EXPRESSION AND CYTOKINE MODULATION OF VASCULAR CELL ADHESION MOLECULE-1 IN NORMAL AND DISEASED HUMAN SKIN. R.W. Gromatzki, E. Ross, N. Newlin, B. MacDonald. Laboratory of Applied Dermatopathology, UMDS, Guy’s Hospital, London, UK.

Expression of adhesion molecules by vascular endothelium and other cutaneous cells is likely to be of great importance in the genesis of inflammatory skin disease. Vascular cell adhesion molecule-1 (VCAM-1) is a novel endothelial cell molecule with adhesive properties in vitro for lymphocytes and eosinophils. Using anti-VCAM-1 monoclonal antibodies, we have performed an immunohistochemical study of its expression in normal and inflamed skin, and have examined ways of modulating its expression in vivo.

In normal skin (n=8) low levels of VCAM-1 were present on perivascular dendritic cells and occasional endothelial cells. In inflamed skin (allergic contact dermatitis [n=6], tinea cruris dermatitis [n=6], pustular psoriasis [n=8], and lichen planus [n=6]) VCAM-1 was upregulated on dermal endothelium and was also present on interstitial dendritic cells. Three normal volunteers underwent intradermal injection of 0.05 µl HUHNPs and five received 30 µg PFB. Following TNF-α and IFNγ there was marked upregulation of VCAM-1 on dermal dendritic and dendritic cells.

Widespread expression of VCAM-1 in inflamed skin suggests that this molecule may be of importance in the initiation and maintenance of a variety of skin diseases. Both keratinocyte derived (TNFα) and lymphocyte derived (IFNγ) cytokines may be of importance in its control; interference with these pathways may be of future therapeutic benefit.

EXPRESSION OF ETAE-2 INTEGRIN MOLECULES ON HUMAN KERATINOCYTES IN CYTOKINE-MEDIATED SKIN DISEASES. T. Dejaco, J. Huwyler. Dept. of Dermatology, University of Erlangen-Nürnberg, Erlangen, FR Germany.

Integrins are cell surface molecules of importance in a wide variety of cellular functions, including morphogenesis, cell migration and cell matrix interaction. The ETAE-2 integrin (β2 integrin) subfamily consists of three members, each composed of a shared beta subunit (CD18) covalently associated with unique alpha subunits (CD11a, CD11b, CD11c). In the present study, we have analysed the expression pattern of β2 integrins on the surface of human keratinocytes (HKs) in biopsies obtained from healthy volunteers, from positive tuberculin skin tests and from patients with acute urticaria (AU), lichen planus (LP), psoriasis vulgaris (PV), mycosis fungoides (MF) or purpura pigmentosa chronica (PPC). In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC. In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC. In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC. In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC. In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC. In biopsies obtained from positive tuberculin skin tests and from patients with AU, LP, PV, MF or PPC, a multifocal, suprabasal perivascular lymphocyte infiltration was observed with the same MAbs in biopsies from healthy volunteers, from positive tuberculin skin tests and from patients with AU and in the uninvolved skin specimens obtained from patients with MF or PPC.

These results suggest that expression of leucocyte adhesion molecules is an early response to pressure challenge in AU and more pronounced in AU than in normal skin of healthy subjects need to be examined.