

analysis,  $\chi^2$  test and one-way logistic analyses. **Results:** 633 pieces of questionnaire were received. Of these 613 persons, 355 were in sub-health. The total sub-health incidence was 57.9 %, and the personnel below 30 years old are the most vulnerable to sub-health, and in this age group sub-health in the different extent added up to 65%; The female personnel incidence rate of sub-health was apparently higher than the male ( $\chi^2=9.815$ ,  $P<0.01$ ); The important influential factors of sub-health state included lacking physical exercise, frequency overworking, running into frustration and accident, drinking, dissatisfaction of living condition, transportation condition and living environment, family friction etc. **Conclusions:** The health status of the personnel of hospital is not optimistic; the related department should take prevention and intervention measures to improve the health level and quality of life of the population vulnerable to the sub-health status.

**Keywords:** Sub-health; Epidemiological Investigation; personnel of Hospital

0916

## 浅谈防病抗衰争长寿

左福祥

河北省献县老年大学, 河北 062250

**摘要** 健康长寿是养生保健的根本目标, 人类对此进行了广泛的探索和历史的的研究与实践。本文论述了有关健康长寿的免疫学说、健康四大基石学说、氧自由基损害学说和中医肾虚补益学说。

**关键词:** 健康长寿; 养生保健

## Discussion about Preventing Disease and Counteracting Aging and Getting Longevity

Zuo Fuxiang

Gerontism University of Xian County, Hebei 062250

**Abstract** Health and longevity are radical goals for life-cultivation of human being. Many researches have been done about this. Here we showed some theories about it including immunity doctrine, four foundations of health theory, oxyradical injury theory, renal deficiency and tonification theory.

**Keywords:** Health and longevity; life-cultivation

0917

## 体外培育牛黄(ICCB)对心脑血管细胞保护作用及其机制研究

蔡红娇<sup>1</sup>, 官阳<sup>2</sup>, 刘烈刚<sup>3</sup>, 姚平<sup>3</sup>

1. 华中科技大学同济医学院附属同济医院, 武汉 430030;

2. 华中科技大学同济医学院附属同济医院病理学系超微病理研究室, 武汉 430030;

3. 华中科技大学同济医学院附属同济医院营养和保健食品卫生学系, 武汉 430030

**摘要 目的:** 探讨体外培育牛黄(ICCB)对心脑血管细胞保护作用及其机制。**方法:** ICCB悬浮液小鼠灌胃15天后, 采用小鼠断头的急性脑缺血缺氧实验模型, 观察小鼠在急性脑缺血缺氧条件下的喘气时间。另外一组小鼠经过密闭缺氧12分钟后, 取出再用ICCB悬浮液灌胃治疗5天, 取小鼠心脑血管组织作电镜观察, 取脑、心、肝组织匀浆作SOD、GSH-px, T-AOC活性、MDA含量测定; 取脑纹状体、海马区组织作匀浆测定DA、NE含量。**结果:** ICCB能明显延长急性脑缺血缺氧小鼠的喘气时间( $P<0.001$ ); 电镜观察结果, ICCB组缺氧缺血小鼠脑组织超微病理改变很轻微, 而对照组则很严重。ICCB有提高缺氧小鼠的脑、肝、心肌细胞及血清SOD、GSH-px、T-AOC活性和降低MDA含量, 与对照组比较有明显差异( $P<0.001$ ), 脑纹状体, 海马区DA、NE含量高于对照组。**结论:** 体外培育牛黄具有保护心脑血管细胞的作用, 其作用机制是ICCB具有提高耐缺氧能力和抗氧化酶活性, 提高机体清除自由基能力, 减轻脂质过氧化作用对心脑血管细胞的损害, 调节神经递质, 保护或恢复神经通路, 从而达到保护心脑血管细胞的目的。

**关键词:** 体外培育牛黄; 自由基; 保护脑细胞

## Protective Effect and Mechanism of In-vitro Cultivated Calculus bovis (ICCB) on Brain and Myocardial Cells

Cai Hongjiao<sup>1</sup>, Guan Yang<sup>2</sup>, Liu Liegang<sup>3</sup>, Yao Ping<sup>3</sup>

1. Tongji Hospital; 2. Department of Ultrastructural Pathology; 3. Department of Nutrition and Food Hygiene School of Public Health, Tongji Medical College of Huazhong University of Science and Technology, Wuhan 430030

**Abstract Objective:** To observe the effects of in vitro cultivated calculus bovis (ICCB) on protecting the cells of brain and myocardial, and also to explore its protective mechanism. **Methods:** In one group, mice were given i.g. ICCB for 15 days before being subjected to the experiment of acute cerebral ischemia by decapitation, and then the panting time was observed. In the other group, 12 minutes after exposure to hypoxia, mice were administered the ICCB i.g. for 5 days. The ultrastructural pathological changes of brain and heart tissues were observed under electron microscope. Then the SOD, GSH-px and T-AOC activity and content of MDA in serum and tissues of brain, heart, liver were examined. The Hippocampus Corpus Striatum of brain were sliced to examine for content of DA, NE. **Results:** The results of ultrastructural study showed that pathological changes in ICCB group was very slight while those in controls group were obvious, ICCB significantly prolonged the panting time of the mice ( $P < 0.001$ ), and promoted SOD, GSH-px, T-AOC activity in brain, liver, myocardial cells and blood serum. ICCB also reduced the content of MDA and increased DA and NE content of the Corpus Striatum and Hippocampus in brain. Significant differences of these parameters were noted between ICCB group and controls group. **Conclusions:** ICCB has protective effect on the cells of the brain and myocardial. Through improving the tolerance to hypoxia, helping to remove free radicals and helping to regulating neurotransmitter levels, it is effective on protecting cell of brain and myocardial.

**Keywords:** In-vitro Cultivated Calculus Bovis; Free Radicals; Protecting the Brain Cells

0918

## 三七总皂苷对快速老化模型小鼠学习记忆能力的作用及其机理研究

钟振国, 吴登攀, 吕良, 王进声  
广西中医学院, 南宁 530001

**摘要 目的:** 探讨三七总皂苷(total saponins of *Panax notoginseng*, PNS)对快速老化模型小鼠(senescence accelerated mouse, SAM)学习记忆能力的作用及其机制, 并与石杉碱甲(huperzin A, Hup-A)比较。方法: 快速老化模型小鼠亚系(SAMP8)随机分为4组即PNS高剂量组(93.50mg.kg<sup>-1</sup>.d<sup>-1</sup>)、低剂量组(23.38mg.kg<sup>-1</sup>.d<sup>-1</sup>)、石杉碱甲组(0.0386mg.kg<sup>-1</sup>.d<sup>-1</sup>)、空白组4组。各给药组分别按设计剂量灌胃给药, 空白组给予与给药组等体积双蒸水灌服, 连续8周后采用Morris水迷宫、血清相关生化指标检测、免疫组化染色免疫阳性细胞计数、逆转录(RT)和实时聚合酶链式反应(real-time PCR)等方法, 观察PNS对SAMP8学习记忆能力和血清超氧化物歧化酶(SOD)、过氧化氢酶(CAT)、谷胱甘肽(GSH)、总胆固醇(TC)、甘油三酯(TG)含量, 脑内 $\beta$ 淀粉样蛋白前体蛋白(APP)、 $\beta$ 淀粉样蛋白(A $\beta$ 1-40、A $\beta$ 1-42)表达及APP mRNA、乙酰胆碱酯酶(AchE)mRNA、突触素(synaptophysin, SYP)mRNA、tau mRNA含量的影响。结果: PNS高、低剂量均能提高SAMP8学习记忆成绩, 减少KPI-APP生成, 抑制A $\beta$ 1-40、A $\beta$ 1-42沉积, 提高SYP mRNA含量, PNS高剂量还可提高血清SOD活力, 降低血清中TC、TG和脑内APP mRNA含量。结论: PNS能改善SAMP8学习记忆能力, 作用机理可能与下调其脑内APP基因表达, 减少KPI-APP产生, 抑制A $\beta$ 沉积; 与抗氧化应激, 降低血脂含量; 与上调其脑内SYP基因表达等有关。

**关键词:** 三七总皂苷; 快速老化模型小鼠; 记忆;  $\beta$ 淀粉样蛋白

## Effect of Total Saponis of *Panax Notoginseng* on Learning and Memory in Senescence Accelerated Mice and Its Mechanism

Zhong Zhengguo, Wu Dengpan, Lu Liang, Wang Jinsheng  
Guangxi College of TCM, Nanning 530001

**Abstract Objective:** To explore the effect and mechanism of total saponis of *Panax notoginseng*(PNS) on the capacity of spatial learning and memory in senescence accelerated mouse(SAM), and to compare with the effects of huperzin A, Hup-A. **Methods:** SAMP8 were randomly divided into 4 groups: high-