Contact Dermatitis for the Practicing Allergist

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Overall Purpose/Goal: To provide excellent reviews on key aspects of allergic disease to those who research, treat, or manage allergic disease.

Target Audience: Physicians and researchers within the field of allergic disease.

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List of Design Committee Members: David I. Bernstein, MD

Activity Objectives

Learning objectives:

- 1. To recognize that contact dermatitis should be considered in the differential diagnosis of any patient presenting with a pruritic eczematous rash.
- 2. To understand that history and physical examination alone may not reliably differentiate irritant contact dermatitis (ICD) from allergic contact dermatitis (ACD).
- 3. To interpret patch test results in a standardized manner, with the initial reading at 48 hours and the second reading at 3 to 7 days after the application of patch tests.
- 4. To educate patients regarding the clinical relevance of positive patch test results

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Disclosure of Significant Relationships with Relevant Commercial Companies/Organizations: D. I. Bernstein is on the Joint Task Force for Practice Parameters and the American Board of Allergy and Immunology; has received consultancy fees from Teva, Novartis, Circassia, and Merck; has received research support from Amgen, Circassia, GlaxoSmithKline, Johnson & Johnson, Merck, Teva, Pfizer, Genentech, Novartis, Boehringer Ingelheim, AstraZeneca, Sanofi, Mylan, Chase, Oriel, Pearl, Cephalon, and Janssen; and has received lecture fees from Merck.

This article provides an overview of important practice recommendations from the recently updated Contact Dermatitis Practice Parameter. This updated parameter provides essential recommendations pertaining to clinical history, physical examination, and patch testing evaluation of patients suspected of allergic contact dermatitis. In addition to providing guidance for performing and interpreting closed patch testing, the updated

parameter provides concrete recommendations for assessing metal hypersensitivity in patients receiving prosthetic devices, for evaluating workers with occupational contact dermatitis, and also for addressing allergic contact dermatitis in children. Finally, the document provides practical recommendations useful for educating patients regarding avoidance of exposure to known contact sensitizers in the home and at work. The Contact Dermatitis Parameter is designed as a practical, evidence-based clinical tool to be used by allergists and dermatologists who routinely are called upon to evaluate patients with skin disorders. © 2015 American Academy of Allergy, Asthma & Immunology (J Allergy Clin Immunol Pract 2015;3:652-8)

Key words: Allergen; Contact; Dermatitis; Sensitizer; Patch test; Allergy; Allergic

Patients with cutaneous eruptions are commonly referred to the allergist's office for evaluation of possible allergic contact dermatitis (ACD). For this reason, the practicing allergist must be familiar with common sensitizers that are recognized causes of ACD as well as environmental sources of exposure. A working knowledge of ACD enables the

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Abbreviations used ACD- allergic contact dermatitis CD- contact dermatitis

identification of appropriate allergens for closed patch testing needed to confirm a diagnosis. An allergy consultant working in this area must understand how to correctly apply patch tests, accurately interpret patch test responses, and define their clinical relevance.

For these reasons, the Joint Task Force for Practice Parameters commissioned a workgroup of experts to update the Contact Dermatitis Practice Parameter initially published in 2006. The updated Contact Dermatitis Practice Parameter, recently published in the Journal of Allergy and Clinical Immunology In Practice, is written as a practical clinical guide for the practicing allergist. This update provides clinically useful, evidence-based recommendations pertaining to medical history, patch testing, and overall management. An outline of its content is listed in Table I. The final document was peer-reviewed by members of the Joint Taskforce as well as external reviewers including allergists and dermatologists with recognized expertise in the field. Novel contemporary issues in the updated parameter include preoperative patch test screening for metal allergy; evaluation and management of occupational contact dermatitis (CD); potential role and limitations of drug patch testing; and comprehensive aspects of disease management including avoidance and prevention.

This review will highlight key points from the updated Contact Dermatitis Practice Parameter, emphasizing important "clinical pearls" to assist the allergist in recognizing, diagnosing, and managing challenging patients. Specifically, the following questions are addressed:

- 1. What are the clinically useful clues in identifying potential causes of ACD?
- 2. Which dermatologic conditions should be considered in the differential diagnosis?
- 3. In which patients should patch testing be performed?
- 4. How should patch testing be optimally performed and interpreted?
- 5. What are the common causes of occupational CD?
- 6. What are the most common sources of contact allergens?
- 7. When should presurgical patch testing for metals be considered?

CLINICAL CLUES

CD should be considered in the differential diagnosis of any patient presenting with a pruritic skin rash with erythematous papules, vesicles, or an eczematous rash with crusted lesions. Chronic CD is associated with secondary skin changes such as lichenification, fissuring, thickening, and scaling. It is well known that the clinical history and physical appearance of skin are often not reliable in differentiating ACD from irritant CD, and patch testing is often the only way to distinguish the 2 conditions. There are also a number of other dermatologic conditions that can be confused with ACD and should be considered in the differential diagnosis. Table II appears in the updated parameter and lists the clinical features of various skin conditions useful in differentiating ACD from irritant CD,

TABLE I. Outline of content of the Updated Contact Dermatitis Practice Parameter¹

- 1. Evaluation (Summary Statements 1-15)
 - Medical history and examination
 - Differential diagnosis
 - Geographical location providing clues to causation
- 2. Patch testing recommendations (Summary Statements 16-27)
 - Choosing appropriate test antigens
 - Test devices
 - When and how to interpret patch tests
 - Recognizing and managing possible false-negative and false-positive results
 - Testing for photoallergic dermatitis
- Sources of exposure to relevant contact allergens (Summary Statements 28-33)
 - Airborne exposure
 - Personal care products
 - Hair products
 - Ectopic transfer of allergen to other areas of the skin
 - · Causes and sources of photo ACD
- 4. Iatrogenic causes (Summary Statements 34-37)
 - Topical medications
 - Preoperative testing for metal allergy
 - Drug patch testing
- 5. Special patient populations (Summary Statements 38-41)
 - Children
 - Workers
- 6. Treatment and prevention (Summary Statements 42-45)

atopic dermatitis, seborrheic dermatitis, dyshidrotic eczema, psoriasis, dermatitis herpetiformis, and mycosis fungoides. ¹ In some cases, the skin biopsy may be used for differentiating CD from some of the aforementioned skin disorders. ACD can coexist with any of these conditions when patients develop allergy to topically applied products or medications; secondary ACD, for example, is commonly recognized in patients with atopic dermatitis.

Geographical location of the cutaneous eruption provides clues

The North American Contact Dermatitis Group identified the face, hands, and generalized distribution over the entire body as the 3 most commonly involved geographical areas for involvement with ACD.² Rashes located in specific sites including the face, eyelids, lips, neck and scalp, hands, axilla, anogenital region, feet, and legs provide specific clues as to causation. Table III lists different geographical locations of eruptions, potential sources of exposure, and specific causative allergens.

Women are at a greater risk for facial ACD caused by chemical and natural botanical sensitizers contained in personal care or cosmetic products applied to the face. Airborne facial exposure from plant sources (eg, seasonal pollens) as well as inadvertent ectopic transfer of contact allergens by hands from other parts of the body should be considered.³ Nickel, natural botanical ingredients, and nail product chemicals (acrylates, tosylamide/ formaldehyde resin) are often ectopically transferred from other sites, causing eyelid dermatitis.⁴

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