Cambridge University Press 0521570751 - Atopic Dermatitis: The Epidemiology, Causes and Prevention of Atopic Eczema Edited by Hywel C. Williams Index More information

Index

Note: Page numbers in bold type refer to Tables and Figures

ADASI score 87 adenylate cyclase, cyclic nucleotide abnormalities 30 aetiology of AD, causation model 205, 206 age of onset of AD 42-4 clinical studies 42, 43 age-specific prevalence of AD 85-7 adults vs infants 18-19 frequency of AD by year of birth 96 prevalence in other age groups 86-7 prevalence in young schoolchildren 85-6 various countries 86 air pollutants 80-1, 104, 157-65 allergens, inhaled see inhalant allergens allergic diseases (other than AD), see also asthma-hayfever-AD triad animal dander 187-8 animal models of AD, pathomechanism of AD 237-8 animals with AD see companion animals arsenic and heavy metals 155-7 associative spatial research, key stages 71 asthma-hayfever-AD triad 221-32 development 52-4 diagnosis 221-2 imprecise measurement studies 224-5 initiating and provoking factors 224 population studies, AD in relation to birth weight 130 prevalence, UK (1958 cohort) 226-7 prognosis and natural history 222-3 risk factors 225-8 surveys 15 time trends 228-9 atopy 7-8 definition, IgE 118-19, 207 see also severity score Australia melanoma risk 170 rise in prevalence of AD 228

Cambridge University Press 0521570751 - Atopic Dermatitis: The Epidemiology, Causes and Prevention of Atopic Eczema Edited by Hywel C. Williams Index

More information

266 Index

bacterial and yeast infections, dogs 240 Bavaria see Germany birth month theories for origins of AD 133-4 dogs 133-4 birth weight, asthma-hayfever-AD 130 Black Report (1980) 139 breast feeding, prevention of AD 177, 209-10 breast-fed infants with AD, maternal dietary exclusion 199 bronchitis, prevalence 226-7 cadmium 156 calcium-calmodulin system, cell regulatory abnormalities 28, 31 Carter effect 114 cats see companion animals causation model of AD 205, 206 chloracne 157 classification and regression trees (CARTs), preschoolchildren 159 clinical features of AD 31-6 associated findings 34–5 classification of eczemas 32 diagnostic criteria 32-3 specific clinical features 33-5 cockroach allergens 188 companion animals 233-44 association with other allergic diseases 234-5 canines diagnostic features of AD 233, 234 intradermal reactions to fleas 235 skin test reactivity to specific allergens 235-6 West Highland white terrier 240 equines 234 felines 234 pathomechanism 237-8 prevalence and morbidity of AD 238 risk factors for development 238-9 age and gender 238 endoparasites 239 genetic predisposition 238-9 month of birth 239 viral infections and vaccination 239 risk factors exacerbating AD 239-41 cutaneous bacterial and yeast infections 240 food intolerance 240 local environment 240 regional and international factors 240-1 season of year 239-40 cord blood, predictors of later AD 132-3 cost of AD see morbidity and cost cow's milk, and infant formula feeding 210 cutaneous factors in AD 207-8, 209 cyclic AMP, cell regulatory abnormalities 28

definitions of AD 3-24 boundaries 5-6 degree of involvement 3-5 different versions of same criteria 14-16 assessing burden of disease 14-15 case control studies 15 clinical trials 15 cohort studies 15 definite atopy 15 diagnostic aid in primary care 15-16 hospital-based studies of AD 15 mixed asthma-hayfever-AD surveys 15 forms of AD 6-7 good epidemiological definition 9-10 more than one disease 6 nosology, progressive and regressive 8–9 previous theories 10 prognostic vs operational 9 site of involvement, studies, Japan 45 summary 21 synonyms of dermatitis 10 Denmark age of primiparas 148 age-specific prevalence of AD 86 asthma, wheezing and AD, and birth weight 130 twin studies 115 cumulative incidence of AD 97, 98 dermatology life quality index (DLQI) 92 Dermatophagoides pteronyssinus see house dust mites diagnostic criteria adults and infants 18 applicability to other ethnic groups 19 asymptomatic disease 18 dangers of suggesting disease definition 20 epidemiological studies 10-21 error sources 99 future changes 20 Hanifin, Lobitz and Rajka criteria 10-21 misclassification 16-19 UK refinement 13-21 use in other communities 19 validation study 16 variants of AD 19-20 diagnostic criteria for AD 32-3 see also clinical features; definitions dietary factors 193-201 adverse reaction to foods in children 193-6 avoidance of selected foods 196-7 cow's milk products and eggs 26, 197 DBPCFCs, inherent weaknesses 193-6 elemental diet 198-9 few food diet 197. 198 food trigger effects 193

CAMBRIDGE

improvement on elimination diet 199-200 infant formula feeding, hyperallergenic formula 210 lifestyle 104 margarine 104 maternal dietary exclusion, breast-fed infants with AD 199 maternal nutrition fetal origins of AD 127-31 programming of fetus 125 reactions to foods, preexisting AD 196 dogs see companion animals dust mites see house dust mites eczemas classification 32 synonym of dermatitis 8, 10 endoparasites and development of AD 55, 177 environmental pollution 155-68 air pollutants 80-1, 104, 157-65 arsenic and heavy metals 155-7 Bavaria 159-61 classification and regression tree (CART) 159 maternal smoking, pregnancy and lactation 161 NOx and SO, measurements 158 East and West Germany 80-1, 161-5 patterns of AD of air pollution 162 prevalence in preschoolchildren 163 risk factors 164 measurement of pollution 157-8 tobacco smoke 104-5, 131, 158-61 eosinophilic cationic protein (ECP) 185-6 eosinophils, patch test results 184-5 epidemiology of AD 3-24, 71-2 urbanization 104 see also geographical studies; prevalence ethnic groups 169-82 Chinese infants 174 cultural identity, defining 178-9 defining migrant groups 170-1 developed vs undeveloped nations 75-7 environmental exposures 175, 248-9 features of AD 19 incidence of AD, compared with country of origin 176 intermarriage effects 178 ISAAC study 103, 173 melanoma risk in Australia 170 mortality rates of Japanese men 171-2 in one/two locations 172-6 Black Caribbean children, London and Jamaica 17, 174, 177 recommendations for future studies 180 referral rates 173 retention of customs 178-9

studies of other diseases 171-2 studies in two locations 175-6 Euroglyphus mayneii 177 European countries, age of primiparas, 'old mother' hypothesis 149-50 European Task Force on AD, SCORAD 88 family size, social factors 144 fetal and perinatal origins of AD 125-37 cord blood predictors of later AD 132-3 effects of undernourishment on babies 128 fetal growth and maternal nutrition 127-31 lessons from programming of nondermatological disease 126 - 7month of birth theories 133-4 population studies of asthma, wheezing and AD in relation to birth weight 130 principles of programming by early life environment 129 programming by other maternal influences 131-2 programming during early development 125-7 Finland asthma, wheezing and AD, and birth weight 130 epidemiology 78 prevalence studies, point and lifetime 101 fleas, canine intradermal reactions 235 folate supplements 129 food intolerance, dogs 240 foods see dietary factors fungi (moulds) 187 future research 247-61 direction of efforts 254-5 modification of clinical and public health policy 255-6 present studies 247 progress limitations 256-7 ten areas of notable ignorance 250-4 allergic and nonallergic factors 253 importance of risk factor magnitude and reduction 253 insufficient scientific rigour 251 lack of epidemiological studies 250-1 lack of measures of severity of AD for use in epidemiological studies 251-2 limited knowledge of adult AD 253 poor understanding of natural history 252-3 relationship of AD to other types of dermatitis 253-4 treatment of established disease (tertiary prevention) 254 treatment relationship between need, supply and demand 254 ten areas of notable progress 247-50 cell biology and skin immune system 249 cost studies 248 disease burden 247-8 disease definition 247 early environment role studies 250

Cambridge University Press 0521570751 - Atopic Dermatitis: The Epidemiology, Causes and Prevention of Atopic Eczema Edited by Hywel C. Williams Index

More information

268 Index

future research (cont.) ten areas of notable progress (cont.) genetic epidemiology 249-50 geographical associations 248 migrant studies and environmental factors 248-9 possible disease prevention studies 214-15, 250 socioeconomic correlations 248 genetic epidemiology 113-23 atopy 118-19 family studies 113 future research 249-50 genetic factors 205-6 HLA system 119-20 maternal effect and genomic imprinting 120-1 newer genetic approaches 115 genetic linkage studies 116 segregational studies 116 polygenic multifactorial inheritance 114 serum IgE level 116-18 specific immune response 116 T-cell receptor 119 twin studies 114-15 genetic susceptibility 101-2 multifactorial inheritance model 102 geographical studies 71-83 associative spatial research 71 developed vs undeveloped nations 75-7 environmental associations 79-81 epidemiological transition 77-8 future research 249-50 global distribution of eczema 76 international variation in prevalence 72-5 unreliability of data 72 see also prevalence of AD; specific countries Germany age of primiparas, and AD 151 age-specific prevalence, 5-6 years 86 air pollutants 80-1, 161-5 environmental pollution Bavaria effects in preschoolchildren 160 NOx and SO₂ measurements 158 East and West Germany 80-1, 161-5 genetic risk of atopy 121 hairdressers atopy scores 4, 61, 65 relative risk factors 65, 66 lifetime prevalence in 5-6-year-olds 99 hairdressers

relative risk factors **66** type IV contact allergy and skin atopy **4**, 61, 65 halogenated hydrocarbons 157 hand eczema (HE) and atopy relationship 62 hairdressers 66 risk factors 63-5 Hanifin, Lobitz and Rajka diagnostic criteria 10-13, 247 problem areas with UK refinement 16-18 UK refinement 13-20 hayfever see asthma-hayfever-AD heavy metals 155-7 HLA system 119-20 horses, AD (sweet itch), exported horses 240-1 horses see companion animals house dust mites, Dermatophagoides pteronyssimus 27, 177, 186-7, 210-11 avoidance measures 186-7 intradermal reactions 235 patch test results 184-5 ichthyosis vulgaris 33 IgE, serum levels 116-18 atopy definition 118-19, 207 cord blood, predictor of later AD 132-3 dogs 237 as epidemiological risk factor 188-9 genetics 118 and head circumference 129 immediate (type I) skin test reactivity 34 and inhalant allergens 183-4 mechanisms of AD 26–31 pathophysiology of AD 27-8 responsiveness and atopy 7-8 total elevated 34 twin studies 117 immunopathogenesis of AD 26-7, 206-7 and infections 105-6 inhalant allergens relationship 183-6 impetiginized eczema 34 incidence, defined 101 infant feeding delayed weaning 211, 212 hyperallergenic formula 210, 213 see also breast-feeding inhalant allergens 183-92 animal dander 187–8 cockroach allergens 188 eosinophilic cationic protein (ECP) 185-6 house dust mites 186-7, 210-11 immunopathology relationship 183–6 moulds 27, 186–8 patch test results 184-5 pathogenesis of AD 27 pollens 187, 133-4, 236

CAMBRIDGE

Index 269

serum IgE antibodies as epidemiological risk factors 188-9 serum IgE concentrations 183-4 time course of AD 189 total and specific IgE antibodies in patients with AD, asthma and controls 188 interferons 28, 31 International Study of Asthma and Allergy in Children (ISAAC) 103, 173, 247 intervention studies in prevention of AD 211-18 prospective randomized controlled studies in high risk infants 212 study design 211 see also diet iron and folate supplements 129 ISAAC study see International Study of Asthma and Allergy in Children Israel, asthma, wheezing and AD, and birth weight 130 Italy, age-specific prevalence 86 Japan 4 age of primiparas 151 mortality rates of men, by US residence and disease type 172 prevalence of AD 98 site of involvement, studies 45 tuberculin response, and remission of AD 105 lead 156 leukocytes, MNLs 28-31 lifestyle, and environmental changes, western countries after World War II 105, 177 London schoolchildren, prevalence of AD, ethnic groups 17, 174.177 maternal age age of primiparas Denmark and the UK 148 European countries 149-52 (former) West vs East Germany 151 Japan 151 'old mother' hypothesis 148-54 oral contraceptive use 152 other maternal factors and increased prevalence 148-9 parity and AD 150-1 prematurity and postmaturity 152 relative risk (RR) of developing AD 152 maternal effects of genomic imprinting 120-1 maternal nutrition fetal origins of AD 127-31 programming of fetus 125 melanoma risk, Australia 170 mercury 156 migrant populations and AD 102-4, 169-82

defined 170 future research 248-9 other diseases 171-2 see also ethnic groups model, causation of AD 205, 206 morbidity and cost 85-95 age-specific prevalence 85 financial burden absolute terms 87, 248 direct and indirect 89 records of expenditure 89 in UK 89-90 future research 249 morbidity and social cost dermatology life quality index (DLQI) 92 patient generated index (PGI) 93 quality of life concepts and measurements 91-3 population studies of severity 88-9 prevalence of eczema, standard morbidity ratios (SMRs) at seven years 80 severity indices currently available 87-8 see also social factors moulds 187 Alternaria 187, 188 Pityrosporum ovale 27, 186, 187 National Child Development Study, UK 78, 141 National Eczema Society, quality of life concepts and measurements 91-3 natural history of AD 41-59 age of onset studies 43 assembling the cohort 56 asthma and hayfever development 52-4 studies 53 cancer 55 disease fluctuations over time clinical trials 44-5 other studies 45 growth 55 longer term 'clearance' rates 45-52 determinants 47 real and apparent 46-7 parasites vs allergy 55 problem areas 42 prognostic studies 48-50 determinants 51 recommendations for future studies 55-6 sensitization 54 site of involvement studies 45 New Zealand, age-specific prevalence 86 Norway, severity scoring 89 nosology, progressive and regressive 8-9 nutrition see diet; fetal and perinatal origins of AD

Cambridge University Press 0521570751 - Atopic Dermatitis: The Epidemiology, Causes and Prevention of Atopic Eczema Edited by Hywel C. Williams Index

More information

270 Index

occupational aspects of AD 60-8 guide for pre-employment counselling 67 guidelines for patients with AD 66 hairdressers 4 hairdressers, Bavaria, type IV contact allergy and skin atopy 61,65 hand eczema (HE) and atopy relationship 62 risk predictions 65 nurses 4 risk quantification 64-6 sick leave and change of work due to AD 62-3 see also social factors oral contraceptive use 152 parasites canines, intradermal reactions 235, 239 and development of AD 55, 177-8 PASI score, psoriasis 87 patch test responses 184-5 pathophysiology of AD 25-31 cell regulatory abnormalities 28-31 cyclic nucleotide abnormalities 30 effects of skin exposure to allergens or superantigens 29 immunopathogenesis 26-7 immunoregulatory dysfunction 27-8 mechanisms 25-6 patient generated index (PGI), quality of life 93 pets see companion animals phosphodiesterase activity 29-31 phosphoinositide system, cell regulatory abnormalities 28, 31 pityriasis alba 34 Pityrosporum ovale and IgE 186, 187 T-cell recognition 27 pollens 187 canines, skin test reactivity 236 and month of birth theories for origins of AD 133-4 pollution see environmental pollution prematurity, and AD 152 prevalence of AD 96-109 age-specific prevalence adults vs infants 18-19 frequency of AD by year of birth $\mathbf{96}$ morbidity and cost 85-7 asymptomatic disease 18 defined 101 epidemiological observations 104 estimates (1990s) 71-83, 73-5 future public health implications 106-7 genetic susceptibility 101-2

geographical differences global distribution of eczema 76 international variation 72-5 migration studies 102-4 immunology and infections 105-6 incidence 101 ISAAC 103, 173, 247 lifestyle and environmental changes, western countries after World War II 105 low prevalence 17 migration studies 102-4 NCDS, UK 78, 141 possible sources of error 99-101 cross-sectional studies 97 definition and validation of the outcome variable 99-101 misclassification errors 16-18 time trend studies 97 regional variation 78-9 secular trends 96-9 sensitivity, specificity and predictive value 99-100 simple survey 14-15 UK vs US 25 West Lambeth, London schoolchildren 17, 174, 177 see also geographical studies; twin studies prevention of AD 205-18 breast feeding 177, 209–10 causation model 205-6 delayed introduction of solid foods 210, 212 environmental components 208-11 environmental factors 206-7 genetic engineering 208 genetic factors 205-6 high risk vs low risk approach 214 house dust mites 210-11 hyperallergenic formula feeding 210 immunological factors 206-7 in utero sensitization 209 intervention studies 211-14 high risk infants 212 local cutaneous factors 207-8 potential targets 208 pregnancy dietary restriction 212 prospective randomized controlled studies in high risk infants 212 recommendations and implications for future strategies 214-15, 250 skin barrier function 208-9 programming of fetus maternal diet 125 nondermatological disease, during early development 125-6, 127, 129 pruritus intensity factor 87 public health implications of AD 106-7

CAMBRIDGE

Index 271

quality of life concepts and measurements 91–3 dermatology life quality index (DLQI) 92 patient generated index (PGI) 93

ragweed sensitivity model for allergy 116, 120 *see also* pollens

SASSAD 88 SCORAD 88 sensitivity, specificity and predictive value, defined 99-100 severity scoring 87, 89 future research 251-2 indices currently available 87-8 SCORAD and SASSAD 87-8 population studies 88-9 studies 89 site of involvement, studies, Japan 45 skin factors in AD 207-8, 209 smoking and AD 104-5, 131, 158-61 social factors 139-47 costs of morbidity 90-3 family size 144 implications and future directions 144-5 socioeconomic status/social class and atopy 140-1 and dermatitis 143-4 eczema at seven years 142 gradient for AD 141-2 health and epidemiology 139-40 UK 140 Staphylococcus aureus infections 31, 34 migrant populations 177 superantigen 26 T-cell recognition 27 Sweden flexural dermatitis 98, 99

rise in prevalence of AD 228 severity scoring 88–9 twin studies 114 Switzerland, prevalence of AD 98, **143**, 228

T cells CD8+ and CD23 27

Th1- and Th2-like immunity 106, 187, 249 Th2 stimulation in AD 29 T-cell receptor 119 tuberculin response, and remission of AD **105** twin studies 114–15 cumulative incidence of AD 97, **98** IgE levels 117

UK

maternal age 149, 151–2 morbidity and cost of AD 89–90 National Child Development Study 78 prevalence of AD AD at 16 years 80 AD at seven years 79 age of primiparas 149 asthma–hayfever–AD (1958 cohort) 226–7 point and lifetime 101 standard morbidity ratios (SMRs) 80 Scotland age-specific prevalence 85–6, 98 severity scoring 89–90 urbanization 104 US, prevalence of AD 25

variants of AD 19–20

water hardness 81 weaning, delayed 211

xerosis 33, 209