Eun Jin Yang, Drug Des 2016, 5:3(Suppl)
http://dx.doi.org/10.4172/2169-0138.C1.010

The effect of Ginsenoside Re on neuroinflammation in an ALS animal model

Eun Jin Yang
Korea Institute of Oriental Medicine,
Republic of korea

Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease characterized by the progressive loss of upper and lower motor neurons, which cause paralysis and respiratory dysfunction. There is currently no permanently effective drug for patients with ALS. Ginsenoside Re (G-Re), one of the most active ingredients of ginseng, has pharmacological activities that affect a number of targets. To investigate the effects of G-Re on neuroinflammation, we used G-Re (2.5 μg/g) at the Joksamni acupressure point (ST36) once every other day for one week. To evaluate G-Re function in symptomatic human-superoxide dismutase 1 (hSOD1G93AÞ transgenic mice, immunohistochemistry and Western blot analysis were performed with the spinal cord of symptomatic hSOD1G93A transgenic mice. Here, we report that G-Re exhibits potent neuroprotective effects against neuroinflammation in a murine model of ALS. G-Re treatment reduced the loss of motor neurons and active microglia- related expression of Iba-1 in the spinal cord of symptomatic hSOD1G93A transgenic mice. In addition, compared with age-matched hSOD1G93A mice, G-Re-treated hSOD1G93A mice showed a significant reduction in expression of pro-inflammatory proteins such as CD14 and TNF-α protein related to TLR4 signaling pathway. G-Re administration also led to a decrease in cell death-related phospho-p38 protein levels, and had an antioxidative effect by reducing HO1 expression. Together, our data suggest that G-Re could have potent anti-neuroinflammatory effects on ALS by inhibiting the TLR4 pathway.

Biography

Eun Jin Yang has completed her PhD form Yonsei University and postdoctoral studies from University of Pennsylvania. She is a principal researcher at Korea Institute of Oriental Medicine. She has published more than 25 papers in reputed journals and has been serving as an editorial board member.

yangej@kiom.re.kr

Notes: