

Sheng-Fei-Yu-Chuan-Tang (SFYCT) attenuates inflammatory responses in repetitive *Dermatogoides pteronyssinus* challenged chronic asthmatic mice model

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Background: Sheng-Fei-Yu-Chuan-Tang (SFYCT), a prescription formula composed of 15 Chinese herbs, has being used for a decade to treat patients with bronchial asthma. This study aims to demonstrate the therapeutic effect and where by the mechanism of SFYCT on chronic allergic asthma using the *Dermatogoides pteronyssinus* (*Der p*)-challenged chronic asthmatic mice model.

Methods: BALB/c mice were intratracheally (i.t.) sensitized with 5 times of 50 µg *Der p* within 28 days. SFYCT (1g/kg) was gavaged 60 min before each i.t. sensitization. Three days after the last *Der p* challenge, the airway resistance of mice was evaluated. The lung of mice was dissected to evaluate the histological changes and airway remodeling in the lung. The serum levels of inflammatory cytokines and *Der p* specific antibodies as well as the nitrite (NO) and TGF-β1 production in the lung of mice were analyzed by ELISA.

Results: SFYCT decreased the airway resistance and airway remodeling in *Der p*-challenged chronic asthmatic mice. SFYCT inhibited *Der p*-induced of total IgE and *Der p*-specific IgG1 in the serum of asthmatic mice. SFYCT decreased the serum level of IL-5 and IL-13 but increased the serum level of IFN-γ in chronic asthmatic mice. The NO and TGF-β1 production in the lung of mice was reduced by SFYCT.

Conclusion: SFYCT could protect airway and lung from hyperresponsiveness and allergic damage in *Der p*-challenged chronic asthmatic mice by reducing airway remodeling and inflammatory responses.