



Research Note

Mesenchymal stem cells from skin lesions of psoriasis patients promote proliferation and inhibit apoptosis of HaCaT cells

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Genet. Mol. Res. 14 (4): 17758-17767 (2015)

Received August 12, 2015

Accepted October 16, 2015

Published December 22, 2015

DOI <http://dx.doi.org/10.4238/2015.December.21.49>

ABSTRACT. Psoriasis is an inflammatory skin disease characterized by excessive proliferation and abnormal differentiation and apoptosis of keratinocytes (KCs). Mesenchymal stem cells (MSCs) from skin lesions of psoriasis patients demonstrate abnormal cytokine secretion, which may affect KC proliferation and apoptosis. Here, we explored how MSCs from skin lesions of psoriasis patients affect HaCaT cell proliferation and apoptosis. First, flow cytometry and multipotent differentiation methods were used to identify skin MSCs, which were then co-cultured with HaCaT cells. HaCaT cell proliferation was analyzed in real-time, and cell cycle progression and apoptosis were assessed by flow cytometry. Cell morphologies and multipotencies of skin MSCs were similar between the psoriasis group and healthy control group, with high levels of CD29, CD44, CD73, CD90, and CD105 and limited expression of CD34, CD45, and HLA-DR. MSCs from skin lesions of psoriasis patients promote KC proliferation more potently and are less capable of inducing KC apoptosis. This may

underlie KC proliferation and abnormal apoptosis in psoriasis skin lesions, which results in abnormal thickening of the epidermis.

Key words: Apoptosis; HaCaT cell; Mesenchymal stem cell; Keratinocyte proliferation; Psoriasis; Skin lesions