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Anti-aging Effect of Fructus foeniculi on Bovine Aortic Endothelial Cells(BAEC)

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It was examined how the cell damage caused by lipid peroxidation products and oxidative stresses, which may be related to the proliferation and aging of Bovine aortic endothelial cell(BAEC) line, were recovered by the extract of Fructus foeniculi. So-Hap-Hyang-Won is one of the traditional herb treatments of stroke, which results from a variety of vascular diseases and becomes prevalent among the old, and Fructus foeniculi is a component of So-Hap-Hyang-Won. According to the results of clinical experiments, So-Hap-Hyang-Won appeared to considerably help the improvement in arm and leg movements as well as mental impairment of stroke patients, compared with other stroke treatments used. When the lyophilized extracts of each herb medicine were treated to BAEC, only that of So-Hap-Hyang-Won promoted cell proliferation and showed no toxicity even at high concentrations. As a result of the observation of BAEC treated with the lyophilized extracts of 14 components of So-Hap-Hyang-Won, only the Fructus foeniculi extract helped cell growth at all the concentrations tested. Moreover, when the cells were treated with Fructus foeniculi extract(250 μ M) after the exposure to lipid peroxidation products such as t-BHP(10 μ M) or HNE(0.2 μ M), all known to be related with aging and vascular diseases, or after the exposure to SIN-1(500 μ M) which generates nitric oxide(NO) and other reactive oxygen species, cells were apparently recovered from the oxidative damage presumably due to the cytotoxic radical-scavenging effect of Fructus foeniculi extract. Fructus foeniculi not only showed positive effects on the BAEC growth and cell damage repair but also appeared most relevant to an anti-aging activity among all the herb components of So-Hap-Hyang-Won.

Key words : Fructus foeniculi extract, Stroke, Radical scavenging, Cell Damage Repair, Anti-aging activity