

COMMENTARY

Korean red ginseng for allergic rhinitis

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The prevalence of allergic disorders has rapidly increased, especially in urban areas, over the past several decades¹. Among them, allergic rhinitis is a very common allergic condition, affecting approximately 10%–50% of the world's population². Although it has not been directly correlated with a fatal outcome, the irritable symptoms reduce the quality of life of patients and the economic burden of this condition accounts for some rates^{3,4}. As well as other allergic diseases, T helper 2 response and consequent IgE-mediated pathobiology in mast cells/basophils should be largely involved in the development of allergic rhinitis; therefore, its treatment has generally focused on suppressing these cellular and molecular processes, which represents antihistamines, steroids and leukotriene receptor antagonists. However, long time use of these previous drugs can evoke adverse health reactions such as weight gain and steroid-related ones; thus, an alternative therapeutic approach is required.

Researchers now report an optimal effectiveness of ginsenoside Rg1 (RG1), a major constituent of Korean red ginseng, on a mouse model of allergic rhinitis⁵. Oh et al. have shown that oral administration of RG1 ameliorates clinical symptoms and histological findings of allergic rhinitis and suppresses systemic and/or local levels of allergic inflammation-related physiologically active substances and molecules such as histamine, thymic stromal lymphopoietin, interleukin (IL)-1 and IL-4 in a dose-dependent fashion with overall trend. RG1 also inhibits caspase-1 activity in inflamed tissues, supporting its anti-allergic potential maybe via IL-18- and IL-33-related pathways. Furthermore, Oh et al. have not only confirmed suppression of these biomarkers by RG1 but also shown inhibition of NF- κ B signaling pathways in cultured mast cells *in vitro*. Taken together, RG1 may regulate allergic reactions

affecting different pathways/molecules and consequently ameliorate allergic pathophysiology such as rhinitis, and the researchers add scientific evidence concerning its anti-allergic to previous similar reports dealing with anaphylaxis⁶ or atopic dermatitis⁷.

Limitation of this study includes the elucidation on only one murine (*in vivo*) model of rhinitis. Actually, Sun et al. have illustrated an amplifying impact of RG1 on OVA-related immune response in mice, implicating its utility for vaccination⁸. These apparently contrary immune reactions of RG1 may depend on study protocol and research points, however, it awaits further investigation for RG1 to be clinically available against allergic conditions.

Nonetheless, their successful study of anti-allergic effectiveness of RG1 may provide a hint for alternative or supportive therapeutic strategy for allergic disorders such as food allergy, asthma, urticaria and anaphylaxis, as well as rhinitis (hay fever).

Declaration of interest

I have no declarations of interest.

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