

An unusual complication of minor surgery: contact dermatitis caused by injected lidocaine

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True allergy to lidocaine is rarely encountered in the clinical setting. With the increasing number of over-the-counter drugs containing topical amides, the incidence of lidocaine-induced contact dermatitis seems to be increasing (1, 2). Herein, we describe the interesting case of a woman with a previous poorly defined severe local reaction to an injectable filler mixed with lidocaine who presented with bullous contact dermatitis induced by subcutaneous injection of lidocaine during minor surgery.

Case Report

A 65-year-old patient presented to the clinic with an enlarging erythematous-squamous plaque of the right lower extremity. Her past medical history included hypothyroidism, lichen sclerosus et atrophicus of the vulva (diagnosed 6 months previously, after an incisional biopsy), and a previous ill-defined reaction to a filler composed of lidocaine and hyaluronic acid 3 months previously. Upon clinical examination, basal cell carcinoma and Bowen's disease were included in the differential diagnosis, and a biopsy was scheduled. During the procedure, latex-powdered gloves and chlorhexidine were used. Subcutaneous anaesthesia was induced with a mixture of lidocaine 1% and epinephrine 1:100 000. Postoperatively, fusidic acid cream was applied on the biopsy site, and the application was repeated twice daily thereafter. Forty-eight hours later, the patient developed a pruritic

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Fig. 1. Bullous contact dermatitis at the site of the surgery 2 days later.

erythematous reaction at the site of surgery. Contact dermatitis secondary to fusidic acid or chlorhexidine treatment was initially suspected, because the reaction involved all of the biopsy site, and not just the periphery, as seen in wound dressing allergies. Pathology of the initial lesion showed an *in situ* squamous cell carcinoma. Two weeks later, surgical excision was performed, povidone iodine was used as an antiseptic, and a different wound dressing was used. After the procedure, topical mupirocin was applied, and the application was repeated twice daily. Two days later, the patient again developed an intensely pruritic erythematous and bullous rash at the surgical site (Fig. 1). This time, allergy to lidocaine was suspected, and a patch test with EMLA[®] cream (prilocaine and lidocaine) by the use of Finn Chambers[®] applied on the arm was performed. Forty-eight hours later, this showed a positive reaction (+++) (Fig. 2) (according to ICDRG criteria) that led to the diagnosis of type IV hypersensitivity to lidocaine.

Discussion

This is a rare case of a patient who developed bullous contact dermatitis caused by lidocaine injected during a skin biopsy. It is postulated that prior sensitization probably occurred after the vulvar biopsy performed several months previously. The positivity of the patch test confirms that the allergen was indeed lidocaine, and not any of the topical creams, antiseptics or wound dressings used.



Fig. 2. A +++ reaction to EMLA[®] on patch testing with Finn Chambers[®] applied on the arm.

Type IV hypersensitivity reactions to amides are not infrequent among patients presenting for patch testing. To et al. reported a prevalence of lidocaine allergic contact dermatitis as high as 0.77% (1).

Recognizing this category of patients is key in order to avoid any unexpected reactions during various interventions requiring local anaesthesia. Corbo et al. concluded that patch tests, intradermal skin tests and subcutaneous challenge are crucial to determine whether a patient can tolerate contact and/or systemic exposure to lidocaine. They found that lidocaine could not be used if the patient had a positive patch test reaction to lidocaine and a positive reaction after subcutaneous injection of the drug. Conversely, if a patient had a positive patch test reaction to lidocaine and negative results on intradermal and subcutaneous testing, the anaesthetic could be safely used (3).

In conclusion, this case highlights the fact that allergic contact dermatitis caused by lidocaine can occur not only after topical use, but also after subcutaneous injection. Allergic contact dermatitis caused by the anaesthetic should thus be suspected in any patient presenting with a local skin reaction on the days following a procedure of any kind, from minor surgery to filler injections. Patch tests, intradermal testing and subcutaneous testing should be performed to determine whether or not lidocaine could be used in the future.

References

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