Preface

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For the past decade, pharmacological management of atopic diseases including bronchial asthma, allergic rhinitis and atopic dermatitis has shown substantial progress. This success is thought to be derived from the advance in understanding the pathophysiology of these diseases and the development of anti-inflammatory agents and improvement of their use, based on newly discovered mechanisms of the disease. Most of these anti-inflammatory agents inhibit infiltration and activation of eosinophils at the sites of the disease including bronchial mucosa, nasal mucosa and the skin.

In asthma, visits to the emergency department and hospitalization due to asthma exacerbation have decreased dramatically. Asthma has been shown to be a chronic inflammatory disease of the airway associated with infiltration of eosinophils, Th2 and mast cells. Among these cells, eosinophils are effector cells for the inflammation of the airway, inducing not only airway hyperresponsiveness but also remodeling of the airway which also induces persistent airway hyperresponsiveness. Eosinophils migrate into the bronchial wall and are activated there by the cytokines released mainly from Th2 and mast cells in the bronchial wall. Recently bronchial epithelial cells produce cytokines which attract and activate eosinophils including eotaxin, GM-CSF, and IL-16. Such mechanisms may explain the eosinophil infiltration in the bronchial walls in nonatopic asthma patients who do not have IgE antibodies to environmental allergens, but show exactly the same symptoms as atopic asthma patients do. Apparently we need more information on the mechanisms of proliferation, activation, migration and tissue damage of eosinophils for the management of atopic diseases.

The initial workshop on Eosinophils in Allergy and Related Diseases took place in Tokyo in 1991. Since then this workshop has reported on up-to-date research on eosinophils and allergy in Japan. The 1998 workshop was held at the Chiwaki Hall in Suido-bashi in Tokyo, with 30 research reports in the fields of clinical and basic science. The main contents concerned the molecular-cellular aspects of formation, activation and biology of eosinophils in relation to clinics of allergy.

The organizing committee has selected 23 papers out of these treaties for inclusion in these proceedings. Conspicuous among these are papers on the mechanisms of eosinophil activation and the interrelationship among eosinophil function, cell surface substance and cytokines. Many of the reports show the change of such interrelationships in allergic disease including asthma, allergic rhinitis and atopic dermatitis.

Topics include eosinophil chemoattractant production from a variety of cells and their activation of eosinophils, modulation of adhesion molecule expression by cytokines and stimulated adhesion molecules, effects of adhesion molecule stimulation and cytokines on eosinophil functions and intracellular signal transduction, alternation of eosinophil function, cytokine mRNA expression and adhesion molecule expression in allergic disease, and animal models of atopic dermatitis and others. These proceedings cover the current issues on eosinophil research in Japan. We hope it will contribute to the research in this field.

Finally, we wish to express our sincere thanks to Novartis Pharma Ltd. for supporting this workshop and the International Medical Publisher (Tokyo) for compiling these proceedings.