

Desonide Foam Improves Atopic Pruritus

BY KERRI WACHTER

PHILADELPHIA — Desonide emulsion foam significantly reduced pruritus among pediatric patients with moderate atopic dermatitis compared with the vehicle alone, according to the results of a randomized phase III study of more than 500 children and adolescents.

At week 4, 34% of patients in the desonide group had a pruritus score of 0 (no pruritus), compared with 9% in the vehicle group, Dr. Sheila F. Friedlander and her colleagues reported in a poster presented at the annual meeting of the Society for Pediatric Dermatology.

Desonide is a low-potency corticosteroid approved in the United States for the treatment of corticosteroid-responsive dermatoses. Ethanol-free desonide emulsion foam (Verdeso), developed by Connetics Corporation, is approved to

treat mild-to-moderate atopic dermatitis (AD). The company funded this study, said Dr. Friedlander, a professor of pediatrics and medicine (dermatology) at the University of California, San Diego.

The multicenter trial included patients at least 3 months old but less than 18 years with moderate AD. Patients were assigned to age-based cohorts: 12 years to less than 18 years (cohort 1), 6 years to less than 12 years (cohort 2), 3 years to less than 6 years (cohort 3), and 3 months to less than 3 years (cohort 4).

In all, 581 patients were included in the study—387 in the desonide group and 194 in the vehicle group. The majority of patients (87%) completed the planned 4-week treatment period—93% of the desonide group and 77% of the vehicle group. There were no differences between the two groups in terms of baseline pruritus scores.

Patients or primary caregivers were instructed to apply the foam twice daily (mornings and evenings) to affected areas over a 4-week period. They were instructed to include the face and other thin-skinned areas, if affected. Efficacy was assessed during scheduled visits at baseline (day 1), week 2, week 4 (or end of treatment), and 3 weeks after the end of treatment.

Patients and/or caregivers were instructed to assess pruritus for 24 hours prior to each study visit, using a pruritus score table. The investigators did not assess pruritus. Patients who were not able to read and/or understand the score table had their pruritus scored by investigator interview. Pruritus was scored 0-4, with a score of 0 meaning no itching and a score of 4 meaning severe/constant itching (disrupting sleep and activities).

In addition, patients or caregivers completed the Dermatology Life Quality Index (DLQI) or the Children's Dermatology Life Quality Index questionnaire at baseline and again at week 4.

Patients in the desonide group had significantly decreased mean pruritus at week 2 and week 4 compared with those in the vehicle group. Importantly, no rebound phenomenon was observed 3 weeks after the end of treatment for either group. The average pruritus scores at weeks 2 and 4 did not vary by age cohort.

The average quality of life measure was significantly improved for the patients on desonide compared with those on vehicle alone at week 4.

Dr. Friedlander disclosed that she has received grants for educational activities from Connetics and several other pharmaceutical companies. ■

Avoidance Diets an Option With Systemic Contact Dermatitis

BY KERRI WACHTER

PHILADELPHIA — Children with systemic allergic contact dermatitis can benefit from diets that minimize ingestion of certain foods that contain key allergens, including nickel and cobalt, according to Dr. Catalina Matiz.

"We should be considering [an avoidance diet] in children with a proven contact dermatitis who fail to improve with contact avoidance," said Dr. Matiz, a pediatric dermatology postdoctoral fellow at Rady Children's Hospital in San Diego.

Systemic contact dermatitis (also known as systemically reactivated allergic contact dermatitis) occurs when an exquisitely sensitized person has a skin reaction after systemic exposure—oral ingestion, inhalation, intravenous/intramuscular/subcutaneous exposure. Nickel, cobalt, balsam of Peru (derived from the *Myroxylon pereirae* tree and used in perfume and as a flavoring), and formaldehyde derivatives are among the most common triggers of systemic contact dermatitis (SCD).

SCD can present in many ways, including disseminated erythematous papules, vesicular hand dermatitis (pompholyx), and areas of well-defined redness on the buttocks and/or upper inner thighs (baboon syndrome), Dr. Matiz said at the annual meeting of the Society for Pediatric Dermatology.

SCD can present at any age. Exposure to the allergen can cause a flare of the dermatitis in the same area where the initial episode of elicitation occurred, including patch test sites. Some patients may experience systemic symptoms such as nausea, vomiting, diarrhea, fever, malaise, and headaches.

To date, Dr. Matiz—working in the contact dermatology clinic at Rady with Dr. Sharon Jacob—has seen several children with SCD who improved with avoidance diets. Dr. Matiz discussed key foods to avoid for patients with SCD to nickel, cobalt, balsam of Peru, and formaldehyde.

Nickel

The most common presentation of nickel SCD is vesicular hand eczema. The average daily consumption of nickel is 0.22-0.35 mg/day. One study found that 1% of patients with nickel SCD would react to the nickel content of a normal diet—less than 0.5 mg/day (Contact Dermatitis 2006;54:79-86), Dr. Matiz noted.

Interestingly, there is some evidence to suggest that



One food that should be avoided is chocolate, since it can contain nickel, cobalt, and balsam of Peru.

immunologic tolerance can result through small amounts leached into saliva from braces (Contact Dermatitis 2007;56:247-54). In fact, getting braces prior to ear piercings seems to be protective, she said.

Nickel can occur naturally in food or can be added inadvertently by processing, cooking, or storage. Foods that contain relatively high amounts of nickel include dark chocolate, seafood (especially shellfish), legumes, grains, and nuts.

One low-nickel diet has been proposed (J. Am. Acad. Dermatol. 1993;29:1002-7), but a low-nickel diet "is not very child-friendly," Dr. Matiz said. She and her colleagues recommend avoiding chocolate, seafood (especially shellfish), some legumes, grains, nuts, canned foods, leafy green vegetables, and multivitamin supplements/drinks with nickel.

Cobalt

"Cobalt is commonly associated with nickel dermatitis and also presents with vesicular hand eczema," said Dr. Matiz. Importantly, cobalt is a main component of vitamin B₁₂. The average cobalt ingestion is 12 mcg/day.

Last year a point-based low-cobalt diet was published, in which food items were assigned points based on the amounts of cobalt (Contact Dermatitis 2008;59:361-5). Patients were limited to a total of 12 points per day.

Flaxseed, chick peas, and lamb liver each count as 7 points. Buckwheat, chili with meat and beans, chocolate, and soy milk each count as 5 points. "Patients found that this was very easy for them to follow," said Dr. Matiz. In particular, patients should avoid Brazil nuts, cow liver, and homeopathic/herbal remedies.

Balsam of Peru

Systemic contact dermatitis caused by balsam of Peru presents as hand and face dermatitis. This natural extract from *Myroxylon pereirae* is composed of more than 400 different constituents, and therefore its components can show up in lots of products. Patients with SCD to balsam of Peru need to avoid products containing fragrance, for example.

In an adult population, 47% of the patients with balsam of Peru or fragrance mix allergy improved with diet (J. Am. Acad. Dermatol. 2001;45:377-81). Interestingly, the most provocative food allergens are tomatoes, citrus fruit peels, spices, sodas, chocolate, and chili. The specific allergens in tomatoes are cinnamic alcohol and coniferyl alcohol, both of which are found in balsam of Peru, said Dr. Matiz.

Patients on a diet to minimize balsam of Peru ingestion should avoid tomatoes and tomato-containing products, products containing citrus, flavoring agents, spices, wine, beer, gin, perfumed teas, tobacco, chocolate, cough medicines, ice cream, and soda.

Formaldehyde

Patients with SCD to formaldehyde often present with periorbital dermatitis. Formaldehyde is a ubiquitous contact allergen found in many products, including the sweetener aspartame. Aspartame is metabolized to methanol, which then results in the formation of formaldehyde and formate adducts.

Dr. Matiz illustrated how common formaldehyde compounds are with the story of a small boy who presented with severe periorbital dermatitis. Patch testing revealed an allergy to formaldehyde.

His mother was instructed to avoid using products containing formaldehyde, but the boy improved only minimally. He also had asthma and was being treated with albuterol and Singulair (montelukast) chewable tablets.

A little research turned up the fact that the chewable tablets contain aspartame. The boy was switched to the granule formulation, which does not contain aspartame, and he improved. ■