ABSTRACT

A Subpopulation of T Lymphocytes Prepared from Psoriatic Skin Lesions Enhances Proliferation of Keratinocytes *in Vitro* via Secreted Products

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In order to substantiate the pathogenic role of T lymphocytes in the increased epidermal turnover of psoriasis vulgaris, 105 T cell clones (TCC) and 10 T cell lines (TCL) were prepared differentially from dermis and epidermis of biopsies taken from lesional psoriatic skin. Supernatants from 14 of 77 epidermal TCC, 7 of which were $CD8^+$ and from 8 of 28 dermal TCC, 5 of which were $CD8^+$, were found to enhance keratinocyte proliferation, with a more pronounced mitogenic activity of the dermal TCC. Another 9 epidermal and 3 dermal TCC had no effect, while supernatants from the remaining TCC as well as from the 5 epidermal and 5 dermal TCL inhibited keratinocyte growth to a varying degree. Both, mitogenic and suppressive capacities of T cell supernatants were largely abolished by an antiserum to interferon gamma (IFN-γ) whereas the effect of supernatants on keratinocyte growth was not altered in the presence of irradiated psoriatic T cells. Irrespective of their effect on keratinocyte proliferation, T cell supernatants promoted expression of MHC class II molecules and of ICAM-1 on the human epidermoid carcinoma cell line A431. Thus, a subpopulation of lesional psoriatic T lymphocytes is capable of enhancing keratinocyte proliferation in vitro via secreted products. This mitogenic capacity probably requires IFN-γ in conjunction with other cytokines which determine the ultimate effect of IFN-γ. Activation of these T cells in vivo could explain the keratinocyte alterations in psoriatic skin lesions.

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