

论文

黄芪多糖对内毒素致小鼠毒性损伤的作用

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摘要:

本文结果表明,预先给予黄芪多糖(APS)ip30,60,100mg·kg<sup>-1</sup>·d<sup>-1</sup>×7d能明显提高内毒素(25mg·kg<sup>-1</sup>·ip)中毒小鼠的存活率,APSip 100mg·kg<sup>-1</sup>·d<sup>-1</sup>×7d,能完全解除内毒素的致死作用,对内毒素中毒鼠肝脏内ATP含量及EC值下降具有拮抗作用。上述作用均呈剂量依赖性。APSip 60,100mg·kg<sup>-1</sup>·d<sup>-1</sup>×7d能明显拮抗内毒素处理小鼠肝匀浆中MDA升高及GSH降低。电镜显示APS对内毒素处理小鼠肝脏线粒体结构的损伤具有保护作用。

关键词: 黄芪多糖 大肠杆菌内毒素 腺嘌呤核苷酸 抗脂质过氧化

THE EFFECT OF ASTRAGALUS POLYSACCHARIDE ON ENDOTOXIN-INDUCED TOXICITY IN MICE

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Abstract:

Astragalus Polysacchride (APS), an active component, was isolated from the radix of *Astragalus membranaceus* Bge var. *mongholicus*(Bge) Hsiao, and the effects of APS on *E. coli* endotoxin-induced liver damage were investigated in mice. The results showed that when mice were pretreated with APS (30,60,100 mg·kg<sup>-1</sup>·d<sup>-1</sup>×7d,ip), the survival rate of endotoxin intoxicated mice was increased the lowering of ATP levels and adenylate energy charge in mouse liver could be prevented. APS 100 mg·kg<sup>-1</sup> could protect the mice from death on endotoxin (25 mg·kg<sup>-1</sup>) intoxication; and the level of ATP, the value of adenylate energy charge in the protected mouse liver were almost recovered to normal range. The effects of APS were shown to be dose-dependent. Concomitantly, the increase of MDA and decrease of GSH in mouse liver could be corrected by APS pretreatment. The results revealed that APS has an antioxidative action. An ultramicroscopic examination showed that the injury of the bio-membrane and the crest of mitochondria were ameliorated by APS pretreatment. These findings suggest that the protective effects of APS on *E. coli* endotoxin intoxicated mice may be due to its antioxidative action to protect the mitochondria bio-membrane, therefore, the adenylate metabolism is improved in mouse liver.

Keywords: Adenosine triphosphate Mitochondria Antioxidation Astragalus polysacchride

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