

Short Communications

'Deep impact' contact allergy after subcutaneous injection of local anesthetics

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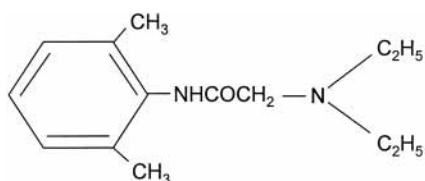
Allergic contact dermatitis due to topical application of local anesthetics is well-known (1). More rarely reported is the development of infiltrations a few days after their injection (2, 3).

Case Report

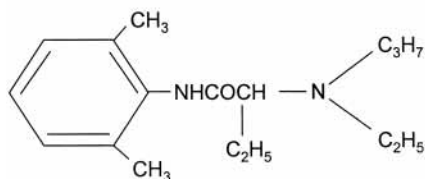
A 50-year-old man, with epicondylitis of the right elbow, was treated 2×2 months apart with local para-articular

injections of dexamethasone (Lipotalon®) and lidocaine (Lidoject®), and with 2 antirheumatic ointments containing phenylbutazone and dexamethasone, respectively. 2 days after each set of injections, he developed itching, swelling, erythema and papules, lasting at least 4 days, at the injection sites.

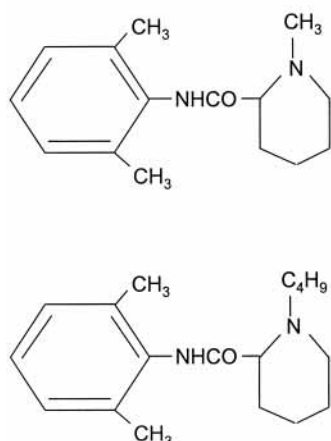
Patch tests were performed with the drugs used, their individual components, and various other series (standard, drugs, disinfectants, fragrances, ointment components). Positive reactions were obtained only to 15% lidocaine hydrochloride and 5% mepivacaine hydrochloride (Table 1). Prick and intradermal testing with lidocaine and Lidoject® were negative after 20 min. However, there were eczematous reactions, with erythema and papules, after 2 days to the lidocaine-containing test materials.



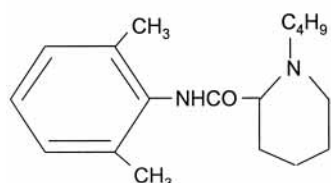
lidocaine



etidocaine



mepivacaine



bupivacaine

Fig. 1. Chemical structure of the amide-type local anesthetics tested.

Discussion

Whereas truly allergic immediate-type hypersensitivity reactions to local anesthetics are extremely rare, pseudo-allergic reactions with similar symptoms occur quite frequently (4). Delayed-type hypersensitivity eczema is also well-known after topical application, e.g., from benzocaine, an ester-type local anesthetic (5–7). However, only single case reports of contact allergy to amide-type local anesthetics have been published (1, 3, 8).

Our patient developed a 'deep impact' delayed-type hypersensitivity reaction after subcutaneous injections of lidocaine, an amide-type local anesthetic. He gave a patch-test reaction to lidocaine as well as to mepivacaine, another amide-type local anesthetic, differing from lidocaine by a 2nd ring structure (Fig. 1). In contrast, he tolerated etidocaine, more closely related chemically to lidocaine, and bupivacaine, chemically similar to mepivacaine (Fig. 1). This shows how difficult it can be to predict cross-reactivity.

References

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Table 1. Test results with local anesthetics

Compound	Patch test		Prick test		Intradermal test	
	D2	D3	20 min	D2	20 min	D2
Lidoject® (10 mg lidocaine/ml)	nd	nd	Ø	+	(+)	+++
lidocaine hydrochloride 15%	++	+++	Ø	+	nd	nd
mepivacaine hydrochloride 5%	+	++	nd	nd	nd	nd
etidocaine hydrochloride 5%	Ø	(+)	nd	nd	nd	nd
bupivacaine hydrochloride-monohydrate 5%	+	Ø	nd	nd	nd	nd

nd: not done.

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