreased. After treatment with CTWA for 2 weeks, MDA content in heart, liver and brain was significantly decreased. In CTWA $40\text{ mg}\cdot\text{kg}^{-1}$ group telomerase activity in heart and brain was significantly increased, lymphocyte proliferation, phagocytosis of peritoneal macrophages and peripheral blood IL-2 content obviously enhanced.

CONCLUSION CTWA may delay aging, which may be related to antagonizing free radical injury and enhancing immunity of aging mice.

Key words [Cistanche tubulosa\(Scheuk\) Whight](#) [aging](#) [malondialdehyde](#) [telomerase](#) [immunity](#)

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