

Acta D-V Symposium “The Nordic Light” at the 40th European Society of Dermatological Research (ESDR) Congress in Helsinki, Finland

AGNETA ANDERSSON

Acta Dermato-Venereologica, Trädgårdsgatan 14, SE-753 09 Uppsala, Sweden.

E-mail: agneta@medicaljournals.se



At the 40th ESDR Congress in Helsinki, Finland, a symposium was arranged by Acta Dermato-Venereologica on September 8, 2010 with the title “The Nordic Light in Dermatologic Research”. “Nordic Light” alludes to the Northern Lights, a phenomenon occurring in the Northern Scandinavia (Fig. 1). The symposium was very well attended (Fig. 2) and the 5 invited speakers from the Nordic countries made excellent overviews of the interesting research on various aspects of skin biology and skin diseases.

The symposium was introduced by Anders Vahlquist (Editor-in-Chief of Acta Dermato-Venereologica). Below are summaries made by the different lecturers themselves:



Daniel de la Rosa Carrillo, Oslo, Norway: Large Scale Protein Analysis of Human Primary Keratinocytes by Antibody Arrays.

We have developed a new tool for large scale protein measurement. Cell and tissue extracts are labelled with biotin, and the proteins are separated according to size. The fractions are measured with antibody arrays. The results provide information about protein levels, subcellular distribution and whether they occur as monomers or in complex with other proteins. We are currently using the method to map complex protein networks that control cell division and cell death in keratinocytes. Our hope is that this will help us to better understand the processes that drive progression of different diseases and that this in turn can lead to better therapy.



Artur Schmidtchen, Lund, Sweden: Novel concepts in innate host defense.

We have demonstrated that proteolytic cascades involving complement and coagulation systems generate several novel bioactive host defense peptides with antimicrobial and immunomodulatory



Fig. 1. The Northern Light over Pite Älv in Northern Sweden.

activities. The studies consequently drive home the concept that innate immunity expands also to human defense systems in skin and blood related to inflammatory and hemostatic mechanisms involved in the response to injury and infection. The project aims at developing new treatments based on these unique properties of new classes of endogenous host defense peptides.



Lone Skov, Copenhagen, Denmark: Psoriasis inflammation – Potential new treatments.

The S100A4 protein which normally is related to cancer and a marker for metastatic disease was studied in psoriasis. High levels of production and release of S100A4 protein were found in the dermis of psoriasis and blocking S100A4 in a xenograft SCID mouse model reduced psoriasis. Dysregulated angiogenesis is a hallmark of psoriasis. Non-viral gene therapy with transient expression of the disintegrin domain of metarginin (ADAM-15) reduced cutaneous angiogenesis and alleviates psoriasis in two xenograft SCID mouse model.



Lars Iversen, Aarhus, Denmark: MAPK Dependent Signal Transduction in Inflammatory Skin Diseases.

Changes in signal transduction pathways as part of the pathogenesis of psoriasis have been studied intensively at Department of Dermatology, Aarhus University Hospital in Denmark over the last decade. In the Acta Dermatovenereologica symposium an overview of the results obtained from studies

investigating the role of the p38 MAPK signaling pathway was given. Data demonstrating a rapid inhibition of this pathway during treatment of psoriasis with adalimumab was presented. Furthermore, future directions of research in this area were discussed and it was concluded, that small molecules targeting these signalling pathways may turn out to be important drugs in the future treatment of psoriasis.



Ilkka Harvima, Kuopio, Finland: Mast cell biology.

Mast cells are powerful effector cells which can be activated by a range of different stimuli to anaphylactic degranulation, partial and slow peacemeal degranulation, or mediator secretion without degranulation. During these

events mast cells produce different preformed and newly-synthesized mediators, including proteinases, histamine, heparin, LTC₄, PGD₂, cytokines, chemokines and growth factors. In addition, mast cells can express cell surface receptors and ligands which can interact with the corresponding molecules on other cell types, such as T cells and B cells. Even though mast cells are thought to act as proinflammatory cells in skin inflammation, e.g., in psoriasis and atopic dermatitis, recent evidence in animal models suggests that mast cells can function as immunosuppressive cells in some circumstances. However, the mechanisms leading to inflammation or immunosuppression are unclear.



Fig. 2. The audience of the Acta symposium “The Nordic Light”.