



GLOBAL SKIN HEALTH

EFFECT OF TIBET LAYUE VILLAGE THERMAL SPRING WATER ON SKIN SENSITIZATION AND REGENERATION

Qifeng Yao⁽¹⁾ - Fanghui Sun⁽¹⁾ - Yukun Liu⁽¹⁾ - Mengmeng Liu⁽¹⁾ - Yue Wu⁽¹⁾

Jala Group Co., R&d Center, Shanghai, China⁽¹⁾

Abstract Tibet thermal spring water (TSW) is characterized for its therapeutic properties in dermato-allergy, which has been used to treat a variety of skin diseases, such as psoriasis and atopic dermatitis. However, study about the potential biological mechanism of TSW on skin is still very scarce. Tibet Layue village TSW is from the extreme environment-Himalaya area, which are beneficial to skin healthy. The present study is aimed to explore the underlying biological mechanism of Layue village TSW on skin diseases and skin care. In order to explore the biological effects of Tibet Layue village TSW on the treatment of inflammatory skin diseases, we performed experiments on cell oxidative damage using HaCaT cells, and found that Tibet Layue village TSW can significantly decrease oxidative stress; moreover experiments on ex-vivo skin demonstrated that Tibet Layue village TSW has similar functions to dexamethasone and significantly alleviated the skin sensitization caused by capsaicin and substance P. Furthermore, we also found that Tibet Layue village TSW can significantly promote cell proliferation and regeneration following investigating anti-aging effect of Tibet Layue village TSW using HaCaT cells; meanwhile Tibet Layue village TSW significantly restored the status of basal layer keratinocytes and the overall structure of DEJ by increasing expressions of Ki-67, collagen VII and Laminin 5, as well as improved skin moisturizing through up-regulating expressions of HAS2 and AQP3 using reconstructed aging skin model.

In summary, because of the alleviating sensitivity, anti-aging and moisturizing effects, Layue village TSW has the potential to be used in the field of skin care and cosmeceutical.

Key words: Tibet, Himalaya, TSW, reconstructed skin model, skin sensitization, skin aging, skin moisturizing

