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Clinical Pearls

Clinical Pearls help prepare residents for the future by providing them with top tips from experts about what they should know about specific, key subject areas by the time they complete their residency.

Patch test pearls

By Peggy Wu, MD, MPH, FAAD, and Marjorie Montanez-Wiscovich, MD, PhD, FAAD

1) Test before you treat.

Before escalating treatments for dermatitis, perform patch testing for possible allergic contact dermatitis (ACD). Patch testing is indicated in patients with 1) a dermatitis pattern suggestive of ACD; 2) skin conditions that may be worsened by concomitant ACD, such as atopic dermatitis (AD), seborrheic dermatitis, stasis dermatitis, psoriasis, nummular dermatitis, and dyshidrotic eczema; 3) a chronic eczematous dermatitis with an undetermined cause; and 4) suspected occupational contact dermatitis. In the setting of known AD, patch testing should be considered if the dermatitis 5) fails to improve with topical therapy or immediately rebounds upon discontinuation; 6) has an atypical or changing distribution; 7) has adult- or adolescent-onset; and/or 8) is severe or widespread and may require use of systemic medication(s).[1]

2) Optimize patch testing conditions by controlling active rashes prior to testing and doing a delayed reading.

An active rash prior to patch testing could increase the risk of "angry back" or excited skin syndrome and false positives and negatives. Therapeutic options to avoid uninterpretable patch test results include topical steroids or steroid sparing agents (discontinuing on patch test site >3-7 days prior to application), phototherapy (holding at least one week prior and during patch testing), a prednisone taper (ideally ≤10 mg/day during patch testing), or methotrexate. Delayed patch test readings (at 96-144 hours, days 5 or 7, from patch placement) are essential. If not done, especially for certain allergens such as neomycin, imidazolidinyl urea, diazolidinyl urea, steroids, lanolin, and caine mix, 7-30% of reactions can be missed.[2]

3) Testing personal care products can help establish relevance.

A tool to evaluate products that are not available in commercial patch tests is the Repeated Open Application Testing (ROAT). This use test is done at home by the patient and can identify a product containing clinically relevant allergens by simulating the patient's exposure pattern. One way to do a ROAT is to apply a leave-on product to the volar forearm twice a day for 2-4 weeks. Rinse-off products are applied for 10 minutes twice a day and washed off for a total of 3-4 weeks.[3]

4) Patch testing is a numbers game. The higher the number of tested substances, the higher the likelihood of finding a relevant allergen.

The Thin-Layer Rapid Epicutaneous Test (T.R.U.E. TEST®) is an FDA-approved, ready-to-use patch test. While its development revolutionized the process of patch testing by increasing convenience, availability, and standardization, it contains 36 allergens and cannot be customized based on potential exposures. The benefits of using an extended series patch testing such as the American Contact Dermatitis Society (ACDS) Core Allergen Series or the North American Contact Dermatitis Group (NACDG) series include a greater opportunity to identify positive, relevant reactions and the ability to update or modify selected allergens based on consumer trends and patient data. Important relevant allergens found in the ACDS or NACDG extended series include preservatives, adhesives/acrylates, surfactants, and propylene glycol.[4]

5) Patient education is key to successful patch testing.[5]

Because patch testing detects a delayed hypersensitivity reaction, it requires multiple visits and ultimately lifestyle coordination. Patients should be counseled prior to patch testing to know what to expect. After patch testing, patients accurately remember their allergens 25-50% of the time, decreasing with increased number of positive reactions and time elapsed since patch testing. In order to ensure successful avoidance of allergens and management of ACD, providing information regarding allergens to avoid and a "safe list" eliminating products containing problematic allergens is essential and significantly correlated with clearance of skin disease. Resources include the ACDS Contact Allergen Management Program database (www.contactderm.org) for a "safe list" and narrative information on individual allergens, as well as allergen information from Dormer Chemotechnique © and SmartPractice ©.[5]

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