Acne inversa, also known as hidradenitis suppurativa (HS), is a neglected, prevalent, chronic, inflammatory disease characterized by painful, recurrent inflammation and rupture of the skin glands in the axillae, groin, or other locations. The disease affects primarily young adults and is more common in men than women. HS is characterized by the formation of abscesses, sinuses, and cysts, often leading to scarring and disfigurement.

In skin, of elderly subjects become oligoclonal with expansion of limited clones. Our findings indicate that the T cells in blood, not in skin, of elderly individuals (e.g. % IL-17A production in CD4 T cells in blood: 20-49 y.o. vs 50-79 y.o.; % IL-17A production in CD8 T cells in blood: 50-79 y.o. vs 79 y.o.)

We used paired t-tests to establish significant changes within treatment groups at a cutoff of p = 0.05. Expression of 1010 proteins was evaluated for each subject. In the Phase 2a study, 99 proteins were significantly modulated between baseline and week 4 from all 22 subjects. In the Phase 2b study, 19 proteins were modulated between baseline and week 4 in the 0.5% QD, 65 proteins in 1.0% QD, and 34 proteins in 1.5% QD compared with 9 proteins in the vehicle cohort. Interestingly, peptidase inhibitor 3 (PI3, elafin, skin-derived antileukoprotease [SKALP]), a potential inflammatory marker in psoriasis, was significantly down-regulated in all Ruxolitinib cream-treated cohorts across both Phase 2 studies. Additionally, IL-17A and kallikrein-related peptidase 8 (KLK8) levels were significantly reduced in all subjects from the Phase 2a study and those treated with 1.5% QD in the Phase 2b. The results from these studies suggest that topical treatment with Ruxolitinib has the potential to modulate disease pathogenesis by reducing the circulating levels of disease-related inflammatory markers during the course of treatment.

Ectopic Lymphoid Structures Harbor Desmoglein-Specific B Cells in the Chronic Skin Lesions of Patients with Pemphigus

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Pemphigus is a chronic autoimmune bullous diseases characterized by the production of autoantibodies against desmogleins (desmoglein 1 and 3). Antibody-producing autoreactive B cells are usually developed and activated in the germinal centers of secondary lymphoid organs such as lymph nodes and spleen. Ectopic lymphoid structures (ELSs) resembling the germinal centers have been recognized at inflamed tissues of various infectious or autoimmune diseases; however, the ELSs have been unidentified in the skin lesions of autoimmune bullous diseases including pemphigus. We firstly identified the skin ELSs in the chronic lesions of patients with pemphigus. We found tight clusters of B and CD4 T cells in the dermis of chronic bullae lasting at least 4 months from the patients with pemphigus vulgaris, pemphigus foliaceus, and paraneoplastic pemphigus. The clusters in the dermis contain peri-epithelial nodular addressin venules which are only observed in secondary lymphoid organs. Furthermore, lymph node and GI-specific gut mucosa-associated lymphoid tissues (GALTs) and CD1c+ dendritic cells were also detected in the ELSs. Desmoglein-specific B and plasma cells are present in the peripheral areas of ELSs. CD4+ T cells in the skin ELSs consist of many CXCL13+ cells and CXCR5+CD4+ T cells which show the expression of CD44 on their surface. The CXCL13+ cells, which are involved in the attraction of inflammatory cells, may be responsible for recruiting B and T cells to the site of inflammation. The CXCL13+ cells are also involved in the recruitment of dendritic cells to the site of inflammation. The CXCL13+ cells are also involved in the recruitment of T cells to the site of inflammation. The CXCL13+ cells are also involved in the recruitment of T cells to the site of inflammation.

Skin Dendritic Cells Progressively Subvert the Activation of Pathogenic Type-2 Immunity Upon Epicutaneous Allergen Immunotherapy

Ruxolitinib Cream Suppresses Inflammation in Adult Mild to Moderate Psoriasis Patients

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Ruxolitinib, an inhibitor of the JAK-STAT pathway, has been shown to prevent skin inflammation in animal models of RA, psoriasis, lupus erythematosus (LE), and atopic dermatitis. This study evaluated the safety and efficacy of Ruxolitinib cream in the treatment of patients with plaque-type psoriasis. The study included 175 patients with psoriasis vulgaris who were randomized to receive Ruxolitinib cream 1.0%, 1.5% or vehicle control daily for 12 weeks. The primary endpoint was change in Psoriasis Area and Severity Index (PASI) from baseline to endpoint.

The impact of Fc-binding proteins on IgG targeting BP180

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Skin biopsies from the lesion of patients with pemphigus vulgaris (PV) and pemphigus foliaceus (PF) were used to study the accumulation of Tregs and the production of counter-regulatory cytokines (IL-10, IL-17) and T cell help. We observed that T cell help is required for the development of autoimmunity in pemphigus.

Type-2 Immunity Upon Epicutaneous Allergen Immunotherapy

Skin Dendritic Cells Progressively Subvert the Activation of Pathogenic