2-P2-36

Poster Sessions

Oral administration of *Jumihaidokuto* inhibits UVB-induced skin damage and prostaglandin E2 production in HR-1 hairless mice

Murata Kenta, Manami Oyama, Nina Fujita, Ryuji Talahashi

Kracie Pharma Ltd. Kampo research Lab

This study was conducted to investigate whether and how *Jumihaidokuto* (JHT), a traditional Chinese medicine, prevents UVB-induced skin damage in male HR-1 hairless mice.

JHT has been traditionally prescribed for patients presenting skin disorders with redness and swelling, and, in Japan, it is approved for prescription to patients with acute and/or purulent skin disorders, hives, acute eczema, and athlete's foot. Considering the traditional use of JHT, we hypothesized that oral administration of JHT might emerge as an effective strategy to prevent UVB-induced skin damage, such as edema and erythema.

Here, we pretreated mice with JHT (1000 mg/kg, p.o.) for 3 weeks and then administered a single dose of UVB irradiation (250 mJ/cm²) on the dorsal skin. UVB irradiation increased the erythema index and transepidermal water loss (TEWL) and decreased the skin water content in the epidermis at 72 h post-irradiation. JHT treatment inhibited the increase of TEWL and the loss of water content in the epidermis, but not the elevation of the erythema index. Moreover, administration of JHT suppressed UVB-induced epidermal hyperplasia by blocking the proliferation of keratinocytes and also inhibited irradiation-triggered reduction of collagen fibers and infiltration of immune cells into the dermis.

Lastly, administration of JHT suppressed UVB-induced production of proinflammatory mediators, such as prostaglandin E2 and interleukin-1 β . These results suggest that JHT prevents UVB-induced skin damage and that the underlying mechanism involves the inhibition of proinflammatory mediators.