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Systemic contact dermatitis to prednisone: a clinical model approach to the management of systemic allergy to corticosteroids

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Allergic reaction to systemic administration of corticosteroids is much less common than allergy to topical application, and there are no standardized practice guidelines for the management of this problem. We report a patient with allergic reaction to corticosteroids, and propose the shortened clinical approach that was performed in this case as a practical model for management.

A 50-year-old woman presented with plaques on her body. She had been prescribed a single dose of oral prednisone 30 mg by another institution for the treatment of erythema nodosum; she reported that the eruption had begun 6 h after she had taken the prednisone. The patient reported that a very similar eruption had occurred 1 year earlier, during a hospital stay for sudden hypoacusis treated with prednisone, but at that time, this drug was not suspected as the cause of the reaction. There was no history of intolerance to topical corticosteroids.

On physical examination, pruriginous pink-violet plaques were seen on the buttocks, inner thighs and axillae (Fig. 1).

On histological examination of a biopsy taken from one of the lesions, a superficial perivascular dermatitis was seen.

When the patient returned for patch testing, she reported that the lesions had resolved in about 10 days. Patch testing was performed (29-patch True Test; Mekos Laboratories, Hillerød, Denmark), and the patient had a positive reaction at 48 h for tixocortol pivalate, confirming the clinical diagnosis of systemic contact dermatitis to prednisone. In order to select one corticosteroid that could be considered safe for future treatments, prick tests and intradermal tests were performed with betamethasone sodium phosphate (3 mg/mL normal saline and 0.3 mg/mL normal saline, respectively); results were negative at 20 min and on days 2 and 4. A later oral challenge with betamethasone sodium phosphate 0.5 mg was negative.

There is wide variation in the nomenclature of the rare reported allergic reactions after systemic administration of corticosteroids. We consider that the first step in



Figure 1 Skin eruption 24 h after a single dose of oral prednisone 30 mg, with characteristic distribution of well-demarcated lesions (baboon syndrome).

examination should be to distinguish between an immediate allergic reaction (IgE-mediated) and a delayed allergic reaction (T cell-mediated).¹ The diagnostic approach should be based on the chronology of the symptoms and their nature, and on diagnostic tests. In our case, the interval of 6 h after prednisone intake was inconclusive, as the reaction could be interpreted both as a late-phase anaphylactic reaction or as a systemic contact allergy. The patient's features, characteristic of the rare 'baboon syndrome', and the positive patch tests to corticosteroids helped to diagnose the latter.

Once a diagnosis has been made, steps should be taken to identify a safe corticosteroid for future systemic administration. Patients with delayed allergy to corticosteroids react upon patch testing to several corticosteroids, and these drugs have been classified into reacting groups. A simplification of the classification into four reactivity groups (ABCD), allowing separation of corticosteroids into

three groups, has been recently proposed).² It is uncertain whether the crossreaction profiles of allergic contact dermatitis could apply in the case of IgE-mediated reactions. We selected betamethasone sodium phosphate because it is not associated with the prednisone group, and very few positive reactions to it have been reported in large series of patients.^{3,4} We regard intradermal tests to the selected drug, with immediate and late reading, as suitable tests to carry out before systemic challenge.⁵

In conclusion, we report a patient with allergic reaction to systemic corticosteroid, and propose a sequential diagnostic procedure, which should require only a small number of tests to identify a safe systemic corticosteroid for future use in such patients.

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References

- 1 Johansson SG, Hourihane JO, Bousquet J *et al.* A revised nomenclature for allergy. An EAACI position statement from the EAACI nomenclature task force. *Allergy* 2001; **56**: 813–24.
- 2 Baeck M, Chemelle JA, Goossens A *et al.* Corticosteroid cross-reactivity. Clinical and molecular modelling tools. *Allergy* 2011; **66**: 1367–74.
- 3 Baeck M, Chemelle JA, Terreux R *et al.* Delayed hypersensitivity to corticosteroids in a series of 315 patients: clinical data and patch test results. *Contact Dermatitis* 2009; **61**: 163–75.
- 4 Ventura MT, Calogiuri GF, Matino MG *et al.* Alternative glucocorticoids for use in cases of adverse reaction to systemic glucocorticoids: a study on 10 patients. *Br J Dermatol* 2003; **148**: 139–41.
- 5 Wilkinson SM, Heagerty AHM, English JSC. A prospective study into the value of patch and intradermal tests in identifying topical corticosteroid allergy. *Br J Dermatol* 1992; **12**: 22–5.