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Immunogenomic Profiling of Cutaneous Manifestations in Systemic Sclerosis: Uncovering Novel Biomarkers and Therapeutic Targets

Abstract:

This analysis of current literature explores specific immunogenomic signatures underlying cutaneous manifestations in systemic sclerosis (SSc), a complex autoimmune disorder characterized by fibrosis, vasculopathy, and immune dysregulation. By employing integrated transcriptomic and epigenomic analyses of skin biopsies obtained from SSc patients presenting varying degrees of cutaneous involvement, researchers aim to discern dysregulated immune pathways, gene expression signatures, and epigenetic modifications correlated with disease progression and severity. Additionally, investigating the therapeutic potential of immune-modulating agents, including JAK inhibitors and immune checkpoint inhibitors, in mitigating skin fibrosis and inflammation in SSc may unlock novel avenues for personalized treatment strategies tailored to the immunogenomic profile of individual patients. Future research should focus on validating identified biomarkers, exploring the mechanistic basis of immunogenomic alterations, and translating these findings into clinical practice to optimize therapeutic outcomes and enhance the management of cutaneous manifestations in SSc.

Biography

Kathleen Click received a bachelor's degree in Global Health with a minor in Biological Sciences from Arizona State University. She is currently a third-year medical student at Kansas City University interested in pursuing dermatology. Her research interests include atopic disease, cutaneous oncology, and autoimmune disease.