

South Beach Symposium  
clinical • aesthetic dermatology

SBS PART I

THE MEDICAL DERMATOLOGY Summit [WWW.LIVDERM.ORG](http://WWW.LIVDERM.ORG)

# Challenging Cases in Atopic Dermatitis

Peter Lio, MD

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## Disclosures

### *Peter Lio, MD FAAD*

- Consultant/Advisory
- Regeneron / Sanofi / Genzyme
- Abbvie
- AOBiome
- Dermavant
- Eli Lilly
- Dermira
- Galderma, Johnson & Johnson, L'Oreal, Theraplex, Pierre-Fabre, Unilever
- Altus Labs (Cannabinoids in development)
- Micros
- Syncere (Cannabinoids in development)
- IntraDerm and Realm Therapeutics
- TOPMD

Speaker

- Regeneron / Sanofi / Genzyme
- Pfizer
- Pierre-Fabre
- La Roche-Posay/L'Oreal

Investigator

- Regeneron / Sanofi / Genzyme
- Abbvie
- AOBiome

Stocks/Stock Options

- Syncere (Cannabinoids in development)
- Altus Labs (Cannabinoids in development)
- Micros

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## Case 1



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## Case

- CC: Diana is a 14 year old with very itchy, dry skin
- Her mother notes that she will not stop scratching, no matter how often they chastise her
- She is sick and tired of her skin and really wants something different



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**HPI**

- She first developed eczema patches as a baby.
- She has had some good periods, but these lichenified plaques have been constant for at least the past few years.
- She also has some sleep issues but is doing well in school.

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**Current Therapy**

- Hydrocortisone 2.5% ointment twice daily to the areas
- Tacrolimus twice daily to the areas
- Various moisturizers
- Many antihistamines without help

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## Questions for Discussion

- Is this most likely atopic dermatitis? Are there other entities to consider or exclude?
- Are there other tests you would consider?

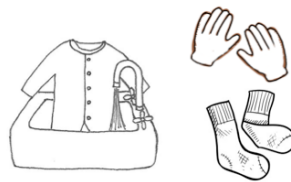
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## Wet Wraps

### Follow these 4 steps:

1. Take one pair of onesies, pajamas, gloves, and/or socks and soak it in warm water.



2. Wring out the onesies, pajamas, gloves, and socks until they are only slightly damp.



3. Put the damp onesies, pajamas, gloves, or socks on. Then put the dry onesies, pajamas, gloves, or socks on top of the damp layer.



4. Make sure the room is warm enough to go to sleep.



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# Vitamin D Forest Plot

Inflammation

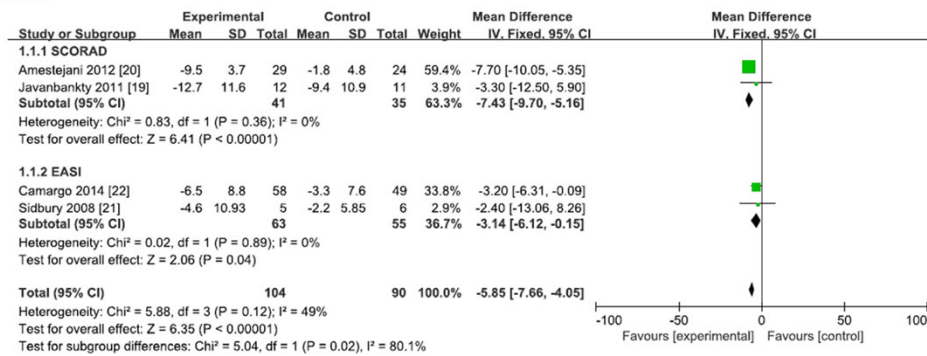


Figure 4. Effect of vitamin D supplementation in the AD patients in the randomized controlled trials.

*"This meta-analysis showed that serum vitamin D level was lower in the AD patients and vitamin D supplementation could be a new therapeutic option for AD."*

Kim MJ, Kim SN, Lee YW, Choe YB, Ahn KJ. Vitamin D Status and Efficacy of Vitamin D Supplementation in Atopic Dermatitis: A Systematic Review and Meta-Analysis. *Nutrients*, 2016 Dec 3;8(12). pii: E789

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## Mod-Severe Eczema Action Plan

\*When Flaring (Itchy, Red, Oozing):\*

\*AM:\*

1. Apply fluocinonide to the eczema areas
2. Apply moisturizer liberally
3. Take Vitamin D supplement

\*PM:\*

1. Wash with Oil Cleanser
2. Apply fluocinonide to the eczema areas
3. Apply moisturizer liberally
4. Apply damp layer then dry layer ("wet wrap")

\*\*\*Do this for several days (up to 1 week) until better...\*\*\*

\*Once Better:\*

\*AM:\*

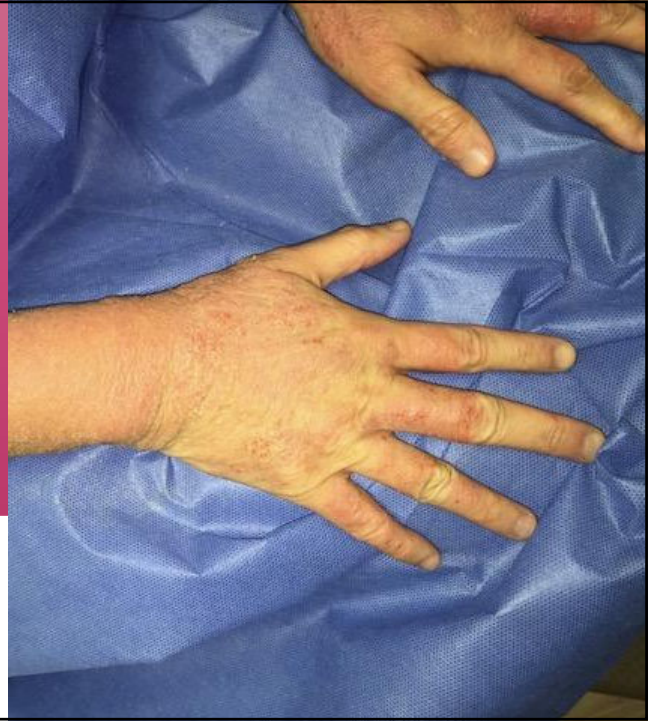
1. Apply crisaborole ointment to remaining areas/trouble spots
2. Apply moisturizer liberally
3. Take Vitamin D supplement

\*PM:\*

1. Wash with Oil Cleanser
1. Apply crisaborole ointment to remaining areas/trouble spots
3. Apply moisturizer liberally

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## Case 2



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## Case

- CC: Tim is a 31 year old with a history of atopic dermatitis with recurrent skin infections
- He notes he is exhausted from many difficult nights of no sleep or poor sleep, and even when he does sleep he is scratching
- He is also fed up with the same treatment approaches over and over...



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**HPI**

- He first developed eczema patches on the cheeks in the first year of life. By the age of 5, his eczema covered much of his body, including his arms, legs, abdomen, and hands.
- He has had multiple staph infections in the last few years, each requiring oral antibiotics. He has seasonal flares of eczema in the winter especially.
- Tim has difficulty staying asleep due to scratching. He had behavioral problems at school, poor grades, and difficulty concentrating. He has had trouble keeping a job due to missing lots of work and being distracted when at work.

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**Current Therapy**

- Triamcinolone 0.1% ointment 2-3x daily to the areas
- Wet wrap therapy with the Triamcinolone at night (most nights of the week)
- Dilute bleach baths 3x per week
- Hydroxyzine 25mg po qhs
- Cetirizine 10mg po qAM
- Various moisturizers
- No current antibiotics

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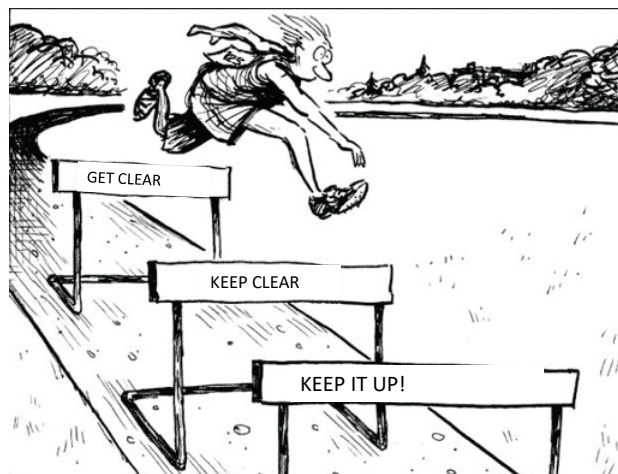
### Questions for Discussion

- Is this most likely atopic dermatitis? Are there other entities to consider or exclude?
- Are there other tests you would consider?
- What would you say his severity is?

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### 3 Great Hurdles

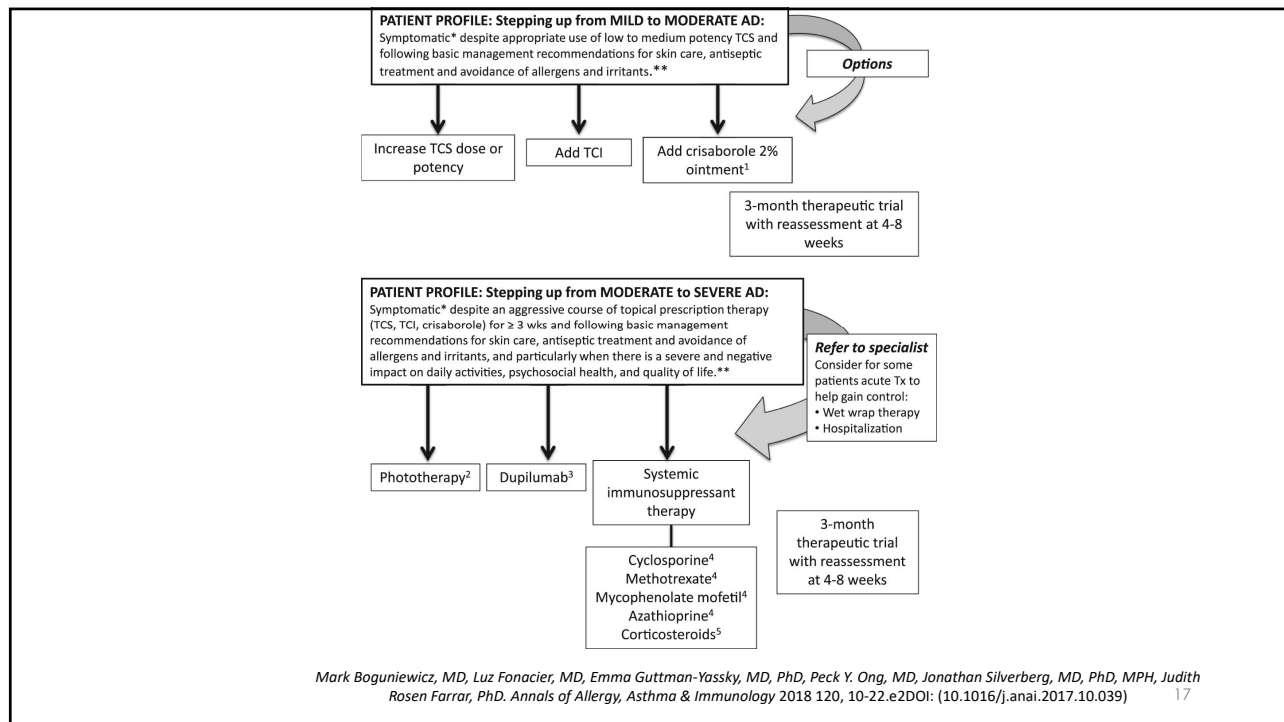


- 1) Get Clear
- 2) Keep Clear—Safely
- 3) Keep It Up

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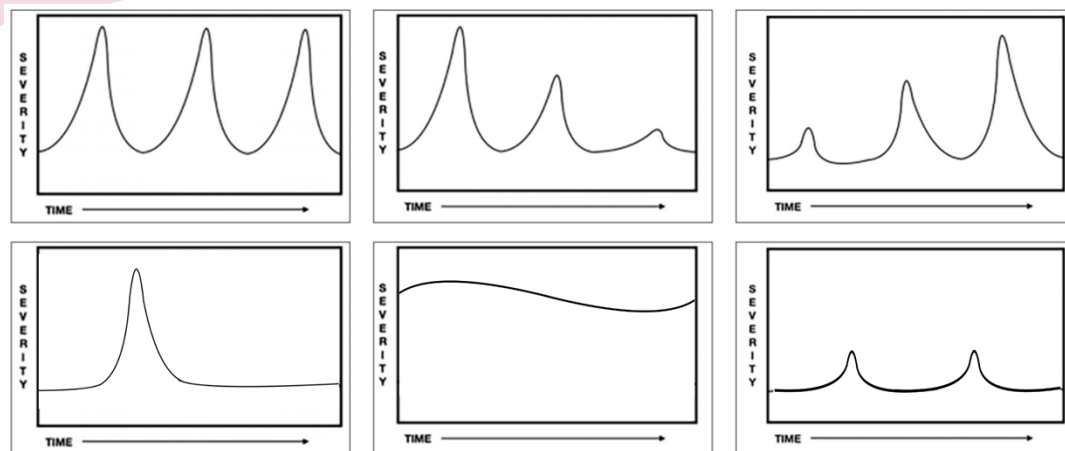
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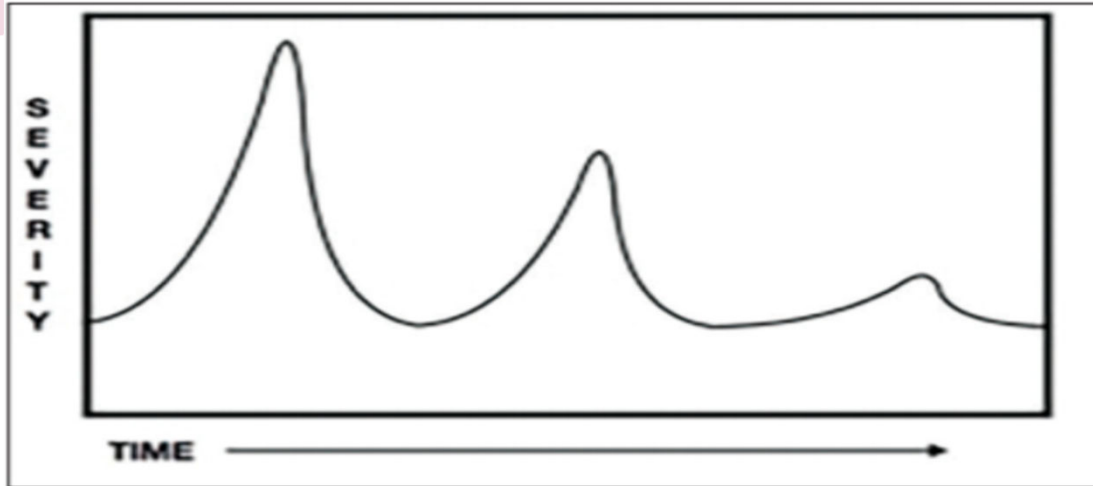
## Different Patterns



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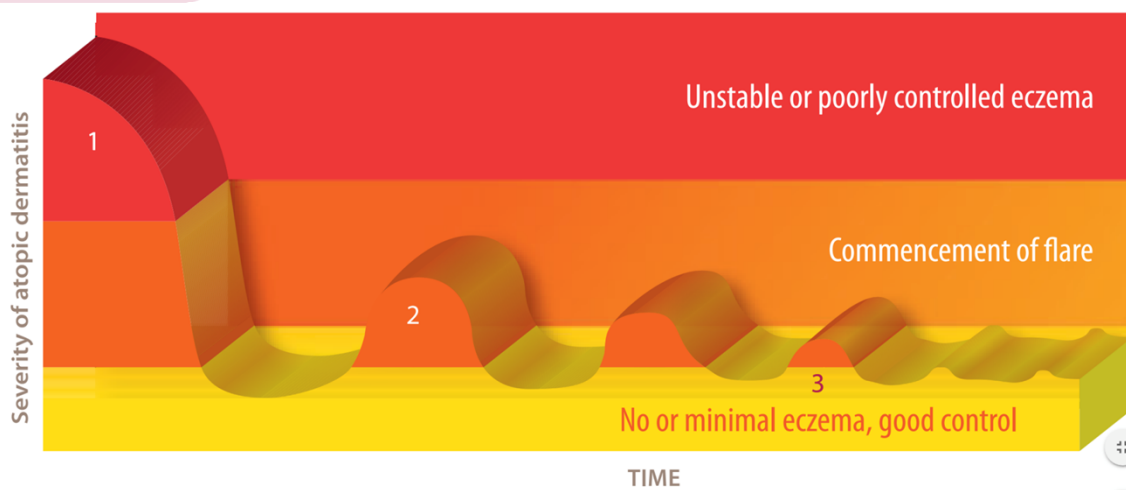
## Different Patterns



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## Treatment Goal



Consensus guidelines for the management of atopic dermatitis: an Asia-Pacific perspective. Rubel D, Thirumoorthy T, Soebaryo RW, Weng SC, Gabriel TM, Villafuerte LL, Chu CY, Dhar S, Parikh D, Wong LC, Lo KK; Asia-Pacific Consensus Group for Atopic Dermatitis. J Dermatol. 2013 Mar;40(3):160-71.

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DOI: 10.1111/pde.13282

ART AND PRACTICE OF PEDIATRIC DERMATOLOGY

WILEY Pediatric Dermatology

## Comparison of psoriasis and atopic dermatitis guidelines—an argument for aggressive atopic dermatitis management

Mary E. Lohman BA  | Peter A. Lio MD

aggressive nature of modern psoriasis treatment. AD guidelines include an assessment of quality of life but do not designate a disease severity threshold for systemic treatment. AD and psoriasis have a tremendous effect on quality of life. The AD guidelines have a less aggressive approach to disease management than the psoriasis guidelines. We should think critically about rapid advancement to systemic agents in AD management, especially now that more and better agents are being developed.

Lohman ME, Lio PA. Comparison of psoriasis and atopic dermatitis guidelines—an argument for aggressive atopic dermatitis management. *Pediatric dermatology*. 2017 Nov;34(6):739-42.

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Validated Sign & Symptom Scoring Tools	Mild	Moderate	Severe
EASI	1.1-7	7.1-21	21.1-50 50.1-72 (very severe)
POEM	3-7	8-16	17-24 25-28 (very severe)
PO-SCORAD	<25	>25 to <50	>50
SCORAD	<25	>25 to <50	>50
Other Tools		Scoring	
DLQI – validated questionnaire on the impact of AD on QoL		Each question 0 (not at all) to 3 (very much)	
Pruritus (itch) score – patient's subjective assessment of itch		VAS from 0 (none) to 10 (severe)	

*Clinical Assessment Tools*

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# Severity



- Difficult!
- IGA... EASI... SCORAD...  
BSA... QOL... History...  
morphology...
- Hmm...
- Sometimes need a more *functional* approach



<https://www.fondation-dermatite-atopique.org/en/healthcare-professionals-space/po-scorad>

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## Additional Workup

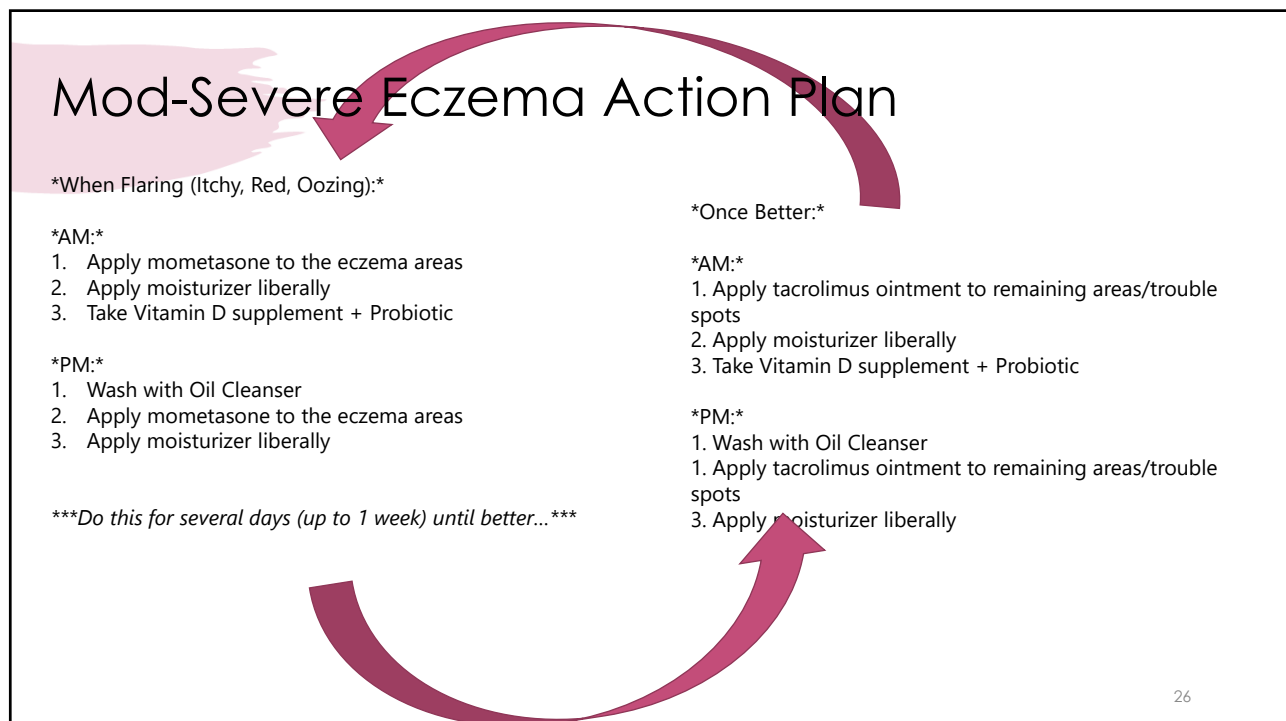
- He has an elevated IgE and high eosinophil count, but otherwise his lab results are unremarkable.
- Serum IgE testing reveals several positives including ragweed, Bermuda grass, and dust mite.
- Patch testing resulted in an "angry back" presentation

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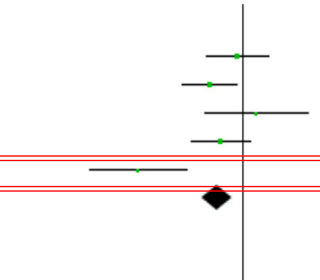
## Probiotic Mixtures in AD

### 2.4.5 mixture

2009 Niers	20.4	10.9	50	21	10.5	48	5.3%	-0.60 [-4.84, 3.64]
2010 Gerasimov	27.9	9.9	43	32.4	7.7	47	7.0%	-4.50 [-8.19, -0.81]
2010 Shafiei	41.9	15.4	43	39.9	11.6	18	1.9%	2.00 [-5.06, 9.06]
2012 Yavuz	12.4	7.2	20	15.3	6.1	20	5.6%	-2.90 [-7.04, 1.24]
2015 Wang LJ	25.76	19.23	51	40.1	15.58	53	2.1%	-14.34 [-21.08, -7.60]
<b>Subtotal (95% CI)</b>			<b>207</b>			<b>186</b>	<b>22.0%</b>	<b>-3.52 [-5.61, -1.44]</b>

Heterogeneity:  $\text{Chi}^2 = 14.42$ ,  $\text{df} = 4$  ( $P = 0.006$ );  $I^2 = 72\%$

Test for overall effect:  $Z = 3.31$  ( $P = 0.0009$ )



Huang, Ruixue, Huacheng Ning, Minxue Shen, Jie Li, Jianglin Zhang, and Xiang Chen. 2017. "Probiotics for the Treatment of Atopic Dermatitis in Children: A Systematic Review and Meta-Analysis of Randomized Controlled Trials." *Frontiers in Cellular and Infection Microbiology* 7 (September): 392.

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## Wang et al. study

- DB-RPC trial of 220 children with mod-severe AD
- Randomized to receive LP, LF, LP+LF mixture, and placebo for three months
- *Lactobacillus paracasei* (LP) and *Lactobacillus fermentum* (LF)
- ( $2 \times 10^9$  colony forming units (cfu) QD), an LP and LF mixture ( $4 \times 10^9$  cfu QD)
- Children who received LP, LF, and LP+LF mixture showed lower SCORAD scores than the placebo group ( $p < 0.001$ )

Wang LJ, Wang JY. Children with atopic dermatitis show clinical improvement after *Lactobacillus* exposure. *Clinical & Experimental Allergy*. 2015 Apr;45(4):779-87.

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**Case Continuation**

- He is anxious about a treatment plan and has read about overusing topical steroids.
- He is also interested in getting to the "root" of the problem and not just using topicals since it is very difficult to apply them all over.

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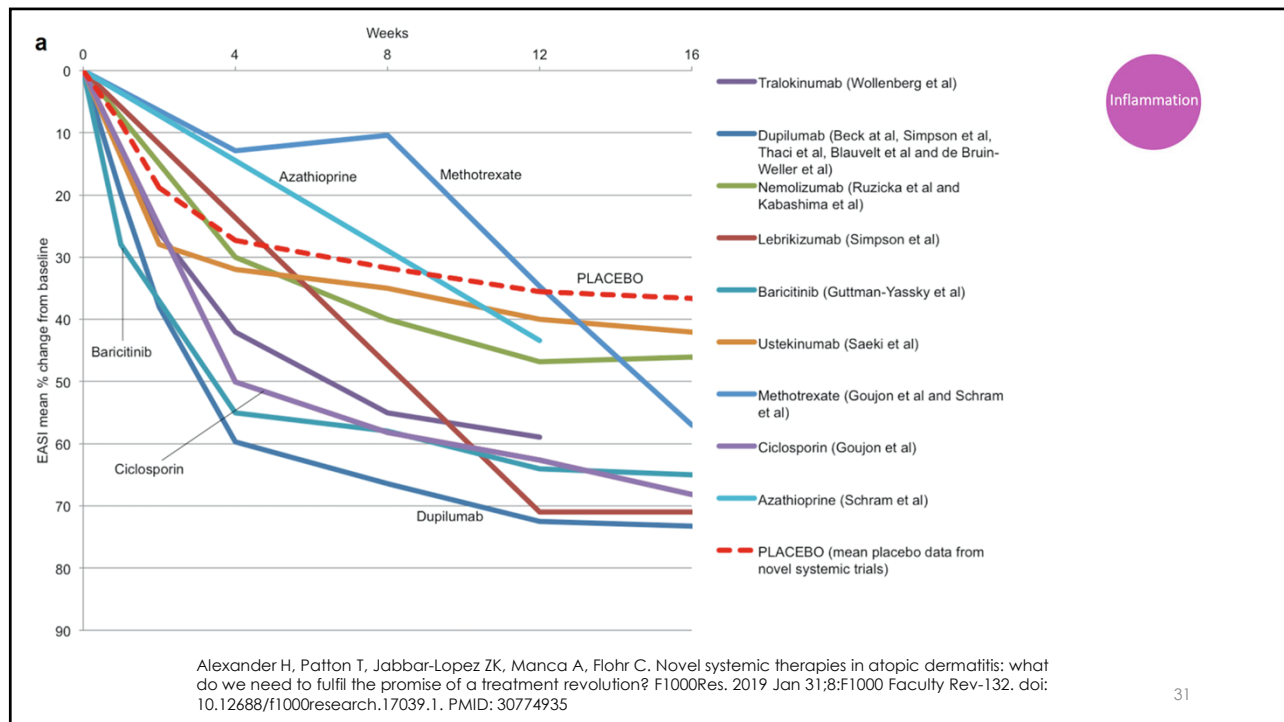
**Case Continuation**

- UVB phototherapy is discussed, but he does not have easy access to a car and the closest center is more than 45 minutes away.
- It is agreed that dupilumab would be the best option for him at this time and he is given the loading dose in clinic after explaining the risks and benefits of the drug.

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**Case Continuation**

- 2 months later he returns and he is doing very well.
- He has been sleeping well, his itch is nearly gone, and his skin feels "brand new".
- He is very happy and is asking if he is now "cured" and can come off dupilumab.

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**Questions**

- What might be the next step for this patient?
- What could have been done differently?

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*Thank you!*

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