(7) Journal of Pharmacopuncture, Vol 14, No. 2, pp. 15–24, 2011

Inhibitory Effect of Rehmannia Glutinosa Pharmacopuncture Solution on ß-hexosaminidase Release and Cytokine Production via Immunoglobulin Receptor Signaling in RBL-2H3 Cells

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Abstract
Objectives: Type I allergy is involved in allergic asthma, allergic rhinitis, and atopic dermatitis, which are accompanied by acute and chronic allergic inflammatory responses. *Rehmannia glutinosa* is a traditional medicine in the East Asian region. This study examined whether a *Rehmannia glutinosa* pharmacopuncture solution (RGPS) had anti-allergic or anti-inflammatory effects in antigen-stimulated RBL-2H3 cells.
Methods: We determined the effect of RGPS on cell viability by using the 3-[4,5-dimethylthiazolyl]-2,5-diphenyltetrazolium bromide (MTT) assay. We also were examine the effect of RGPS on the release of ß-hexosaminidase and the secretion of IL-4 and TNF-α. In addition, we were evaluated the effect of RGPS on the mRNA expression of various cytokines: IL-2, IL-3, IL-4, IL-5, IL-13 and TNF-α. Furthermore, we assesse the activation of mitogen-activated protein kinases (MAPKs) and nuclear factor (NF)-κB.
Results: We found that RGPS (10-4 to 10-1 dilution) did not cause any cytotoxicity. We observed significant inhibition of ß-hexosaminidase release, suppression of protein secretion of IL-4 and TNF-α, and mRNA expression of multiple cytokines in antigen-stimulated RBL-2H3 cells. Additionally, RGPS suppressed not only the phosphorylation of MAPKs but also the transcriptional activation of NF-κB in antigen-stimulated RBL-2H3 cells.
Conclusions: These results suggest that RGPS inhibits the degranulation and the expression of cytokines, including IL-4 and TNF-α, via down regulation of MAPKs and NF-κB activation in antigen-stimulated RBL-2H3 cells. In conclusion, RGPS may have the beneficial effects of exerting anti-allergic or anti-inflammatory activities.
Key Words: rehmannia Glutinosa; Pharmacopuncture; anti-allergic effects; ß-hexosaminidase; Cytokine

doi:10.1016/j.jams.2011.10.008

(8) Journal of Pharmacopuncture, Vol 14, No. 2, pp. 25–36, 2011

Effects of Dry Cupping Therapy on Shoulder Pain and Fatigue in Nurses

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Abstract
Objectives: This research was done to identify the effects of dry cupping therapy on shoulder pain and fatigue in nurses.
Methods: The research design was a time series design. The participants were 27 nurses with shoulder pain at P University Hospital in Busan metropolitan city from July 6, 2009, to August 3, 2009. The dry cupping therapy was done 4 times, twice a week for 2 weeks. Before intervention, the severity and the frequency of pain and fatigue were measured three times at one-week intervals; and they were measured after one week and two weeks of experimental treatment. The results were analyzed using descriptive statistics, paired t-test and repeated measure ANOVA, with the SPSS program.
Results: There were statistically significant differences in the severity and the frequency of shoulder pain and fatigue after dry cupping therapy. Dry cupping therapy was effective in managing of shoulder pain and fatigue among nurses in this study.
Conclusion: Dry cupping therapy can be considered to be an effective intervention that relieves shoulder pain and fatigue in nurses.
Key Words: Shoulder Pain, Fatigue, Dry Cupping Therapy

doi:10.1016/j.jams.2011.10.009