

# Current adapted treatment of AD

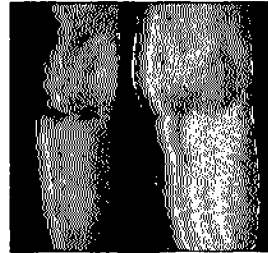
AVOID TRIGGER FACTORS



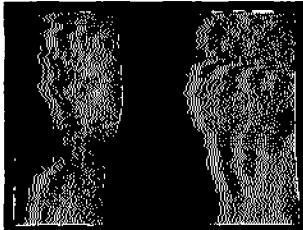
Topical steroids

systemic antibiotics (e.g. Cefuroxim),  
systemic antiviral therapy (e.g. Aciclovir i.v.),  
systemic immunosuppressives (e.g. Ciclosporin)

Therapeutic index! Only class 2 and 3 potency  
No old combination therapies (e.g. Decoderm tri, Fucicort), use NRF11.145!  
Only once daily!  
Calcineurin inhibitors (Elidel, Protopic [children 0,03%, adults 0,1%])



**Pro-active therapy:** Protopic 0,1%, mild steroids (e.g. NRF 11.144  
Prednicarbat 0,15% oder 0,25%, with Octenidin NRF 11.145)  
UV light therapy (UVA1, less UV-B)  
Anti-pruritic: e.g. black tea, Polidocanol (e.g. Optiderm/ Thesit in DAC  
Basis; Tannosynt bathings)  
Antiseptics (e.g. Fucidine, kalium permanganate (cave!), Octenisept,  
Triclosan 1% in DAC Basis Creme,  
coloring (Eosin 1%, Methylosanilin 1%)



Basic emollients, e.g. Alfason Basis Cresa, Unguentum emulsificans  
aquosum with/without 5% glycerine, Neuroderm  
Urea (5-10%)  
Oil bathing

## Steroids: (still) the most important weapon

### Efficacy

class 1 (weak):

Hydrocortison,  
Prednisolon,  
Dexamethason

class 2 (moderate):

Prednicarbat	(Dermatop®)
Hydrocortisonbutyrat	(Alfason®, Laticort®)
Hydrocortisonbutepirat	(Neuroderm akut®)
Methylprednisolonaceponat	(Advantan®)
Hydrocortisonaceponat	(Retef AP®)
Triamcinolonacetamid	

class 3 (strong):

Mometasonfuroat	(Ecural®, Monovo®)
Fluticasonpropionat	(Flutivate®)
Betamethasonvalerat	
Fluocinolonacetamid	(Jellin®)
Fluprednididenacetat	(Decoderm®)
Diflucortolonvalerat	(Nerisona®)

class 4 (very strong):

Clobetasolpropionat	(Dermoxin®)
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## Anti-septic approaches with AD

- super-infected AD → antibiotic therapy:
  - Amoxicillin/clavulan acid (Co-Amoxi Mepha sirup) (1ml=80mg) 50-75mg/kg/Tag twice daily for 7 days
  - Flucloxacilline (Staphylex) 500 mg 2-2-2
  - Allergy to penicillin: clindamycine (Dalacin)
- Triclosan-containing lotions on a daily basis
  - Procutol®
  - Triclosan 1-2% in Lipikar Baume, Trixéra Balsam, Excipial U Lipolotio
- bleach baths?
  - product: Javelwasser from COOP
    - 2.5% Natriumhypochlorid → 200ml with 100L water
  - cave: do not mix with other additives



## Metaanalysis of conventional systemic therapies of AD

Reference	Efficacy drug A	Efficacy drug B	Efficacy placebo
	a) Intervention	a) Intervention	a) Placebo
	b) Change in clinical signs	b) Change in clinical signs	b) Change in clinical signs
Berth-Jones <sup>12</sup>	a) AZA b) MI of 26% in SASSAD score at 8 wk		a) Placebo b) MI 3% in SASSAD score at 8 wk
Meggitt <sup>26</sup>	a) AZA b) MI in of 37% in SASSAD score at 12 wk		a) Placebo b) MI of 20% in SASSAD score at 12 wk
Bermanian <sup>11</sup>	a) CsA b) MI of 68% in SCORAD at 12 wk	a) IVIG b) MI of 30% in SCORAD at 12 wk	
Czech <sup>16</sup>	a) CsA, 150 mg b) MI of 48% in TBSA at 8 wk	a) CsA, 300 mg b) MI of 59% in TBSA at 8 wk	
Granlund <sup>17</sup>	a) CsA b) MI of 54% in SCORAD at 8 wk	a) UVAB b) MI of 34% in SCORAD at 8 wk	
Haecck <sup>15</sup>	a) CsA b) MI of 17% in SCORAD score at maintenance phase 0-30 wk and 42% MI in SCORAD score including run-in phase of 6 wk (-6 wk to 30 wk)	a) EC-MPS MI of 0% in SCORAD at the maintenance phase 0-30 wk and 39% MI SCORAD including run-in phase of 6 wk (-6 wk to 30 wk)	

- clear 1st line recommendation: ciclosporine A (14 RCTs: consistent and high efficacy)
- 2nd line recommendation: azathioprine, but: less efficient and less evidence as compared to Ciclosporin
- 3rd line recommendation: methotrexate (different in US)
- Not sufficient data for a recommendation of MMF, IVIGs, systemic steroids

# Interleukin-4

- Initially described as a “B-cell stimulatory factor”  
Howard M et al. J Exp Med. 1982
- Produced by CD4+ T helper (T<sub>H</sub>) cells, CD8+ T cells, eosinophils, basophils, natural killer T cells and activated mast cells.  
Röcken M et al. Immunol Today. 1996
- Pleiotropic cytokine expressed at high levels in the early phases of multiple acquired immune responses.  
Zhu J et al. Annu Rev Immunol. 2010
- Largely known for its capacity to initiate T<sub>H</sub>2 cell differentiation, when acting directly on T cells.  
Paul WE et al. Nat Rev Immunol. 2010



<http://en.wikipedia.org>

## First success: Dupilumab

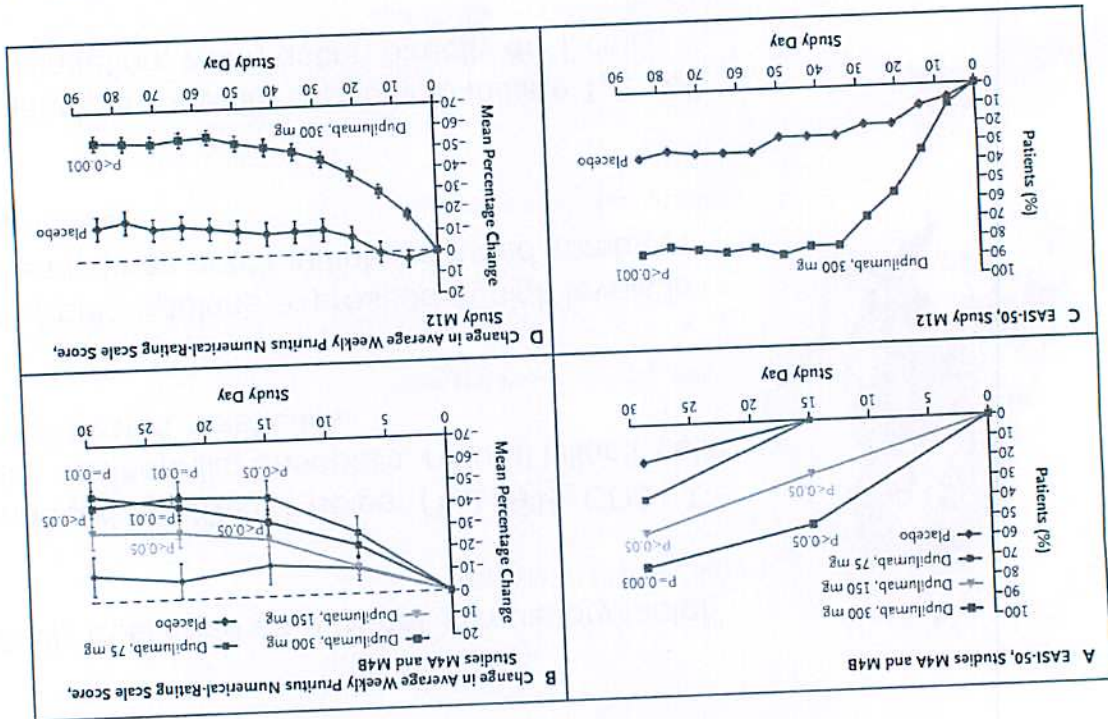
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

### Dupilumab Treatment in Adults with Moderate-to-Severe Atopic Dermatitis

Lisa A. Beck, M.D., Diamant Thaçi, M.D., Jennifer D. Hamilton, Ph.D., Neil M. Graham, M.D., Thomas Bieber, M.D., Ph.D., M.D.R.A., Ross Rocklin, M.D., Jeffrey E. Ming, M.D., Ph.D., Haobo Ren, Ph.D., Richard Kao, Dr.P.H., Eric Simpson, M.D., Marius Ardeleanu, M.D., Steven P. Weinstein, M.D., Ph.D., Gianluca Pirozzi, M.D., Ph.D., Emma Guttman-Yassky, M.D., Ph.D., Mayte Suárez-Fariñas, Ph.D., Melissa D. Hager, M.A., Neil Stahl, Ph.D., George D. Yancopoulos, M.D., Ph.D., and Allen R. Radin, M.D.

# First success: Dupilumab



Beck LA et al, N Engl J Med 2014

# What's in the pipeline?

Target	Biological	Level of evidence	Key outcome/ Reference
Th2 Immunity	Dupilumab (further substances: AMG-317, Pitakinra)	Phase III	EASI 50: 47/55
IL-5	Mepolizumab	Stopped after phase II	EASI 50: 0/18
IgE	Omalizumab (further substances: MEDI412, OGE031)	Stopped after proof-of-concept	Heterogeneous reports ranging from EASI or SCORAD 50 0/20 to 21/21
CD20	Rituximab	Case series	EASI 50: 6/6, long-term: 0/2
IL-31	BMS-981164	Phase I ongoing	
IL-31R	CIM331	Phase II ongoing	
TSLP	AMG-157	Phase I completed	unpublished
CRT2	QAW039	Phase II completed	unpublished
non-Th2 immunity	Anakinra	Phase I completed	unpublished
IL-1R1	Tocilizumab	Case series	EASI 50: 3/3
IL-6	ILV-094	Phase II ongoing	
IL-23p40	Ustekinumab	Case series: phase II	Heterogeneous reports: successful versus non-effective
TNF- $\alpha$	Etanercept	Case series	EASI 50: 0/2
IFN- $\beta$		Phase III	EASI 50: 18/40