

## **Polygoni cuspidati rhizoma inhibited the mast cell-mediated inflammatory responses**

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To explore effects of Polygoni cuspidati rhizoma (PCRH) on mast cell-mediated inflammatory responses, the effect of PCRH was evaluated on compound 48/80-induced systemic anaphylaxis. And then, the human mast cell line HMC-1 was stimulated by phorbol 12-myristate 13-acetate plus calcium ionophore A23187. Activated HMC-1 can produce several proinflammatory and chemotactic cytokines such as tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and interleukin (IL)-8.

Cytokine levels in the culture supernatant were measured by an enzyme-linked immunosorbent assay. PCRH inhibited compound 48/80-induced systemic anaphylactic shock in mice. When 1 mg/g and 2 mg/g PCRH were pretreated with mice, compound 48/80-induced mice mortality was 75% and 25%, respectively. In an *in vitro* model, PCRH (1 mg/ml) significantly inhibited the TNF- $\alpha$  production from HMC-1 cells. However, PCRH weakly inhibited the IL-8 production from HMC-1 cells.

In conclusion, PCRH inhibited not only systemic anaphylaxis induced by compound 48/80 but also inhibited TNF- $\alpha$  and IL-8 release

from mast cells.

Key words: Polygoni cuspidati rhizoma; systemic anaphylaxis; mast cells; tumor necrosis factor- alpha