A treasure trove of fascinating and richly illustrated information

History of Allergy

Editors

**Karl-Christian Bergmann
Johannes Ring**

Vol. 100
of the series
**Chemical Immunology
and Allergy**

The prevalence of allergic diseases has increased dramatically over recent decades, both in terms of the number of sufferers and the number of allergies. This is a trend that has frequently been referred to as 'the epidemic of the 21st century'. As described in ancient texts, allergies have been known for over 2,000 years, but the term 'allergy' was only coined at the beginning of the 20th century when doctors began to understand their pathophysiological basis.

This book presents a detailed and varied historical overview of the field of allergology. Beginning with insights into allergy from antiquity to the 20th century and the development of the associated terminology, it compiles historical reflections on the understanding of the most common allergic diseases. Important milestones in the discovery of mechanisms of allergy are described, followed by historical accounts of the detection of allergens such as pollen, dust mites, peanuts and latex, and of environmental influences such as pollution and the relationship between farmers and their environment. Several chapters illustrate the progress made in allergy management to date. Particular highlights of this book are the personal reflections of and interviews with a number of pioneers of allergy, including F. Austen, J. Bienenstock, K. Blaser, A. de Weck, A.W. Frankland, K. Ishizaka, and many more. Concluding with portrayals of allergy societies and collections, as well as being supplemented by two films, this book represents a veritable treasure trove of fascinating and richly illustrated information.

Not only researchers, physicians and medical historians, but also students and even non-scientists will find *History of Allergy* a scientific adventure well worth reading.

Chemical Immunology and Allergy, Vol. 100

History of Allergy

Editors: Bergmann, K.-C. (Berlin); Ring, J. (Munich)

XX + 426 p., 257 fig., 127 in color, 20 tab., 2014

CHF 115.00 / EUR 96.00 / USD 135.00 (hard cover)

CHF 138.00 / EUR 115.00 / USD 162.00 (online)

Online version for institutional purchase

Prices subject to change

EUR price for Germany,

USD price for USA and Latin America only

ISBN 978-3-318-02194-3 (hard cover)

e-ISBN 978-3-318-02195-0

www.karger.com/chial

KARGER

History of Allergy

Contents

Preface

Bergmann, K.-C.; Ring, J.

Allergy through 20 Centuries

History of Allergy in Antiquity
Ring, J.

History of Allergy in the Middle Ages and Renaissance
Ring, J.

Landmarks in Allergy during the 19th Century
Kay, A.B.

Milestones in the 20th Century
Bergmann, K.-C.

Terminology of Allergic Phenomena
Ring, J.

Most Common Allergic Diseases: Historical Reflections in Understanding

Anaphylaxis
Ring, J.; Grosber, M.; Brockow, K.; Bergmann, K.-C.

Allergic Rhinitis
Mygind, N.

Asthma
Bergmann, K.-C.

Atopic Dermatitis/Atopic Eczema
Wallach, D.; Taieb, A.

Allergic Contact Dermatitis
Alikhan, A.; Maibach H.I.

Urticaria and Angioedema
Maurer, M.

Allergy and the Eye
Bonini, S.

History of Food Allergy
Wüthrich, B.

Drug Hypersensitivity
Bircher, A.J.

Aspirin Hypersensitivity
Sánchez-Borges, M.

Bradykinin-Mediated Disease
Kaplan, A.P.

Mechanisms of Allergy: Important Discoveries

The Discovery of Immunoglobulin E and Its Role in Allergy
Johansson, S.G.O.

T Cell Subpopulations
Romagnani, S.

Mast Cell Research
Saito, H.

Basophils: Historical Reflections and Perspectives
Marone, G.; Borriello, F.; Varricchi, G.; Genovese, A.; Granata, F.

Eosinophils
Radonjic-Hösli, S.; Simon, H.-U.

The Bradykinin-Forming Cascade: A Historical Perspective
Kaplan, A.P.

Histamine Receptors and Antihistamines: From Discovery to Clinical Applications
Cataldi, M.; Borriello, F.; Granata, F.; Annunziato, L.; Marone, G.

Detection of Environmental Influences and Allergens

Pollen and Pollinosis
Smith, M.; Berger, U.; Behrendt, H.; Bergmann, K.-C.

Mites and Allergy
Fernández-Caldas, E.; Puerta, L.; Caraballo, L.

Mammalian Airborne Allergens
Aalberse, R.C.

The Latex Story
Raulf, M.

Peanut Allergens
Becker, W.-M.; Jappe, U.

Environmental Pollution and Allergy: Historical Aspects
Behrendt, H.; Alessandrini, F.; Buters, J.; Krämer, U.; Koren, H.; Ring, J.

Farmers and Their Environment: Protective Influences of the Farming Environment against the Development of Allergies
Gassner, M.

Progress in Allergy Management

History of Catecholamine Research
Starke, K.

Antihistamines
Church, M.K.; Maurer, M.

Glucocorticoids
Barnes, P.J.

Chromones
Edwards, A.M.

Characterization and Standardization of Allergen Extracts
Löwenstein, H.

Allergen-Specific Immunotherapy
Nelson, H.S.; Norman, P.S.

Pioneers of Allergy: Personal Reflections

- K. Frank Austen
- John Bienenstock
- Kurt Blaser
- Alain de Weck (1928–2013)
- Alfred William Frankland
- Oscar L. Frick
- Kimishige Ishizaka
- Lothar Jäger
- Terumasa Miyamoto
- Harry Morrow Brown (1917–2013)
- Albert K. Oehling
- Heimo Reulecke
- Václav Špičák

Allergy Societies and Collections

AAAAI · AAAAAI · CIA · EAACI · JSA · SLAAI · WAO · AAAAAI Archives · The Ilya Mechnikov Collection in Riga

Online Supplementary Material

Movie 1: Anaphylaxie et Allergie

Movie 2: World Allergy: The Disease of Civilization

List of Illustrations/Figure Credits

Subject Index

Chrom

Fig. 1. Pollen grains of *Dactylis glomerata* (Poaceae family; a) and *Artemisia foliolata* (Asteraceae family; b). Note the different characteristics that can be used for identification. For example, *D. glomerata* is a medium-sized (26–50 µm) grain with a smooth exine (outer layer of the wall of the pollen grain) and a single pore (monoporate) with an annulus and operculum. In contrast, *A. foliolata* is a small (10–25 µm) grain, covered in short spines and has three furrows with pores inside (tricolporate).

Fig. 2. Marcello Malpighi (1628–1694), by A.M. Tobar.
Fig. 3. Nehemiah Grew (1641–1712).

in air samples can be identified to the species level (e.g. *Urtica membranacea*). In 1869 the Swiss chemist Friedrich Miescher (1844–1895) identified what he termed 'nuclein' inside the nuclei of human white blood cells. The term nuclein was eventually to become known as deoxyribonucleic acid, or DNA [9]. DNA sequencing has now advanced understanding about plant phylogeny and could be used to identify pollen grains to the species level [10].

The amount of allergen contained in pollen has also been shown to vary spatially and temporally [11], and so monitoring airborne allergen concentrations in ambient air might be required if the aim is to provide information related to pollen allergy. A number of pollen allergens have been identified, isolated and characterized by different workers, such as David Marsh and coworkers who examined the perennial ryegrass group during the 1960s and 1970s [12]. In addition, laboratories around the world can

Fig. 4. The Anatomy of Plants, by N. Grew.

Fig. 5. The first pictures of pollen made by N. Grew.

now carry out immunoassays following the invention of the enzyme immunoassay, EIA, and enzyme-linked immunosorbent assay, ELISA, which were developed independently and simultaneously by two different research groups in 1971: Peter Perl-

mann and Eva Engvall at Stockholm University in Sweden, and Anton Schuur and Bauke van Weemen in the Netherlands [13].

First Descriptions of the Disease

Pollen allergy (pollinosis) was first described at the beginning of the 19th century [14]. The prevalence of allergic respiratory diseases, such as asthma and allergic rhinitis, increased dramatically during the latter part of the 20th century [15] and millions of individuals are now affected. The first clinical description of the disease is accredited to John Bostock (1773–1846), who was a physician at Guy's Hospital in London. Bostock presented his 'Case of a periodical affection of the eyes and chest' to the Royal Society of Medicine on March 16, 1819 [14]. He described 'an unusual train of symptoms' that made their appearance at the beginning or middle of June in every year with a greater or lesser degree of violence. These were symptoms that he experienced himself: eyes that became inflamed, irritation of the nose, sneezing, tightness of the chest, difficulty in breathing and languor [14, 16].

Bostock later used the term 'catarrhus aestivus', or summer catarrh, to describe the malaise, but he failed to find a causal explanation [14]. This was left to John Elliotson (1791–1868). In a clinical lecture delivered at St. Thomas's Hospital on March 31, 1831, Elliotson attributed the symptoms of hay fever to the 'emanation from the flower of the grass'. In the same lecture, Elliotson also refuted Bostock's claim that the disease was confined to the higher ranks of society and argued that the prevalence of the disease was underestimated in the 'lower orders' because poorer people did not seek to visit physicians but instead had their symptoms treated in dispensaries [16, 17].

In 1873, Charles H. Blackley [18] was the first person to demonstrate the 'nature and modus operandi' of hay fever through a 'systematic course of experiments' that he carried out on himself and presented in his seminal publication *Experimental Researches on the Causes and Nature of Catarrhus Aestivus* [18]. Interestingly, the first allergies of *Ambrosia* pollen, which belongs to the Asteraceae family, were described as 'autumnal catarrh' by Dr. W.M.

4

230

Smith · Berger · Behrendt · Bergmann

Pollen and Pollinosis

231

none

www.karger.com/chial

KARGER

Chemical Immunology and Allergy

Please send:

☐ copy/ies: **Vol. 100: History of Allergy**
CHF 115.00 / EUR 96.00 / USD 135.00
ISBN 978-3-318-02194-3 (hard cover)

☐ copy/ies: _____
ISBN _____

☐ the book series **Chemical Immunology and Allergy**
on continuation beginning with vol. _____

All Karger series are available on continuation. Each volume will be sent upon publication until order is countermanded.

For easy ordering or information about other Karger publications log on to: www.karger.com

Postage and handling free with prepayment

Payment

Please charge this order to my credit card

☐ American Express ☐ Diners ☐ Visa ☐ Mastercard

Card No.: _____

Exp. date: _____

CVV/CVC _____ 3 digits in the signature field on the back of Visa and Mastercard

☐ Check enclosed ☐ Please bill me

Name/Address (please print): _____

Date/Signature: _____

Orders can be placed at agencies, bookstores, directly with the publisher, or with any Karger distributor.

S. Karger AG, P.O. Box, 4009 Basel (Switzerland)

f: +41 61 306 12 34, e: orders@karger.com

USA: S. Karger Publishers, Inc., 26 West Avon Road, P.O. Box 529, Unionville, CT 06085 (USA), Toll free: +1-800-828-5479

Germany: S. Karger GmbH, 79095 Freiburg

France: Enter & Read, Albertine Luginbuhl, 75007 Paris

Japan: Karger Japan, Inc., Tokyo 105-0012

South East Asia, China and Taiwan: Karger Regional Office, Kuala Lumpur 50470 (Malaysia)

For details and further representatives and agencies see

www.karger.com/worldwide

Library Recommendation

Dear Librarian,

I would like to recommend this book for purchase by our library. It is directly related to my field of research and is a vital reference work for my students and colleagues.

Name: _____
Department: _____
Signature: _____
Date: _____

A renowned book series

Chemical Immunology and Allergy

Series Editors: Ring J. (Munich); Blaser K. (Davos); Capron M. (Lille); Denburg J.A. (Hamilton, Ont.); Holgate S.T. (Southampton); Marone G. (Napoli); Saito H. (Tokyo)

ISSN 1660-2242 (Print), e-ISSN 1662-2898 (Online)

Vol. 99

New insights into the role of the immune system

Angiogenesis, Lymphangiogenesis and Clinical Implications

Editors: Marone G.; Granata F. (Naples)

XII + 232 p., 26 fig., 14 in color, 8 tab., hard cover, 2014

CHF 188.00 / EUR 157.00 / USD 221.00

ISBN 978-3-318-02480-7, e-ISBN 978-3-318-02481-4

Vol. 98

Towards a holistic way of understanding and treating asthma and allergy

Allergy and the Nervous System

Editor: Bienenstock, J. (Hamilton, Ont.)

XII + 272 p., 51 fig., 4 tab., hard cover, 2012

CHF 196.00 / EUR 163.00 / USD 231.00

ISBN 978-3-8055-9984-9, e-ISBN 978-3-8055-9985-6

Vol. 97

An indispensable tool for diagnosing and managing this common clinical problem

Adverse Cutaneous Drug Eruptions

Editor: French, L.E. (Zurich)

XIV + 240 p., 43 fig., 30 in color, 34 tab., hard cover, 2012

CHF 198.00 / EUR 165.00 / USD 233.00

ISBN 978-3-8055-9970-2, e-ISBN 978-3-8055-9971-9

Prices subject to change

EUR price for Germany, USD price for USA and Latin America only

More information on these and previous volumes at www.karger.com/chial

To be ordered through:

KARGER