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EFFECT OF SINI DECOCTION ON THE EXPRESSION OF CAVEOLIN-1 AND ENOS IN EAHY926 CELL INJURED BY HOMOCYSTEINE

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Objectives To detect the effect of Sini Decoction on the expression of Caveolin-1 and eNOS in EAhy926 cell injured by homocysteine.

Methods Model of EAhy926 cell injured by homocysteine was made, the protection on the EAhy926 cell of Sini Decoction with different dosages and different durations were observed. The effection of Sini Decoction on the expression of protein of Caveolin-1 and eNOS in EAhy926 cell were observed by Western-blot, and effection of Sini Decoction on the expression of mRNA of Caveolin-1 and eNOS in EAhy926 cell were observed by fluorescent quantitation PCR.

Results After model of EAhy926 cell injured by homocysteine was made, we found that cultured with 0.5, 1.0, 2.0, 4.0, 8.0 μmol/l homocysteine, cells grew less than cultured with normal culture medium, and with the increase of homocysteine concentration, the number of attached cell grew downwards obviously, as culturing with homocysteine 4.0 μmol/l for 24 h did lower damage to cells and could induce effective cell injuring, it was made to be the model of injury. To detect the effection of Sini Decoction on EAhy926 cell injured by homocysteine, well growing EAhy926 cells were cultured in culture plate. 24 h later, cells were cultured with DMEM medium containing 2% fetal calf serum for 8 h to make cells hungry, then cultured with medium containing Sini Decoction 0, 0.25, 0.5, 1.0 g/ml respectively for 30 min, then cultured with medium containing homocysteine 4.0 μmol/l for 24 h. It was found that, compared with control group, attached cells in Sini Decoction groups grew better, and attached cells in Sini Decoction 1.0 g/ml plus homocysteine 4.0 μmol/l group grew best. Detected by western-blot, it was found that, compared with control group, there was no obvious change of protein of Caveolin-1 and eNOS in Sini Decoction 1.0 g/ml group, but in homocysteine 4.0 μmol/l medol group, expression of Caveolin-1 protein enhanced obviously, expression of eNOS protein weakened obviously, and in Sini Decoction groups, expression of Caveolin-1 protein weakened, and expression of eNOS protein enhanced, and in Sini Decoction 1.0 g/ml plus homocysteine 4.0 μmol/l group it was the most obvious $p<0.05$). Detected by fluorescent quantitation, it was found that, compared with control group, there was no obvious change of mRNA of Caveolin-1 and eNOS in Sini Decoction 1.0 g/ml group, but in homocysteine 4.0 μmol/l medol group, expression of Caveolin-1 mRNA enhanced obviously, expression of eNOS mRNA weakened obviously, and in Sini Decoction groups, expression of Caveolin-1 mRNA weakened, and expression of eNOS mRNA enhanced, and in Sini Decoction 1.0 g/ml Plus homocysteine 4.0 μmol/l group, it was the most obvious $p<0.05$).

Conclusions Homocysteine may injure EAhy926 cell by enhancing the expression of caveolin-1 then suppressing the expression of eNOS, while Sini Decoction may protect EAhy926 cell by suppressing the expression of caveolin-1 then enhancing the expression of eNOS.