

CLINICAL IMAGE

Allergic contact dermatitis following drug rash due to chlorpheniramine maleate

Kiyoshi Shikino , Takako Masuyama, Tomoko Yamashita & Masatomi Ikusaka

Department of General Medicine, Chiba University Hospital, Chiba-city, Japan

Correspondence

Kiyoshi Shikino, Department of General Medicine, Chiba University Hospital, 1-8-1, Inohana, Chuo-ku, Chiba-city, Chiba pref., Japan. Tel: +81-43-222-7171 (Ext. 6438); +81-43-224-4758 (Direct line); Fax: +81-43-224-4758; E-mail: kshikino@gmail.com

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Key Clinical Message

Allergic contact dermatitis (ACD) is one of the common causes of facial swelling. Clinical clues for diagnosing ACD include a rash that spares the area behind the ears, nasolabial folds, and under the chin. Once clinicians suspect ACD, the substances that cause contact dermatitis should be avoided.

Keywords

Allergic contact dermatitis, delayed type IV hypersensitivity.

A healthy 46-year-old Japanese woman presented with a 6-day history of facial swelling and itching. She had taken a multi-ingredient cold medication including chlorpheniramine maleate 11 days previously. She developed a rash around both lower eyelids and applied an external solution 8 days previously. She also applied an external preparation of chlorpheniramine maleate 7 days previously. Physical examination revealed edematous erythema, papules, and erosive lesions on the patient's face, especially on the eyelids and cheeks (Fig. 1). The lesions were localized to the sites to which the external preparation was applied. Epicutaneous patch tests revealed a positive reaction elevated pink or red plaques to 1% and 5% chlorpheniramine maleate 48 h later (Fig. 2, arrows). Intracutaneous type IV allergy test was positive to chlorpheniramine maleate. A type IV delayed hypersensitivity reaction was diagnosed. Avoidance of the substances causing the reaction was recommended, and treatment with a medium potency topical corticosteroid was initiated. Symptoms had completely resolved at the 2-week follow-up (Fig. 3).



Figure 1. Facial rash sparing the nasolabial folds, and under the chin.

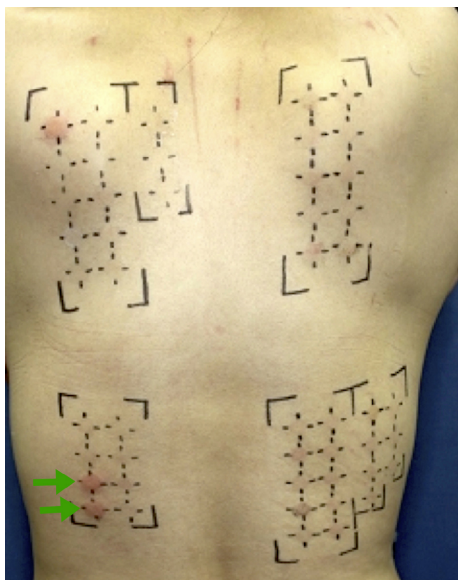


Figure 2. Epicutaneous patch tests revealed a positive reaction to 1% and 5% chlorpheniramine maleate 48 hours later (arrows).



Figure 3. Symptoms had completely resolved at the 2-week follow-up.

Discussion

The two main types of contact dermatitis are irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD) [1]. ICD is a localized inflammatory skin response to a wide range of chemical or physical agents; it results from the direct cytotoxic effect of irritants [1]. ACD is a delayed type IV hypersensitivity reaction to external chemicals that only occurs in susceptible individuals who have previously been sensitized [1]. Clinical features of contact dermatitis include erythema, edema, vesicles, bullae, and oozing [1]. The reaction is generally limited to the site of contact. Other clinical clues include the sparing of the area behind the ears, nasolabial folds, and under the chin. The flare-up observed around both lower eyelids in our case may also initially have been a drug-induced eruption (type IV allergy) in response to chlorpheniramine maleate, which was contained in the multi-ingredient cold medication; this was indicated by the symmetric appearance of symptoms and the course up to symptom onset. Patch testing may be required to confirm the diagnosis and to differentiate ACD from other types of eczematous dermatitis.

Conflict of Interest

None declared.

Authorship

KS, TM, and TY: involved in managing the patient. KS: wrote the first draft. MI: edited the manuscript.

Reference

1. Tan, C. H., S. Rasool, and G. A. Johnston. 2014. Contact dermatitis: allergic and irritant. *Clin. Dermatol.* 32:116–124.