The Effect of Musk on Pathologic Model of Ischemic Stroke

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Introduction

Mongolia is considered to be one of the countries with high rate of cerebrovascular disease prevalence. In traditional Mongolian medicine, musk has been widely utilized in case of cerebral stroke, loss of taste and hypoesthesia. Therefore, we have conducted a research on an animal to study the effects of musk on the Middle Cerebral Artery Occlusion/Reperfusion.

Methods:

In our experiment, we used 320 whore meal breed rats which weigh 180-220g and divided these rats into 50 mg/kg of musk, 100 mg/kg of musk, 10 mg/kg of nimodipine, the experimental groups by filling the midriff of the brain and take the drugs for 7 days in each group. The medicine was tested orally on experimental groups for 7 days, and the movement test (J.B.Bederson et al.,1986) was made on the first, third and seventh days. The test result of operation for the development of anesthetic model of brain inflammation of the MCAO/R showed an average of 2 or more rat in the experimental group. The rats' RNA express in TGF-β, BDNF, TrkB, NGF were evaluated by Real-time reversed transcription polymerase chain reaction kit (RT-qPCR). The effect of musk on pathologic model of Middle cerebral occlusion/Reperfusion was studied by immunofluorescence method defining Arg-1, BCL-2, Iba-1 in healthy and experimental groups at low and high doses of musk.

Result: Differential results with statistical significance (*p <0.05) for musk 50, 100 mg/kg group and 10 mg/kg of nimodipine for 1, 3- and 7-days moving average.

Conclusions:

1. The usage of musk has been proven to decrease the ischemic area and improve the loss of movement.
2. The 50 and 100 mg/kg doses of musk lead to increase neuro-protective factors BDNF, NGF, TGF-β and expression of mRNA in ischemic-reperfusion rat model. It implies that the Mongolian musk supports the neurogenesis of neuronal cell.
3. The 100 mg/kg dose of musk has neuro-protective and anti-inflammatory effects and reduces ischemic area as well as increases the recovery of neuronal cell in ischemic-reperfusion rat model.

Key words: rat, musk, ischemia, reperfusion.