DIET AND FOOD IN AD: WHAT IS THE EVIDENCE?

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DISCLOSURES

- No relevant disclosures for this talk

AD BACKGROUND

- Incredibly common, chronic inflammatory disease
- Up to 20% of children and up to 10% adults in developed countries
- Massive suffering for both patient and family

WHAT CAUSES IT?

PROGRESS?

**HYPOTHESIS**

- Eczema is not one disease
- Once we better understand the subtypes, research will accelerate significantly

**FILAGGRIN**

*filament-aggregating protein*

**IL-4 AND IL-13**

- Keratinocytes differentiated in the presence of IL-4 and IL-13 exhibited significantly reduced filaggrin gene expression
EITHER WAY...

The Barrier Problem is here to stay

OUR ALLERGIST COLLEAGUES...

• May focus more on allergic triggers than other physicians
• Evidence that allergists more likely to use diet changes for AD


JTF

• Joint Task Force represents the American College of Asthma, Allergy and Immunology (ACAAI) and the American Academy of Asthma, Allergy and Immunology (AAAAI)

POLL

The AAD Atopic Dermatitis Guidelines published in 2014 recommend which of the following actions if there is a persistent correlation of symptoms with a food:

A) IgE testing for the food or foods
B) Skin Prick Testing (SPT) for the food or foods
C) Atopy Patch Testing for the food or foods
D) Diagnostic Elimination Diet of the food or foods
E) Oral challenge of the suspected food or foods
DIFFERENCE

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>AAD</th>
<th>JIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food allergy testing</td>
<td>Diagnostic elimination diet or controlled oral food challenge if specific food allergy suspected</td>
<td>IgE testing if clinically suspected; oral food challenge only if IgE testing negative</td>
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</tbody>
</table>

STUDIES

- Many families feel that this is “root cause”
- Good data that excluding foods in unselected patients offers no benefit
- This also suggests that non-allergic mechanisms probably play little or no role

AD SEVERITY IS CORRELATED WITH FOOD ALLERGY

<table>
<thead>
<tr>
<th>Group</th>
<th>Days of treatment</th>
<th>Sites affected</th>
<th>IgE food allergy (%)</th>
<th>Reported food reaction (%)</th>
<th>Relative risk</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>0.8</td>
<td>2.6</td>
<td>40/348 (12)</td>
<td>19/346 (5.5)</td>
<td>1</td>
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<tr>
<td>1</td>
<td>10.7</td>
<td>3.2</td>
<td>6/38 (17)</td>
<td>2/36 (5.5)</td>
<td>1.4</td>
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<tr>
<td>2</td>
<td>20.9</td>
<td>3.9</td>
<td>8/35 (23)</td>
<td>1/35 (3)</td>
<td>1.9</td>
</tr>
<tr>
<td>3</td>
<td>42.9</td>
<td>4.2</td>
<td>12/35 (34)</td>
<td>3/35 (8.8)</td>
<td>3.1</td>
</tr>
<tr>
<td>4</td>
<td>129.8</td>
<td>4.7</td>
<td>24/35 (69)</td>
<td>9/35 (25)</td>
<td>5.7</td>
</tr>
</tbody>
</table>

*Mean days of topical steroid treatment to age 12 months.


FOOD ALLERGY

- Food allergy is significantly associated with AD, roughly worsening with severity
- However, 80% do not experience worsening of their AD due to food allergy
- Patients perceive adverse reactions to food at a rate 10 times as high as their true prevalence

specific food. If there is consistent correlation of symptoms (with or without positive allergy testing), a diagnostic elimination diet for up to 4 to 6 weeks with the suspected food item(s) may be initiated. If a diagnostic elimination diet is unsuccessful or if there is a negative reaction to the suspected food item, a controlled oral food challenge may be performed. A controlled oral food challenge is performed under supervision in a medical setting, and the patient is monitored for at least 2 hours after the last ingestion of the suspected food item. If a reaction occurs, the patient is treated accordingly. If no reaction occurs, the food item may be reintroduced into the diet gradually.


DIET AND AD

- Demonstrated that in some 80% foods thought to worsen AD actually do not!
- Moreover: once skin is better, most drop these concerns

ATOPIC MARCH

- The atopic march

Pediatric Dermatology Vol. 34 No. 5 516–527. 2017

The Role of Elimination Diets in Atopic Dermatitis—A Comprehensive Review

Neil R. Lim, B.A.,* Mary E. Lohman ‡, B.A.,* and Peter A. Liu, M.D.
Department of Dermatology, Feinberg School of Medicine, Northwestern University, Chicago, Illinois

DIET AND AD

- There is a powerful placebo effect in many conditions with dietary change
- And, there is no doubt that eating healthy is a good thing that may have effects on other areas (e.g., microbiome)


WHAT COULD GO WRONG?

- Avoidance of food may increase risk of developing anaphylaxis
- Retrospective review of 298 patients who avoided previously tolerated foods in an effort to treat eczema found:
  - When the foods were reintroduced, 19% had symptoms of acute IgE reactions; of those 30% classified as anaphylaxis

1186 DBPCFCs were studied
- Sensitization occurred significantly more often in children with previous AD
- Children with AD and worsening AD as only symptom reacted no more often than the placebo group
- Flares of AD without other allergic symptoms are unlikely to be food allergy


REVERSAL

- Guidelines previously suggested holding back on allergenic foods such as peanuts
- Thought: By delaying introduction, risk of allergy could be lower
- Turns out: Opposite is true!


LEAKY SKIN?

- 530 infants in ITT analysis
- Peanut allergy if consumed= 1.9%
- Peanut allergy if avoided = 13.7% (p < 0.001)

Conclusion: Early introduction of peanuts decreased peanut allergy!


WHAT I SAY:

3 types of food issues in AD (at least):
- True food allergies: IgE-mediated urticaria/angioedema/anaphylaxis
- Food intolerances: lactose intolerance, sulfites, food additives, foods directly irritating the skin
- Inflammatory foods: Dairy, Carbs, Sugars for some patients

CONCLUSIONS

- Many patients will ask about diet and eczema: they are deeply related but maybe not in the way they think.
- For those with verified allergies we recommend avoiding those foods strictly. A tough reality for those with AD is that such allergies are more common.
- For those without allergies, it may actually be detrimental to avoid foods as they may be more likely to develop an allergy.
- Meanwhile, we should focus on healthy diet overall and intensify skin care as this may be the gateway to transcutaneous sensitization and developing more allergies if left unchecked.