

**In the name of the Creator**

**Introduction to SINA Therapies and Immunomodulatory Effects of SINA 1.2 Therapy Protocol in Asthmatic Mice**

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## **Background**

SINA Therapies, a series of novel protocols designed upon Persian Medicine (PM) and conventional physiology aim to evenly distribute blood throughout the body by several mechanisms. Some protocols have already been appreciated and worked out by several Iranian faculties for variety of diseases including Asthma.

## **Objectives**

The immunomodulatory effects of the SINA 1.2 was assessed in an asthmatic mice model.

## **Methods**

Forty-two male BALB/c mice were divided into six groups: one control (sham) and five ovalbumin-sensitized groups (Four of which were treated 10 days from day 23 to 33 with: 1.budesonide as standard medication, 2. SINA protocol No.1.2 (oxymel followed by sauna) and 3.dry sauna and 4.oral oxymel as the components of the intervention).

## **Results**

Significant gene expression (g.e.) reduction of interleukin (IL)-4, IL-5, and MUC5AC and increase of interferon(IFN)- $\gamma$  and IFN- $\gamma$ /IL-4 ratio and decreased goblet cell hyperplasia, and subsequent decrease of mucus hypersecretion, peribronchial and perivascular inflammation in SINA group were seen vs. untreated group. In comparison to budesonide, SINA similarly lowered IL-5 and MUC5AC g.e. but better increased IFN- $\gamma$  g.e. Despite to the full SINA No1.2 protocol, its components oxymel and sauna alone failed to show the full benefits and sometimes induced side effects.

## **Conclusions**

SINA therapy alleviated asthma via immune modulation of pro-inflammatory cytokines and improvement of pathological changes in ovalbumin-induced asthma in mice, significantly

supporting the notion of innate healing power mentioned in PM literature without need of application of direct immunomodulators.

**Keywords:** Asthma; Persian Medicine; Thermotherapy; Traditional medicine