Epimedium grandiflorum (Horny goat weed) - aumenta a expressão da óxido nítrico sintase no endotélio – proteção cardiovascular

Icariin enhances endothelial nitric-oxide synthase expression on human endothelial cells in vitro.

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Abstract

Icariin, a flavonoid isolated from Epimedii herba, is considered to be the major therapeutical constituent of E. herba. The aim of this study was to investigate the possible protective effects and to clarify the mechanism of icariin on endothelial cells in vitro. Incubation of human umbilical vein endothelial cells (HUVEC) derived EA. hy926 cells with icariin(0.1, 1, 10 micromol l(-1)) from 6 h to 72 h, then the production of NO was measured to evaluate the protective effects of icariin. RT-PCR was employed to confirm the mRNA expression of endothelial nitric oxide synthase (eNOS). Western blotting was used to evaluate the protein expression of eNOS. NO production was enhanced in a time- and concentration-dependent manner ($P<0.05$), which was well matched with the expression of eNOS mRNA (up to 2.4-fold) and protein (up to 2.5-fold) after long-term incubation with icariin in endothelial cells ($P<0.05$). Moreover, activated NF-kappaB was increased in EA. hy926 cells incubated with icariin for 24 h, in association with an increase in the expression of eNOS gene. In addition to its long-term effects on eNOS expression, icariin also enhanced the production of bioactive NO in the short-term (after a 5 min incubation, $P<0.05$). In concert with other effects, the protective effects of icariin on endothelial cells may contribute to the cardiovascular protective effects.

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