

Images in Allergy

Behcet's Disease Diagnosed by Allergy Skin Testing and Positive Pathergy Test

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A 37-year-old Chinese lady with no significant past medical history was referred to our Allergy Clinic for a suspected drug hypersensitivity reaction (DHR). Three months earlier, she experienced a maculopapular rash on the abdomen 1 day after a cesarean section under spinal anesthesia. Her reaction was complicated by wound dehiscence with superimposed infection. A delayed-type DHR was suspected.

After review of her operative records, intradermal tests (IDT) were performed with multiple implicated agents, including penicillin antigenic determinants, amoxicillin, latex, lidocaine, povidone-iodine, and chlorhexidine. Immediate readings were negative, but progressive papulopustular lesions appeared at all IDT puncture sites (including negative control with 0.9% normal saline) on delayed reading at 48 hours (Figure 1).

On further questioning, we found that the patient had suffered from similar recurrent pustular lesions for the past 3 years. These lesions usually occurred after sites of trivial trauma, which resolved only after use of over-the-counter corticosteroid creams. She also had a history of recurrent aphthous ulcers and noninfectious vulvar ulceration. She did not experience any joint pain, uveitis, diarrhea, thrombosis, or neurologic symptoms.

A formal skin pathergy test was performed by pricking the volar side of her forearm using a sterile 26-gauge needle. An erythematous induration appeared the next day, progressing to a vesicle, then sterile pustule over the next 4 days, thus indicative of a positive pathergy test result (Figure 2). The patient was diagnosed with Behcet disease after evaluation by a rheumatologist and having fulfilled the revised International Criteria for Behcet's Disease with a score of 5.¹

To continue investigation of her suspected DHR, patch testing was performed to the same implicated agents. There was a strong positive (++) result to chlorhexidine digluconate 0.5%,



FIGURE 1. False-positive intradermal testing result due to pathergy phenomenon.

with erythema, vesicles, and infiltration recorded at day 4 (with a crescendo effect from day 2).

To our knowledge, this is the first report of Behcet disease incidentally diagnosed during allergy testing and illustrates the importance of correct skin test result interpretation. Either delayed IDT or patch tests can be used to investigate suspected delayed-type DHR, with the former having reportedly higher sensitivity but lower specificity. The pathergy phenomenon is an exaggerated cutaneous inflammatory response triggered by skin injury, but the precise mechanisms have not been elucidated. This case highlights the possibility of pathergy leading to false-positive delayed IDT readings. In addition to Behcet disease, pathergy may occur in other dermatological conditions such as Sweet syndrome or pyoderma gangrenosum.² The Koebner phenomenon is another cause of “false-positive” delayed skin test results, especially among patients with psoriasis.

If such dermatological conditions exist, patch testing may be preferred over IDT to avoid inducing trauma, which may lead to false-positive results. This is illustrated by the successful use of patch tests to diagnose delayed-type hypersensitivity reaction to chlorhexidine in this patient with an underlying pathergy phenomenon.

In conclusion, we describe a case of Behcet disease that was incidentally diagnosed by false-positive delayed IDT. We alert allergists to this uncommon cause of false-positive IDT result and highlight the importance of correct skin test result interpretation.

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Conflicts of interest: The authors declare that they have no relevant conflicts of interest in relation to this work.

Received for publication November 9, 2020; revised November 10, 2020; accepted for publication November 11, 2020.

Available online ■ ■ ■

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J Allergy Clin Immunol Pract 2020;■:■-■.
2213-2198

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<https://doi.org/10.1016/j.jaip.2020.11.029>



FIGURE 2. The evolution of a positive pathergy test result.

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