

CLINICAL AND LABORATORY INVESTIGATION

Obesity in psoriasis: leptin and resistin

A. Johnston*, S. Arnadottir†, J.E. Gudjonsson‡, A. Aphale‡, A.A. Sigmarsdottir†, S.I. Gunnarsdottir§, ¶Ann Arbor Veterans Affairs Health System, Ann Arbor, MI, U.S.A

*Department of Immunology, Landspítali University Hospital, Reykjavik, Iceland

†Department of Medicine, University of Iceland, Reykjavik, Iceland

‡Department of Dermatology, University of Michigan Medical Center, Ann Arbor, MI, U.S.A

§Blue Lagoon Dermatological Clinic, Grindavik, Iceland

¶Ann Arbor Veterans Affairs Health System, Ann Arbor, MI, U.S.A

Correspondence to Andrew Johnston.

E-mail: andjoh@med.umich.edu

Conflicts of interest

None declared.

Copyright Journal Compilation © 2008 British Association of Dermatologists

KEYWORDS

cytokines • leptin • obesity • psoriasis • resistin • UVB

ABSTRACT

Background Obesity is a significant risk factor for psoriasis and body mass index (BMI) correlates with disease severity.

Objectives To investigate the relationship between obesity and psoriasis, focusing on the role of leptin and resistin.

Patients/methods Patients with psoriasis (n = 30) were recruited and their BMI, waist circumference, leptin, resistin, and soluble leptin receptor levels were obtained on enrolment and after a course of ultraviolet (UV) B treatment. Age-, sex- and BMI-adjusted leptin and resistin levels were compared between patients and controls.

Results On enrolment, serum leptin and soluble leptin receptor levels were not raised compared with controls. However, serum resistin levels were significantly elevated in the patient group and serum resistin correlated with disease severity. In vitro, both leptin and resistin could induce CXCL8 and tumour necrosis factor- α production by monocytes. Leptin also dose dependently increased secretion of the growth factor amphiregulin by ex vivo cultured keratinocytes.

Conclusions These data support the view that leptin and resistin may be involved in the pathogenesis of psoriasis and may contribute to the inflammatory infiltrate.