
Nonpigmenting solitary fixed drug eruption after skin testing and intra-articular injection of triamcinolone acetonide

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Background: Although several medications have been reported to cause fixed drug eruption (FDE) reactions, triamcinolone acetonide has not been previously described as an offending agent.

Objective: To emphasize both an unprecedented causative agent and the extraordinary development of a FDE, we describe this response in a 42-year-old female patient.

Methods: Because her history included a questionable reaction to corticosteroid preparations, prick and intradermal testing with triamcinolone acetonide was done to determine whether she could safely receive a triamcinolone acetonide injection.

Results: Both skin test procedures and the intra-articular administration of triamcinolone acetonide caused FDEs on her right retroauricular area.

Conclusions: Because any drug may induce a FDE by any administration route, physicians should be aware of this delayed skin reaction when skin testing drugs.

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INTRODUCTION

Adverse reactions to medications are frequently encountered in clinical practice. Many of these reactions are limited to the skin. Fixed drug eruption (FDE) is an example of a drug-related skin disorder. It is a peculiar drug-induced cutaneous reaction, which characteristically reappears at the same site when the etiologic drug is readministered. Lesions occur in very different clinical forms; however, they are usually sharply demarcated patches that quickly become urticarial and sometimes vesicular in the center. They may be pruritic, burning, or painful. FDE may occur anywhere on the skin or mucous membranes, but more frequently occurs on the genitalia and lips. Lesions generally leave prolonged postinflammatory pigmentation.^{1,2}

We now describe a patient who developed a nonpigmenting FDE after skin testing and intra-articular injection with triamcinolone acetonide, which has not been reported previously.

CASE REPORT

A 42-year-old female patient was referred to our allergy clinic because of a suspected reaction to corticosteroid preparations. She needed an intra-articular corticosteroid injection to treat her frozen right shoulder. The previously administered drugs and physiotherapy (deep thermal agents and exercise) had not improved her shoulder movements, and the only alternative treatment was intra-articular corticosteroid injection. However, 10 years earlier she experienced a skin reaction after using a corticosteroid ointment. She recalled that she felt itching and a burning sensation on her anterior neck where the drug had been applied. Erythema and swelling appeared in the same area shortly after the application and lasted for several days. She had not taken any corticosteroid preparation, either systemic or local, since that

time. Unfortunately, she did not remember the exact name and content of the drug which caused the reaction.

She was evaluated for a possible reaction to triamcinolone acetonide (Kenakort-A ampoule, Bristol-Myers Squibb Inc., Istanbul, Turkey) which would be given intra-articularly.

Methods

To rule out an immediate reaction to triamcinolone acetonide, a skin prick test (SPT) with undiluted drug (20 mg/mL) was performed on the volar surface of her forearm. This SPT with the drug was negative compared with the positive control (histamine base 1 mg/mL, Center Laboratories, Port Washington, NY), and intradermal skin testing was administered. Four 10-fold dilutions and the undiluted drug (0.002, 0.02, 0.2, 2, and 20 mg/mL, respectively) were intradermally injected at 20-minute intervals. At the end of the procedure, no wheal and flare formations were observed, and the tests were interpreted as negative. Her physician was informed of the skin test results and was told an intra-articular injection of triamcinolone acetonide could be given under close observation.

A week later, she received the intra-articular triamcinolone acetonide injection. Approximately 2 hours after the injection, she presented with an itchy erythematous plaque and swelling with a 4-cm diameter on her right retroauricular area and was immediately referred to our allergy clinic for further evaluation. She reported that she had felt itching and noticed a similar lesion at the same location 4 to 5 hours after skin testing and that the lesion cleared within 2 days. However,

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she did not make any correlation between the skin testing and the lesion and did not inform her physician after skin testing.

Routine laboratory tests including complete blood count, sedimentation rate, serum biochemistry panels, and urinalysis were normal. SPTs with commercial inhalant and food allergens (Center Laboratories; 1/20, wt/vol) were performed to clarify whether she was atopic or not, and were negative. No treatment was given for the lesion, and it cleared within 2 days. Patch testing with triamcinolone acetonide and other corticosteroid preparations was planned, but the patient declined to participate in these tests. She was not given any subsequent intra-articular corticosteroid injections, and her therapy was continued using oral nonsteroidal anti-inflammatory agents and physical therapy.

DISCUSSION

FDE is a distinct variant of adverse drug reactions, and the exact underlying mechanism has not been well-documented. Usually, only one drug is responsible; however, independent lesions from more than one drug have also been described.³ The number of drugs able to induce FDE is very large. The most frequently implicated drugs in FDE include the following: trimethoprim sulfamethoxazole (36.3%), tetracycline (15.9%), pyrazolones (14.2%), sulfadiazine (12.4%), dipyrine (9.3%), paracetamol (7.9%), aspirin (1.7%), thiacetazone (0.88%), and levamisole (0.88%).⁴ Although any drug may cause FDE, this is the first report of a patient with FDE attributable to triamcinolone acetonide.

In FDE, lesions usually develop 30 minutes to 8 hours after drug administration and subside when the drug is withdrawn. After this acute reaction, residual hyperpigmentation develops

and intensifies with each subsequent attack.^{1,5} However, nonpigmenting FDEs have also been reported in association with several drugs. Lesions in nonpigmenting FDEs are characterized by large, symmetrical, well-circumscribed erythematous plaques that resolve without residual pigmentation.⁶ In our patient, itchy erythematous plaques and swelling appeared approximately 4 to 5 hours after the skin testing and 2 hours after the intra-articular injection. These lesions resolved within 2 days without residual hyperpigmentation.

CONCLUSION

Patch testing with a suspected drug can be useful to diagnose fixed drug eruption. Patch testing may also be used to investigate potential cross-reactive drugs with the offending agent. Testing should always be performed on sites of previous FDE because usually no reaction can be observed on unaffected skin. Nevertheless, in several patients, oral provocation tests were needed because patch tests gave no conclusive information.⁷⁻⁹ Perhaps one of the carriers or preservatives in the medicine's solution is the responsible agent. Unfortunately, we were not able to perform patch tests with corticosteroid preparations or additives because the necessary consent was not given by the patient.

This patient has two distinctive characteristics that none of the previously reported FDE patients have. As noted above, it is the first published report of a triamcinolone acetonide-induced FDE. Because corticosteroids are usually used to treat FDEs, the importance of this report is emphasized. Another special characteristic is the administration route of the drug. FDE in our patient developed after skin testing with the offending drug, whereas oral and parenteral administrations were the main routes in most

of the previously reported cases. Our results suggest that these kinds of late reactions should be considered when skin testing is used to evaluate a drug for allergic reactions.

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