ABSTRACT BOOK ABSTRACTS



A new ERA for global Dermatology 10 - 15 JUNE 2019 MILAN, ITALY

PSORIASIS

## TOPICAL CORTICOSTEROID DECREASES CD8+CD103+ SKIN RESIDENT MEMORY T CELLS IN PSORIASIS, BUT ALLOWS A PART OF CELLS TO REMAIN IN THE SUPRABASAL EPIDERMIS

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Background: Skin resident memory T (TRM) cells, persisting for long term in the epidermis, are associated with recurrence of alleviated psoriatic lesions. It is thought that CD8+CD103+ T cells in the epidermis are the major population of TRM cells.

Objective: To investigate whether TRM cells are susceptible or resistant to topical corticosteroid.

Materials and Methods: Ten patients with plaque psoriasis were enrolled in this study. Two plaque lesions with comparable intensity were selected in the individual patients. One was topically treated with a corticosteroid (Betamethasone dipropionate) for 2 weeks, and another one was left untreated. At 2 weeks, 4-mm biopsy specimens were taken from both lesions. They were subjected to immunofluorescent staining for CD3, CD4, CD8 and CD103. The whole section images were captured as digital images to count the number of positive cells and to analyze localization of TRM cells.

Results: Most of the T cells in the epidermis were CD8+CD103+ TRM cells with small number of CD4+CD103+ cells. The numbers of CD8+ T cells and CD4+ T cells in the epidermis were reduced by the topical corticosteroid treatment. CD8+CD103+TRM cells and CD4+CD103+ TRM cells were also significantly decreased in number by topical corticosteroid (P=0.0020 and P=0.0488, respectively). Notably, the frequency of CD8+CD103+ TRM cells localized just above the epidermal basement membrane were higher in the corticosteroid-treated lesion than in the non-treated lesion. (51.4%  $\pm$ 26.0? vs 25.1%  $\pm$ 14.8%, P=0.0131).

Conclusions: Our study showed that CD8+CD103+ TRM cells are increased in the active psoriatic lesion and decreased by topical corticosteroid treatment. However, a part of TRM cells remain in the basement membrane zone of the epidermis, suggesting that they play a role for the local recurrence.





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