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**THE PROTECTIVE EFFECT OF ZINC SULPHATE ON
OXIDATIVE DAMAGE OF LIVER IN APOE-KNOCKOUT
MICE FED WITH HIGH FAT DIET**

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Objectives The aim of the present work was to study the antioxidative effect of zinc sulphate on liver of ApoE-knockout mice fed with high fat diet.

Methods Thirty male ApoE-deficient mice at 8 weeks of age were randomly divided into three groups, including atherosclerotic model group (n=10), low-dose group (n=10), high-dose group (n=10), and with 10 male wild-type C57BL/6J mice as a control group. All the mice were fed with high fat diet for 14 weeks. The

ABSTRACTS

control group and atherosclerotic model group mice drank deionised water, and both low-dose group and high-dose group mice drank 2.5mmol/l and 25mmol/l zinc sulphate respectively. The body weight, the liver/weight index, liver function, antioxidant capacity and metallothionein-1 mRNA level of liver were determined.

Results The body weight and weight gain of low-dose group and high-dose group mice were significantly lower than the other two groups ($p<0.05$), the liver/weight index of control group remarkably lower than the other three groups ($p<0.05$). The serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST) of low-dose group and high-dose group mice significantly lower than the other two groups ($p<0.05$). The total antioxidant capacity and superoxide dismutase of low-dose group and high-dose group mice significantly higher than the other two groups ($p<0.05$), but the malondialdehyde (MDA) of low-dose group and high-dose group mice significantly lower than the other two groups ($p<0.05$). The metallothionein-1 mRNA level of liver in high-dose group mice significantly higher than atherosclerotic model group mice ($p<0.05$).

Conclusions This study demonstrates that zinc sulphate could markedly decrease the body weight and weight gain in ApoE-knockout mice fed with high fat diet. It also could improve the antioxidant capacity and serum ALT and AST of liver in ApoE-knockout mice. In addition, metallothionein may play active role in the process of antioxidation.



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