



## Delayed Hypersensitivity to Lidocaine Cross-Reactivity with Others Amide-Type Anesthetics

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### Abstract

We notice a patient consulting for several eczema episodes related to topical ointments containing lidocaine. Study was made, and amide-type local anesthetics cross-reactivity in this patient, is reported. Usefulness of different diagnostic tests is also discussed.

### Keywords

Lidocaine, Bupivacaine, Dermatitis, Adverse-Drug-Reactions, Hypersensitivity, Local Anesthetics

### Introduction

Although dermatitis caused by ester-type local anesthetics is very common, delayed hypersensitivity due to amide-type local anesthetics (ALA) is rare, is the current opinion. As exception, ALA dibucaine was noticed as a frequent sensitizing in some countries. But, dipuvacaine does not seem to present cross reactivity with others ALA, like lidocaine or mepivacaine [1]. Scanty instances of type IV Allergy to lidocaine have been published. In this cases, patch and intradermal tests were useful and reliable diagnosis methods, when are carried out concurrently. Lidocaine cross-reactivity with mepivacaine alone [2], or others ALA in addition, like prilocaine or bupivacaine [3], is the usual picture.

### Clinical Case

We present a fifty-six years old women, referring oral and lips swelling, thirty-six hours after topical ointment application, containing Triamcinolone Acetonide 0,150 grs, Lidocaine 3 grs, in orabase 30 grs. This episode took place seven months ago, and thereafter the patient tolerated Ultracain® (articaine, epinephrine) at the dentist consult.

Ten years ago, patient suffered local itching and erythema in chest and neck, coming up thirty-six hours after Emla (Prilocaine 2.5%, Lidocaine 2.5%) application. Previously, twenty-five years ago, perianal itching and swelling with Synalar Rectal® (lidocaine

2%, fluocinolone 0.01%, mentol 0.25%, bismute subgalate 5%), and Hemoal® (benzocaine 3%, ephedrine 0.2%) prescribed as hemorrhoid remedies.

Patch-test were carried out (Martí Tor®, Barcelona, Spain), with lidocaine 15% in petrolatum was positive at 48 h (++) and 96h (+++). On the other hand, mepivacaine 1%, triamcinolone 0.1%, dexametasone 0.5%, prednisolone 0.5%, and benzocaine 5% in petrolatum, were negative. Ephedrine 5% in petrolatum, marketed by the hospital pharmacy was negative, too.

Intradermal test with 0.02 ml lidocaine 2% (Lidocaina iny. 2% Braun®) was positive at 48 h (++) . Also, 0.02 ml mepivacaine 2% (Scandinibsa® 20 mg/ml) showed scarce erythema and a few small vesicles. Intradermal test with bupivacaine 0.5% (Inibsacain 0.5%) and levobupivacaine 0.75% (Chirocane® 0.75%), yielded negative results.

Challenge test with 3 cc. subcutaneous levobupivacaine 0.25% (Chirocane® 0.25%) was carried out and the patient exhibited no symptoms.

### Discussion

In short, we notify delayed hypersensitivity to lidocaine patient, who concurrently also showed a positive intradermal test to mepivacaine. Patient did not have previous adverse reaction with this latter, and cross-reactivity is the reasonable cause for mepivacaine sensitization. As previously referred in delayed hypersensitivity to lidocaine patients, therapeutical doses of other ALA (articaine and levobupivacaine) could be well tolerated [2], but previous challenge test should be mandatory. Finally, as was stated in other drugs, like low molecular weight heparins, patches test to local anesthetics could display false negative results, and could be advisable to carry on study performing intradermal test and challenge with alternative ALA. Intradermal test with mepivacaine yielded a scarce but positive result in our patient. We could try further attempts to reach better results modifying volume and drug concentration in the intradermal test.

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