

Conclusions: These data suggest that LR acts as an anti-inflammatory agent, improving skin lesions in CD mice.

Key Words: Lithospermi Radix; dinitrofluorobenzene; contact dermatitis; anti-allergic

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An Experimental Study of the Anti-oxidant and the Anti-inflammatory Effects of *Alum* and Burnt *Alum*

Hyung-Sik Seo

Abstract

Objectives: The purpose of this study was to compare the antioxidant and anti-inflammatory effects of *Alum* (AL) and Burnt *Alum* (BAL), which are commonly used as external ointments.

Methods: Extracts of AL and BAL were classified into three groups: 20, 50, and 100 /. The cytotoxicity was measured by using MTT assays in human keratinocyte cell line (HaCaT). The anti-oxidant effect was measured by using the DPPH (1, 1-diphenyl-2-picryl-hydrazyl-hydrate) radical scavenger. The anti-inflammatory effect was measured by using the inhibitory efficacy for the amount of nitric-oxide (NO) produced in mouse macrophage cell line (RAW 264.7).

Results: BAL showed a higher level of cytotoxicity than AL. The AL groups showed a concentration-dependent scavenging effect on DPPH radicals, but no significant relevance was found. The BAL groups showed a concentration-dependent scavenging effect on DPPH radicals. The scavenging effects of the BAL groups were almost insignificant, but the values for the 20, 50, and 100 / trials were different. The BAL groups showed significant concentration-dependent inhibitory effects on NO production, but the AL groups did not.

Conclusions: AL showed an anti-oxidant effect more efficiently than BAL did, which demonstrated a superior anti-inflammatory effect. Therefore, for external usage, AL must be distinguished from BAL.

Key Words: *Alum*; anti-oxidation; anti-inflammation; Burnt *Alum*; therapeutic effects; external treatments

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Effects of *Sophorae Radix* on Human Gastric and Colorectal Adenocarcinoma Cells -*Sophorae Radix* and Cancer Cells-

Ah-Ram Lee, Je-Min Yim, Won-Il Kim

Abstract

The purpose of this study was to investigate the anti-cancer effects of *Sophorae Radix* (SR) and doxorubicin (DOX) in human gastric and colorectal adenocarcinoma cells. We used the human gastric and colorectal adenocarcinoma cell lines (MKN-45 and WIDR cells, respectively). We examined cell death by using the MTT(3-[4, 5-dimethylthiazol-2-yl]-2, 5-diphenyltetrazolium bromide) assay and the caspase 3 assay with SR. To examine the inhibitory effects of SR, we performed a cell cycle (sub G1) analysis for the MKN-45 and WIDR cells after three days with SR. The reversibility of SR was examined for one-day to five-day treatments with SR. SR inhibited the growth of MKN-45 and WIDR cells in a dose-dependent manner. Also, we showed that SR induced apoptosis in MKN-45 and WIDR cells by using the MTT assay, the caspase 3 assay and the sub-G1 analysis. SR combined with DOX markedly inhibited the growth of MKN-45 and WIDR cells compared to SR or DOX alone. After 3 days of treating MKN-45 and WIDR cells with SR, the fraction of cells in the sub-G1 phase was much higher than that of the control group. Our findings provide insights into unraveling the effects of SR on human gastric and colorectal adenocarcinoma cells and into developing therapeutic agents for use against gastric and colorectal adenocarcinomas.

Key Words: *Sophorae Radix*; human gastric and colorectal adenocarcinoma cells; MKN-45; WIDR cells; doxorubicin

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