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Please see full CV in separate link.

ABSTRACT

“Impact of Aging on Skin Function”

The skin serves as a barrier to keep water in and infection and other disease-causing microbes out of our bodies. When the skin barrier is impaired, as happens in aging skin, a type of skin cell called a keratinocyte produces cytokines to self-repair. Keratinocytes and other specialized skin immune cells also beckon the immune system for help. However, high keratinocyte cytokine production for extended periods and activation of the immune system can further damage the skin, leading to a cycle of continuous inflammation and skin damage. It also can lead to chronic inflammation that weakens the body. Chronologically-aged skin displays various functional changes in both the dermis and the epidermis. It appears that elevated skin surface pH, epidermal dysfunction, compromised permeability homeostasis, reduced stratum corneum hydration all prompt the development of aging-associated cutaneous and extracutaneous disorders. Improvements in epidermal function have been shown to be an effective therapy in the prevention and treatment of some aging-associated cutaneous disorders, including eczematous dermatitis, pruritus, and xerosis. Recent studies demonstrated that epidermal dysfunction leads to the development of chronic, low-grade systemic inflammation, which is linked to the development of aging-associated systemic disorders. Thus, correction of epidermal dysfunction could comprise a novel strategy in the prevention and treatment of aging-associated systemic disorders as well. I will summarize aging-associated alterations in epidermal function, their underlying mechanisms, and their clinical significance, as well as ideas to improve epidermal function in the elderly.