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Letter

Systemic contact dermatitis due to amethocaine following digital rectal examination

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Abstract

Systemic contact dermatitis is a dermatitis that may occur in previously sensitized individuals when they are re-exposed to the allergen. Although many drugs have been implicated as a cause of systemic contact dermatitis, local anesthetics derived from caines have been rarely reported. We present a case of systemic contact dermatitis after a digital rectal examination with a urological lubricant containing amethocaine.

Case synopsis

A 72-year-old man presented with a 3-day itching, **generalized**, eczematous dermatitis **with an abrupt onset over 24 hours**. Physical examination revealed erythematous and edematous papules and plaques with superficial desquamation involving neck, superior thoracic region, both axillae, elbow flexures, and perianal area (Figure 1). **Lesions cleared after one week of treatment with topical and oral corticosteroids**. The day before the eruption began, a digital rectal exam with a urological lubricant had been performed on our patient. Patch testing with GEIDAC (Spanish Group for Research and Skin Allergy) standard series and local anesthetics (MartiTor®) series showed positive reactions to caine mix (cinchocaine 1%, amethocaine 1%, benzocaine 5%) (++) and amethocaine (+++) (Figure 2). Reaction to amethocaine was considered relevant because it was contained in the urological lubricant.



Figure 1. Erythematous and oedematous papules and plaques with superficial desquamation involving neck, superior thoracic region, both axillae, elbow flexures, and perianal area. **Figure 2.** Positive reaction to amethocaine D4 (+++).

His medical history was unremarkable except for an episode of conjunctivitis and eyelid eczema after application of anesthetic eye drops 10 years prior. Because of this, he was studied in another medical center and patch tested with the GEIDAC standard series and showed a positive reaction to caine mix (+++).

Discussion

Systemic contact dermatitis is a dermatitis that may occur in previously sensitized individuals (usually through the skin or mucosa) when they are re-exposed to the allergen systemically (oral, rectal, inhaled, intravesical, intravenous). This entity may have many clinical manifestations: dyshidrotic eczema, eczematous lesions with urticarial lesions, vasculitis, erythema multiforme, or a typical flexural rash with perineal involvement called Baboon syndrome. Exanthemas with similar clinical characteristics but without known prior sensitization are encompassed in the term Symmetric Drug-related Intertriginous and Flexural Exanthema (SDRIFE) [1].

Although allergic contact dermatitis to caines is well-known, systemic contact dermatitis cases are very rare. We suspect that our patient was sensitized to amethocaine possibly by the anesthetic eye drops that caused the palpebral allergic contact dermatitis 10 years prior to presentation to our clinic. Systemic contact dermatitis developed later, after the contact with the urological lubricant containing the previously mentioned anesthetic. Amethocaine (tetracaine) is a local anesthetic of the ester group, derived from benzoic acid. It is a well-known sensitizer, but is widely used in anti-hemorrhoidal products, eye or ear drops, dental sprays, and urological lubricants among others. Tetracaine can cross-react with other ester anesthetics, but not with anesthetics of the amide group, which have a different molecular structure. In our patient, the systemic contact dermatitis probably occurred after absorption through the rectal mucosa following a digital rectal examination. To our knowledge there are only three published cases of systemic contact dermatitis owing to local anesthetics, two of them related to cinchocaine [2, 3], an amide group member, and one to amethocaine [4], as in our case, an ester anesthetic. All of them occurred after perineal application of the local anesthetics and two of the patients noted a previous history of local skin reaction to anti-hemorrhoidal ointments. Although systemic contact dermatitis following digital rectal examination is exceptional, it should be recognized by caines-sensitive patients to avoid cases as the reported here.

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