

Foreword

Cutaneous Immunity and Autoimmunity



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Consulting Editor

Skin is an immune system favorite. There is plenty of rationale for this favoritism. Skin serves as an environment-sensing organ for the immune system. There are immune cells that are specifically generated to address the defense and surveillance need of the skin. These cells include dermal dendritic cells, Langerhans cells, resident memory T cells, and dendritic epidermal T cells.^{1,2} There are specific homing receptors for the skin, eg, cutaneous leukocyte antigen (CLA), CCR4, and CCR10. CLA+ T cells reside primarily in the skin. There are high numbers of gamma-delta T cells and NKT cells in the skin. A proper immune response against innocuous environmental agents is very important. Keratinocytes carry out this responsibility through the expression of receptors for pathogen-associated molecular patterns and release of antimicrobial peptides and pro-inflammatory cytokines. Tolerance against noninnocuous foreign antigens and self-antigens is an equally important function of the immune system. Dermal DC and CD25+Foxp3+ T cells contribute to this tolerance. How this tolerance breaks down in blistering autoimmune diseases remains still elusive.

The fundamental abnormality that characterizes blistering autoimmune skin diseases is the presence of autoantibodies against the intercellular adhesion molecules of skin.³ Some studies also suggest a contribution from autoantibodies against nicotinic acetylcholine receptors in acantholysis.⁴ The detection of autoantibodies in the skin has been the standard of diagnosis. Refinement of technology has raised enthusiasm for ELISA- and immunoblotting-based detection of these autoantibodies in the serum. There are exciting therapeutic developments in this area. They include intravenous immunoglobulin, plasmapheresis, immunoadsorption, extracorporeal photochemotherapy, biological agents such as rituximab, as well as experimental therapies such as cholinergic receptor agonists, desmoglein 3 peptides, and a p38 mitogen-activated protein kinase inhibitor. Many of these new agents are undergoing clinical trials.

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Allergists and immunologists often see referrals for patients with skin rash. Blistering skin diseases constitute a part of these referrals. For this reason an update on blistering skin diseases would benefit not only knowledge-thirsty immunologists but also astute clinicians. This issue of the *Immunology and Allergy Clinics* presents an update on this subject from the recognized experts and leaders of the field.

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