FO64: Controversies and Challenges in Contact Dermatitis: Systemic Allergens and Avoidance Diets

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Systemic Contact Dermatitis (SCD)

• A cutaneous, mucosal, or visceral immune reaction upon systemic re-exposure to a known Type IV, lymphocyte-mediated allergen in a sensitized individual
Routes of Exposure for SCD

- Transepidermal
- Transmucosal
- Oral
- Intravenous
- Subcutaneous
- Intramuscular
- Inhalation
SCD

• Should be considered in patients with a positive patch test to an allergen (known to cause SCD) who have not cleared after avoidance of cutaneous exposure.
Presentations of SCD

• Flare-up of existing, previous ACD or patch test reactions
• Pompholyx/Dyshidrosis/Vesicular Dermatitis
• Maculopapular eruption
• Chronic Pruritus
• Exfoliative Erythroderma/Toxiderma
• Chronic Urticaria
• Erythema multiforme and vasculitis
• SDRIFE (Symmetric Drug-Related Intertriginous and Flexural Erythema)/“Baboon Syndrome”
• AGEP
• Hyperkeratotic papules of the elbows
• Pruritus ani
• Eyelid Dermatitis
SCD Extracutaneous Manifestations

- Headache
- Fatigue, Fibromyalgia, Joint pain, Chronic Fatigue
- Gastrointestinal Sx
- Respiratory Sx
- Fever
- Vasculitic disturbances
Common Causes of SCD

• Metals: Nickel, Cobalt, Gold, Chromium

• Medications: Aminoglycosides, Corticosteroids, Ethylenediamine

• Plants and Herbs: Compositae, Anacardiaceae, Balsam of Peru, Propolis

• Other: Formaldehyde, Propylene Glycol, Methylisothiazolinone
Specific Allergens with Dietary Exposure

- Urushiol
- Nickel
- Balsam of Peru
- Compositae and Sesquiterpene Lactone
- Formaldehyde
- Propylene Glycol
- Carmine
Nickel Diet Heavy Hitters

- Soy
- Peanuts and other Nuts
- Legumes
- Chocolate and cocoa
- Oats
- Whole Wheat Flours
BOP Free Diet

- No Citrus
- No danish, bakery goods, candy, gum
- No spices such as cinnamon, cloves, vanilla, curry, allspice, anise, and ginger
- No spicy condiments such as ketchup, chili sauce, barbecue sauce
- No pickles
- No wine, beer, gin or vermouth
- No perfumed or flavored tea or tobacco
- No chocolate or ice cream
- No Cola or other spiced soft drinks
- No Chili, Pizza, Italian or Mexican foods with red sauces
- No Tomatoes
Table IV. Food items most commonly mentioned by 30 patients as causes of flare-up of dermatitis (groups A and B1)

<table>
<thead>
<tr>
<th>Food Item</th>
<th>No.</th>
<th>%</th>
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<tbody>
<tr>
<td>Tomatoes</td>
<td>10</td>
<td>33</td>
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<tr>
<td>Citrus</td>
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<td>30</td>
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<tr>
<td>Spices</td>
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<td>Cola/soda</td>
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<td>17</td>
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<td>Chocolate</td>
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<td>10</td>
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<tr>
<td>Chili</td>
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<td>Cinnamon</td>
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<tr>
<td>Beer/wine</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Vinegar</td>
<td>2</td>
<td>7</td>
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<tr>
<td>Dairy products</td>
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<td>7</td>
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<td>Coffee</td>
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<td>3</td>
</tr>
<tr>
<td>Baked goods</td>
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<td>3</td>
</tr>
<tr>
<td>Peanuts</td>
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</tbody>
</table>
BOP Cross Reactors

• Balsam of Tolu
• Beeswax
• Colophony
• Eugenol and Isoeugenol
• Fragrance Mix
• Propolis
• Styrax
• Turpentine
• Wood Tar
Propolis and SCD

• Propolis or “bee glue” is a mixture of tree and flower resins collected by worker bees to repair and build nests
• Commonly used in medicines, cosmetics, lozenges and syrups
• Can cause reactions in BOP allergic patients
Propylene Glycol

• An excipient used in cosmetics, medicaments, and foods
• In foods it is used as a humectant, preservative, and softening agent as well as a solvent for flavorings and colors
Formaldehyde

• Aspartame is broken down by the liver to Methanol which leads to the formation of

• Most reported cases of formaldehyde related SCD from aspartame have EYELID involvement
“Inactive Ingredients” in Medications

• Aspartame in Motelukast chewable tabs
• Propylene Glycol, Benzoic Acid, Azo dyes, Sorbitan, and Parabens in oral antihistamines
• Propolis in Gummy Vitamins
Compositae/Asteraceae

• A plant family whose main allergen is sesquiterpene lactone and parthenolide
• Includes chrysanthemums, daisy, ragweed, feverfew, sunflower, chamomile, endive, arugula, artichoke, echinacea, chicory lettuces and root, and elecampane.
Carmine

• A natural dye (Natural Red 4) from the dried female cochineal insect *Dactylopius coccus*
• Ancient textile and ornamental dye used in foods, drinks, drugs and cosmetics
• Immediate hypersensitivity reactions to proteins have been reported more commonly than ACD
Carmine

• Salami, sausages
• Old versions of Campari
• Popsicles, fruit juices, candy
• Yogurt
• Artificial crab and fish paste
• Generic azithromycin
How to Handle the Diet

• Elimination diet for at least 3-4 weeks
• Reintroduction of suspected trigger foods one a week
• Encourage use of Food Diary/App
• Consider referral to Allergist for Allergen Challenge and Desensitization Therapy
• Give patients copies of primary articles
References of Articles and Sites to give to patients with SCD


Scheman A, Cha C, Jacob SE, Nedorost S, Food Avoidance Diets for Systemic, Lip, and Oral Contact Allergy: An American Contact Alternatives Group Article

Dermatitis Academy (www.dermatitisacademy.com)