WS15-6 *6

STUDIES ON THE ANTI-ALLERGIC MECHANISM OF GLUCOCORTICOIDS

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We have indicated that the inhibitory effect of glucocorticoids on vascular permeability increase participates in their anti-allergic action. Glucocorticoids inhibit not only IgE antibody-mediated 48-hr homologous passive cutaneous anaphylaxis (PCA) but also skin reactions caused by histamine, serotonin, platelet activating factor, leukotrienes C_4 and D_4, and bradykinin. In the present study, effects of protein synthesis inhibitors and anti-glucocorticoids on dexamethasone-induced inhibition of PCA and serotonin skin reaction were investigated. Both PCA and skin reaction were evoked in the mouse ear. Dexamethasone in a dose of 1 mg/kg was given to mice i.p. 8 hr prior to elicitation of PCA or skin reaction. Protein synthesis ibhibitors such as cycloheximide, actinomycin D and puromycin were given s.c. 8, 5 and 2 hr prior to elicitaion of reactions. Anti-glucocorticoids, 17α-methyltestosterone and progesterone, were given s.c. 1 hr earlier than dexamethasone injection. Dexamethasone significantly inhibited PCA and serotonin skin reaction. However, none of the protein synthesis inhibitors and anti-glucocorticoids recover the inhibition caused by dexamethasone. These results suggest that glucocorticoids display the anti-allergic activity through a mechanism different from that of anti-inflammatory activity.

WS15-7 *7

ADVANCES IN IMMUNOPHARMACOLOGY IN CHINA

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1. Immunosuppressive drugs: Aralosides, Oleanolic Acid and Glycyrrhizin had marked antiallergic effect. The alkaloids of Sophora Alopecuroides L significantly inhibited the phagocytosis of macrophages and the production of antibodies. Glehnia Littoralis Polysaccharide inhibited the production of antibodies, the proliferation of lymphocytes and the delayed hypersensitivity. Ferula depressed anaphylaxis reactions, humoral and cellular immunity. Tripterygium Wilfordii inhibited hemolysin, circulatory immune complex and the proliferations of splenic or lymphonodal cells.
2. Immunostimulating and immunomodulating drugs: S-40001 increased immunohemolysis and phagocytosis. Artragalus modulated the number of spleen PFC; its polysaccharide had the stimulating effects on T, B and NK cells. Radix Hedysari Polysaccharide, Glycyrrhizic Amide and Laminophlomis Rotata Saponins raised the non-specific immunity and the cellular immunity. Besides, Ginseng Root Saponins, Ginseng Polysaccharide, Dang-shen and Lycium Barbarum L. also exerted immunostimulating effects.

WS15-8 *8

EFFECT OF KETOTIFEN ON ALLERGEN-INDUCED INTERLEUKIN 2 (IL2) RESPONSIVENESS IN PATIENTS WITH ATOPIC DERMATITIS AND/OR BRONCHIAL ASTHMA.

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We previously reported that IL2 responsiveness was induced to lymphocytes from patients with atopic dermatitis and/or bronchial asthma specifically on stimulation with the antigen causing clinical symptoms, and that this in vitro lymphocyte phenomenon can be used to identify the etiological allergens and to monitor clinical activity of atopic diseases. In the present study, we tested effect of Ketotifen (4-(1-methyl-4-piperidylidene)-4H-benzo[4,5]cyclohepta[1,2-b]thiophen-10(9H)-one hydrogen fumarate) on induction of allergen-induced IL2 responsiveness in lymphocytes of the patients. Ovalbumin (OVA)-and/or Dermatophagoides farinae(Df)-induced IL2 responsiveness was increased in almost all patients (1-15 years old) before Ketotifen treatment. Two to 12 months administration of Ketotifen (0.06mg/Kg/day) decreased activity of the response in 7 out of 9 cases corresponding to improvement of clinical symptoms. In in vitro studies patient lymphocytes pretreated with 5-50ng/ml of Ketotifen for 12 hrs failed to induce the responsiveness to IL2 on stimulation with Df or OVA antigen. The combined data indicate that induction of IL2 responsiveness of the peripheral blood lymphocytes to stimulation with nominal antigen may reflect immune response to the allergen in patients with allergy and Ketotifen seems to be capable of blocking the response in pathogenic process of allergic disease.