

Atopic dermatitis

Atopic dermatitis or eczema is an increasingly common skin disease, but its distribution, frequency and underlying causes have not yet been systematically reviewed in depth: this is the very first book to look at the epidemiology of atopic dermatitis, its prevalence and possible causes. Uniquely, this volume draws on international experts from a wide range of disciplines, including dermatologists, epidemiologists, paediatricians and immunologists. Atopic dermatitis has much in common with other allergic diseases and this comprehensive account will shed new light on the causes and mechanisms that underlie the allergic response.

Whilst atopic eczema is primarily a disease of childhood, and therefore a common problem in paediatric practice, its prevalence in adulthood continues to pose a challenge to dermatologists and primary care physicians. This wide-ranging new publication will be an invaluable resource for all involved in the study or treatment of atopic dermatitis.

Hywel Williams trained in dermatology at King's College Hospital and St. John's Dermatology Centre (London) and then also in epidemiology at the London School of Hygiene and Tropical Medicine. He was appointed Foundation Professor in Dermato-Epidemiology at the University of Nottingham in 1998. He has had a lifelong passion for researching the distribution, causes and treatment of atopic dermatitis, perhaps because he is an eczema sufferer himself. He has published over 100 peer-reviewed articles and one textbook. Professor Williams also has a keen interest in promoting evidence-based dermatology and he is the Co-ordinating Editor of the Cochrane Skin Group.

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Edited by Hywel C. Williams

Frontmatter

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Atopic dermatitis

The epidemiology, causes and
prevention of atopic eczema

Edited by

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To Molly and Siân,
for their patience, understanding
and support

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Foreword

Due to its clinical importance atopic dermatitis is the subject of several dermatological books reflecting our present knowledge. In the opinion of the Editor of this book, Professor Hywel C. Williams, it is necessary, however, to emphasize the epidemiological aspects which constitute the starting point of our understanding of this multi-aetiological and still problematic skin disease. Thus, a framework has been provided in this work within which the basic genetic and environmental factors, in addition to clinical features and natural history, are discussed by well known experts.

Immunological and allergic mechanisms are not the only cornerstone of this condition – another being the impaired, characteristically dry skin. In this volume immunoregulatory dysfunction and inhalent allergens, as well as dietary factors, are reviewed and the possible protective effect of early infections is suggested. Of other causative factors the maternal influences and environmental pollution are also emphasized.

A certain shift in our concept of the disease has occurred. We have to shed more light on the global aspects of atopic dermatitis including migrant populations and geographical epidemiology. We must also consider more thoroughly the socioeconomic perspectives, occupational relationships and disease prevention.

In order to attempt to clarify the problems, we have to redefine some earlier conclusions such as the clearing rate of atopic dermatitis, and consequently be aware that not only children but many adults are still affected by the disease.

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The final chapter is devoted to the perspectives of future research. I agree with the Editor who hopes that more discoveries will appear in the epidemiology of this condition where the interest, compared with other disciplines, has so far been relatively low.

This will, as an ultimate goal, hopefully provide better help for our atopic dermatitis patients.

Georg Rajka

Oslo, October 1999

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Preface

Why a book devoted to the epidemiology of atopic dermatitis?

The title of this book may seem a little esoteric at first glance. But stop for a moment and consider the importance of atopic dermatitis and the need for its epidemiology to be studied.

Atopic dermatitis now affects around 5 to 20% of children worldwide and, like asthma, its prevalence has probably increased two- to threefold over the last 30 years. Recent studies suggest that it is not just a problem confined to northern temperate areas, and that rapidly developing cities throughout the world are witnessing an epidemic of cases. As well as the personal cost to sufferers and their families in terms of itching leading to sleep loss, disfigured skin and secondary infections, recent economic studies have suggested that the financial costs of atopic dermatitis to families and the State are comparable to those of asthma. Unlike asthma, atopic dermatitis is rarely life threatening, yet it is the product of the moderate morbidity multiplied by the high prevalence of this chronic disease which results in an enormous burden of disease in public health terms worldwide.

The last 30 years has witnessed a boom of research into the cellular and molecular mechanism of atopic dermatitis and there have been some interesting breakthroughs. But how has this helped a practitioner like me to help my patients?

Apart from a few drug treatments, which at best partly modify the disease symptoms, the answer is 'not very much'. We still do not know the genetic

basis for atopic dermatitis and we do not know what makes it appear for the first time and whether genetic predisposition is a prerequisite for disease expression. We do not know for certain which factors cause flare-ups of established cases, and we do not know why some children clear and others do not. We do not know why only some children go on to develop asthma, or whether the long-term natural history of atopic dermatitis can be modified by any intervention.

Only epidemiology offers the methodological framework to answer these questions, yet it is only during the last five years or so that research into the epidemiology of atopic dermatitis has started in earnest. Thanks to such studies, we now know a lot more about the prevalence, morbidity and cost of atopic dermatitis so that funding bodies are now more likely to take notice of requests for research support. There have been some significant advances in methodological issues such as disease definition, and it will not be long before several genes which play a part in disease predisposition will be discovered. Migrant studies, geographical studies, links with social class and family size all indicate that the environment may be crucial for disease expression. This is good news for atopic dermatitis sufferers because if we discover specific environmental risk factors, such as hard water, which can be directly manipulated, this brings us one step nearer to our dream of disease prevention. Prevention is so much more logical than treating sick individuals, who present to us after a long chain of pathological events, with potentially toxic drugs which at best only ameliorate symptoms.

This book summarizes what is currently known about the epidemiology of atopic dermatitis and is intended for dermatologists, paediatricians, epidemiologists, public health physicians, immunologists, allergy specialists, medical geographers,

sociologists, geneticists, primary care practitioners, patients and their representatives, and anyone with an interest in finding out more about the causes and distribution of this common yet enigmatic disease. A multidisciplinary approach is necessary to understand the problem of atopic dermatitis, and this is reflected in the wide range of backgrounds represented by the chapter contributors. The book takes the reader on a journey through the hierarchy of epidemiological studies, starting with descriptive studies of disease definition and disease burden, progressing to analytical studies which point to possible causes. The book goes on to deal with intervention studies and then draws on some useful lessons from related fields of research such as asthma and allergic diseases in small animals. The book concludes with a summary of where we are in terms of current research and what needs to be done in the future to address the current gaps in knowledge.

It is time that atopic dermatitis lost its image as the poor third cousin of allergic disease epidemiology. That time is now.

Hywel Williams

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