Integrative Approach to Dissect Keloid Mechanism and Optimize the Therapeutic Effect

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Keloid is a challenging disease boasting a high recurrence rate after various therapies. This situation has remained largely unchanged over the past decades. The most likely reason is that keloid is commonly regarded as a pure skin lesion, and all efforts in mechanistic and therapeutic investigations are solely targeted at keloid tissue/cells. In contrast, traditional Chinese medicine views all diseases as the results of an imbalanced internal environment of individuals or an imbalance between individuals and their external environments. An optimal therapy should involve restoring the balance along with targeted treatment.

With this in mind, we hypothesize that an imbalanced microenvironment is the key factor interacting with vulnerable skin cells to initiate keloid development and lead to its recurrence. To prove this, we have conducted a series of investigations on potential contributing factors to keloid constitution, including the effects of lifestyle, food types and nutrition, biorhythm disturbances, gut microbes and metabolic abnormalities, inflammatory status and hormonal fluctuations, psychological stress, and climate influence. Preliminary results reveal that these environmental factors do contribute to keloid constitution, making individuals prone to keloid development and recurrence. Based on this, an integrated approach has been employed to adjust and restore the normal balance of the internal and external environments of afflicted patients, such as through food and lifestyle adjustments, stress relief, the use of anti −inflammatory drugs, and Chinese herbal medicine. Interestingly, with the restoration of environmental balance, traditional local therapies, such as surgery, radiotherapy, and drug injection, achieve better outcomes in terms of reducing recurrence and enhancing the cure rate. This talk will provide an overview of the concept, recent advancements, experimental supportive evidence, and clinical outcomes.