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Fructus Amomi alleviates inflammation in an OVA-induced allergic rhinitis mouse model

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 \mathbf{F} ructus Amomi Cardamomi (FA) is the mature fruit of *Amomum villosum* Lour of the family *Zingiberaceae*. It has been used in Chinese medicine for the treatment of a variety of gastrointestinal disorders. However, the anti-allergic rhinitis effects of FA are less known. We investigated the immunomodulatory effect of FA on allergic inflammation in an allergic rhinitis (AR) mouse model. Administrated by nasal installation of FA (10, 20, 40 mg/kg) ameliorated the nasal symptom and alleviated the swelling of nasal epithelium. FA reduced the goblet cell number and eosinophil number in nasal epithelium. FA also inhibited the lung hyperplasia in lung tissue. Meanwhile, FA treatment groups evidently decreased the expression of Th2 cytokines (IL-4, IL-5), increased the secretion of Th1 cytokines (IL-12, IFN- γ) in lung homogenate. FA also reduces the OVA-specific IgE and OVA-specific IgG1 level in serum. In this study, our data suggests that FA has a significant anti-allergic inflammation effect and it may prove to be an efficacious therapeutic regent on allergic rhinitis.



Figure : FA alleviated the allergic inflammation response by increasing the Th1 cytokine (IL-12, IFN- γ) secretion and increased Th2 cytokine (IL-4, IL-5) expression.

Recent Publications

- 1. P Small, S Frenkiel (2007) Rhinitis: A practical and comprehensive approach to assessment and therapy. J. Otolaryngol. 36(S5-S27):1-23.
- 2. H A Oh, H M Kim, H J Jeong (2012) Alleviation of allergic rhinitis symptoms with Pyeongwee San extract (KMP6) Immunopharmacol. Immunotoxicol. 34(1): 135-142.
- 3. J R Stokes, F A Romero Jr (2011) The effects of an H3 receptor antagonist (PF-03654746) with exofenadine on reducing allergic rhinitis symptoms. J. Allergy Clin. Immunol. 129(2): 409-412.
- 4. M H Smolensky, B Lemmer, A E Reinberg (2007) Chronobiology and chronotherapy of allergic rhinitis and bronchial asthma. Adv. Drug. Deliv. Rev. 59(9-10): 852-882.
- 5. C Kirmaz, P Bayrak, O Yilmaz, H Yuksel (2005) Effects of glucan treatment on the Th1/Th2 balance in patients with allergic rhinitis: a double-blind placebo-controlled study. Eur. Cytokine Netw. 16(2): 128-134.

Biography

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