Diet in Dermatology: Translating Evidence Into Practice
Rajani Katta MD
Clinical Professor of Dermatology
McGovern Medical School, University of Texas Houston
Clinical Assistant Professor of Medicine
Baylor College of Medicine

FRAMEWORK

1. Review risk of potential co-morbidities for each skin disease/ condition
2. Discuss potential triggers: eating patterns/ foods/ nutrients that may worsen skin disease
3. Discuss potential “helpers”: eating patterns/ foods/ nutrients that may help in the treatment of skin disease

PATIENT HANDOUTS

Handouts:  https://www.skinanddiet.com/overview

Quick Reference Infographics: https://www.skinanddiet.com/infographics

REFERENCES


PSORIASIS

1. Reduce risk of co-morbidities (Patients with psoriasis at elevated risk of CV disease, DM, HTN, dyslipidemia, metabolic syndrome)
   a. Diets supported by evidence to reduce risk: Mediterranean, DASH
2. Helpers
   a. Weight loss to improve response to therapy
   b. Weight loss to improve PASI scores
3. Triggers
   a. Increased risk of celiac disease
   b. Gluten-free diet may help those with gluten antibodies

ACTION ITEMS

1. Screen during history and physical: BMI, history of GI symptoms (screen for gluten allergy/hypersensitivity)
2. Educate on increased risk of co-morbidities
3. Eval by primary MD
4. All pts >45 should be screened for DM; consider HgA1C to indicate 3mo of BS risk
5. If overweight/obese, or with family history, or of certain ethnic groups, or other risk factors, screen at younger age
6. If overweight/obese and with pre-diabetes, refer to diabetes prevention program for both diabetes prevention and weight loss
7. If overweight/obese consider referral to nutritionist

REFERENCES


Ford AR, Siegel M, Bagel J, et al. Dietary Recommendations for Adults With Psoriasis or Psoriatic Arthritis From the Medical Board of the National Psoriasis Foundation: A Systematic Review. JAMA Dermatol. Published online June 20, 2018. doi:10.1001/jamadermatol.2018.1412


ATOPIC DERMATITIS

1. Reduce risk of co-morbidities
   a. More research needed, but severe AD may be associated with higher risk of heart disease
2. Helpers
   a. Synbiotics in adults and children over the age of 1 year
   b. Healthy fats may reduce TEWL
3. Triggers
   a. 3 main types of foods allergies that may result in flare of AD
   b. These include IgE-mediated, immediate-type hypersensitivity/ delayed eczematous reactions which may flare AD up to 48 hours later/ and systemic contact dermatitis, which may also lead to a delayed flare

ACTION ITEMS

1. Food diary and possible testing
   a. Issue of food allergies in eczema is very complex
2. Increased fiber in diet via fruits, vegetables, whole grains (if not allergic)
3. Consider synbiotics or increased consumption of fermented foods containing live, active cultures

REFERENCES


ACNE

1. Helpers
   a. Low glycemic-index diet for 10-12 weeks has been shown to result in clinical improvement, beneficial changes in serum hormone levels, and change in sebum levels. By skin biopsy, has also resulted in less skin inflammation and reduced sebaceous gland size.

2. Triggers
   a. Role of dairy unknown; may be a trigger in some individuals
   b. Case series of whey protein supplements triggering severe acne, resistant to treatment

3. More research needed
   a. Role of zinc, omega-3 fatty acids, fiber, probiotics, antioxidants

ACTION ITEMS

1. Educate on role played by sugar and processed carbs
2. For motivated individuals, consider further education on low glycemic index dietary recommendations
3. Emphasize that diet is only ONE aspect of therapy
4. Consider individual patient and feasibility of dietary change
5. Consider d/c of whey protein supplements
6. Explain that role of dairy remains unknown, but may possibly serve as a trigger in some individuals

REFERENCES


ROSACEA

1. Reduce risk of co-morbidities
   a. Population study of close to 50K individuals indicated increased risk of GI conditions/diseases in pts with rosacea

2. Helpers
   a. Case series of SIBO (small intestinal bacterial overgrowth) treatment resulting in long-term resolution of rosacea
   b. Consider measures to support gut flora, including prebiotics and probiotics

3. Triggers
   a. Consider foods and beverages that result in vasodilation, either directly or via neurogenic vasodilation via role of TRP channels [transient receptor potential channels]
   b. Hot beverages
   c. Alcohol
   d. Capsaicin-related: spicy foods, red pepper, cayenne pepper
   e. Cinnamaldehyde-related: cinnamon, tomatoes, citrus, chocolate

ACTION ITEMS

1. Screen with history for GI co-morbidities
2. Refer to GI if necessary
3. Education on food and beverage triggers, including handout
4. Consider either food diary or 8-week elimination of potential rosacea triggers

REFERENCES


SKIN AGING

1. Role of oxidation
   a. Foods naturally rich in antioxidants
   b. Fruits, vegetables, whole grains, spices, herbs

2. Role of inflammation
   a. Anti-inflammatory foods
   b. Similar to foods naturally rich in antioxidants
   c. Omega-3 fatty acids

3. Role of glycation
   a. “Sugar sag”
   b. Strategies to reduce blood glucose levels

REFERENCES


### Summary of Skin Conditions and Food Triggers

*Children are at higher risk for nutritional deficiencies. Always speak to your pediatrician before eliminating foods*

<table>
<thead>
<tr>
<th>Skin Conditions</th>
<th>Potential Food Triggers</th>
<th>Recommended Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acne</strong></td>
<td>• Sugar and refined carbohydrates • Role of dairy and whey protein varies</td>
<td>• 12-week diet change</td>
</tr>
<tr>
<td><strong>Aging Skin</strong></td>
<td>• Sugar, refined carbohydrates • Fried foods • Meats grilled at high temperatures • Trans fats</td>
<td></td>
</tr>
<tr>
<td><strong>Eczema and atopic dermatitis</strong></td>
<td>Type 1 Hypersensitivity Reactions: Eggs, milk, wheat, soy, seafood, and nuts</td>
<td>• Skin prick tests or blood tests • Confirm with physician-supervised food challenge</td>
</tr>
<tr>
<td></td>
<td>Delayed eczematous reactions: Eggs, milk, wheat, soy, seafood, and nuts</td>
<td>• Food diary • Confirm with physician-supervised food challenge</td>
</tr>
<tr>
<td></td>
<td>Systemic contact dermatitis: Foods related to balsam of Peru, foods high in nickel, processed foods containing propylene glycol</td>
<td>• Food diary • Confirm with patch testing</td>
</tr>
<tr>
<td><strong>Rosacea</strong></td>
<td>• Alcohol • Heat related: coffee, tea • Capsaicin-related: peppers, spicy foods • Cinnamaldehyde-related: tomatoes, citrus, chocolate, cinnamon</td>
<td>• Food diary • 6-week avoidance diet</td>
</tr>
<tr>
<td>Psoriasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>• Pro-inflammatory foods (sugar, refined carbs, unhealthy fats) may increase risk of associated systemic diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Gluten may act as a food trigger in a small percentage of psoriasis patients</td>
<td>• Blood tests for gluten antibodies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Evaluation by GI doctor for those with GI symptoms</td>
<td></td>
</tr>
</tbody>
</table>

*As in other areas, everyone is different, and the research in these areas is evolving. Your dermatologic and medical history will always impact dietary recommendations*
ADDITIONAL READING

SKIN CANCER


INFLAMMATION


MORE ON PREBIOTICS AND PROBIOTICS


THE DIABETES PREVENTION PROGRAM


SUMMARY

1. The Medicare Diabetes Prevention Program is a structured intervention
2. For those who meet the criteria, participation in this 1-year program may be covered by Medicare and by some commercial insurance plans
3. Goal: prevent type 2 diabetes in those with prediabetes
4. A minimum of 16 “intensive” core sessions of a CDC-approved curriculum over 6 months
5. Group-based, classroom-style setting
6. Followed by less intensive monthly meetings
7. Overall, 25 sessions over 1 year
8. Reduction of new cases of type 2 diabetes by 58% overall and 71% in those over age 60
9. Instruction and support from Lifestyle Coaches
10. Learn how to incorporate healthier eating and moderate physical activity
11. Learn how to incorporate problem-solving and coping skills into daily lives
12. Focus on small, measurable goals
13. Goal to achieve at least 5% weight reduction

YMCA Diabetes Prevention Program Physician Referral Form

1. BMI >25 (or 22 if Asian)
2. Lab tests indicating pre-diabetes
   a. Fasting plasma glucose 100-125
   b. 2-hour plasma glucose 140-199
   c. Hemoglobin A1C 5.7%-6.4%