

CONTACT POINT

Ephedrine-induced maculopapular rash

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Ephedrine, a sympathomimetic drug that stimulates both α -receptors and β -receptors, is indicated for the treatment of hypotension, common colds, and bronchospasm. By its effects on smooth muscles, it causes vasoconstriction, and a subsequent increase in blood pressure and decongestion of the nasal mucosa, but also bronchial relaxation.

CASE REPORT

A 74-year-old man had repeated episodes of generalized maculopapular rash following the last 2 of 3 endoscopic surgeries for inverted papilloma. The eruptions on the abdomen and extremities appeared on the second day after anaesthesia and application of non-steroidal anti-inflammatory drugs and antibiotics. The lesions cleared within 2 weeks after the start of treatment with antihistamines and topical steroids. After the first incident, a patch test showed sensitization to diclofenac. However, an identical rash reoccurred despite avoidance of diclofenac. Additional tests were performed for drugs not suspected after the first episode (hypnotics, muscle relaxants, ephedrine, and its preservative, sodium metabisulfite). We observed patch test reactions to ephedrine (50 mg/ml; Amino, Gebenstorf, Switzerland)

after day (D) 2 (+) and D3 (++) (Figure 1), and decrescendo reactions to sodium metabisulfite on D2 (+) and D3 (–) in Finn Chambers (SmartPractice, Phoenix, Arizona) attached with Scanpor patch test tape (Norgesplaster, Vennesla, Norway).¹ An intradermal test with ephedrine (0.05 mg/mL) gave positive results after D1 (++), D2 (+), and D3 (++) . The patient refused an oral challenge with ephedrine.

COMMENT

Although sympathomimetic drugs are widely used, allergic reactions to ephedrine are rarely reported, especially when the drugs are administered systemically.^{2,3} Sensitization to ephedrine in our patient had probably been induced by its earlier use during the first papilloma operation. Some cases of contact sensitivity and systemic reactions to pseudoephedrine have been reported,^{4,5} but only a few cases of widespread dermatitis caused by oral ephedrine.^{2,3}

Initially, we had missed the exact diagnosis in our patient. A case was published 20 years ago comprising >10 episodes of “scarlatiniform” eruptions resulting from the delayed diagnosis of pseudoephedrine sensitization.⁶ Therefore, we would like to emphasize the risk of systemic cutaneous drug reactions to ephedrine.

Conflict of interest

The authors declare no potential conflict of interests.

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REFERENCES

1. Johansen JD, Aalto-Korte K, Agner T, et al. European Society of Contact Dermatitis guideline for diagnostic patch testing—recommendations on best practice. *Contact Dermatitis*. 2015; 73(4):195-221.



FIGURE 1 Reaction to ephedrine after 72 hours

2. Villas Martínez F, Joral Badas A, Garmendia Goitia JF, Aguirre I. Generalized dermatitis due to oral ephedrine. *Contact Dermatitis*. 1993;29: 215-216.
3. Audicana M, Urrutia I, Echechipia S, Muñoz D, Fernández de Corres L. Sensitization to ephedrine in oral antitarrhal drugs. *Contact Dermatitis*. 1991;24:223.
4. Assier-Bonnet H, Viguier M, Dubertret L, Revuz J, Roujeau JC. Severe adverse drug reactions due to pseudoephedrine from over-the-counter medications. *Contact Dermatitis*. 2002;47:165-182.
5. Millard TP, Wong YW, Orton DI. Erythrodermic cutaneous adverse drug reaction to oral pseudoephedrine confirmed on patch testing. *Contact Dermatitis*. 2003;49:263-264.
6. Tylor BJ, Duffill MB. Recurrent pseudo-scarlatina and allergy to pseudoephedrine hydrochloride. *Br J Dermatol*. 1998;118:827-829.

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