

Allergic contact dermatitis from lignocaine: report of 29 cases and review of the literature

WARREN WEIGHTMAN AND TOM TURNER

East Adelaide Medical Centre, 50 Hutt St., Adelaide, South Australia 5001, Australia

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The "caine" anaesthetics have been a common cause of allergic contact dermatitis since the 1st report from procaine in 1921 in 3 dentists (1). The "amide" anaesthetic lignocaine, in contrast to benzocaine, is considered a rare sensitizer (2) and to date only 33 patients have been reported (1, 3–21).

Patients and Methods

Patients referred to our practice for investigation of dermatitis are patch tested with the European standard

series, with the addition of lignocaine, any suspected creams and other relevant allergens. The first 18 patients reported were tested to lignocaine 2% pet., except for 2 patients tested with lignocaine in aq. The last 18 patients were tested to lignocaine 15% pet. One of us (WW) reported 18 patients collected between 1972 and 1985 with allergic contact dermatitis from lignocaine at the Annual Meeting of the Australasian College of Dermatologists in 1985. Records of patch tests between 1986 and 1989 were not available, but on review of patch tests done between 1990 and 1998, a

Table 1. 18 patients with allergic contact dermatitis from lignocaine between 1972 and 1985

Age (years)	Sex	Distribution	Medicament	Positive patch tests
24	F	arms, legs	Calistaflex®	lignocaine
53	F	arms	Caladryl® cr/lot	lignocaine, Caladryl® cr/lot
63	F		Paxyl®, Medireme®	lignocaine, Paxyl®, Medireme®
49	F	legs	Medireme®, MAC®	lignocaine Medireme®
62	F	legs, arms	Xylocaine®, Medireme®	lignocaine, Medireme®, cetrimide
52	F	abdomen, arms	Medireme®	lignocaine, benzalkonium chloride
63	F	lower legs	Caladryl® lotion	lignocaine, Caladryl® lot, Savlon®, Ni
29	M	perianal	Xylocaine® top, Xyloproct® ung	lignocaine, Xyloproct®, cetrimide, chionoform
4	F	face	Medireme®	lignocaine, cetostearyl alcohol, chlorhexidine
?	M	perianal	Xyloproct®, Paxyl®	lignocaine, Paxyl®, Xyloproct®
?	M		Medireme®	lignocaine, cetrimide, Medireme®
?	F		Paxyl®	lignocaine, Paxyl®, benzocaine
?	F		Medireme®	lignocaine, cetrimide, Medireme®
63	M	dorsum hands	Caladryl® lotion	lignocaine, neomycin, fragrance mix, carbamix, ethylenediamine
54	F	dorsum hands	Medireme®, Xylocaine® ung	lignocaine, fragrance mix, colophony, balsam of Peru
36	M	eyes	Xylocaine® eyedrops	lignocaine
36	M	perianal	Medireme®	lignocaine, Medireme®
42	F	hands	Xylocaine®	lignocaine

Table 2. 11 patients with allergic contact dermatitis from lignocaine between 1990 and 1996

Age (years)	Sex	Distribution	Medicament	Positive patch tests
23	M	hand		lignocaine, neomycin, wool alcohols, benzocaine
59	M	perianal	Xyloproct®, Dettol®,	lignocaine, fragrance mix
23	M	knee, hand		lignocaine, chloroxylenol, chlorocresol
44	M	arms, face		lignocaine, fragrance mix, parabens
80	F	arms, face		lignocaine
52	F	hand		lignocaine, perfume mix, benzalkonium chloride
36	F	hand		lignocaine, neomycin, Ni
25	M	hand		lignocaine, colophony, epoxy resin
13	M	face	Medireme® Savlon®	lignocaine, Medireme®
65	M			lignocaine
18	M	face	Savlon®	lignocaine, colophony, fragrance mix, formaldehyde, nickel

Table 3. Cross-reactivity in patients with allergic contact dermatitis from lignocaine

Prilocaine	Bupivacaine	Mepivacaine	Cinchocaine	Tetracaine	Articaine	Dibucaine	Ref.
+	+	+	NT	NT	NT	NT	(3)
—	—	+	NT	NT	NT	NT	(3)
—	NT	NT	—	—	NT	NT	(9)
+	NT	+	NT	—	NT	+	(1)
NT	NT	+	NT	—	—	NT	(17)
+	—	+	NT	NT	—	NT	(15)
NT	NT	+	NT	NT	NT	NT	(14)
—	—	—	—	—	NT	NT	(13)
+	—	NT	NT	NT	NT	NT	(11)
+	+	+	NT	NT	NT	NT	(18)
—	—	—	NT	NT	NT	NT	(18)

+: positive patch test; —: negative patch test; NT: not tested.

further 11 patients were found with a positive reaction to lignocaine.

Results

Results in the initial 18 patients are summarized in Table 1. Of the 12 tested to their lignocaine-containing creams, 11 had positive reactions. In the 2nd group of 11 patients (Table 2), only 3 had a history of using a lignocaine-containing product, although 4 of the others had a chronic dermatitis of greater than 6 months duration and may have unknowingly used a lignocaine-containing cream in the past.

Discussion

Of the 33 cases (1, 3–21) reported worldwide, 19 were reported from Australia. With our series included, 49 of the 62 reported patients are from Australia. This may be because the number of over-the-counter lignocaine-containing preparations in Australia has doubled between 1985 and 1996 (21). Patients with lignocaine allergy need to be warned of the risk of reactions to systemic lignocaine. Lignocaine has been reported as rarely causing an immediate-type allergy (21) and, although there have been no reports of concomitant Type I and Type IV reactions to lignocaine, there are reports (22) that have shown such an association with other drugs. In patients with lignocaine sensitivity, there have been several reports (1, 3, 9, 11, 13–15, 17, 18) of cross-reactivity to other amide anaesthetics, including prilocaine, bupivacaine and mepivacaine (Table 3). In lignocaine-sensitive patients, patch testing should be done to determine cross-reactivity to these other anaesthetics. If these prove to be positive, then the alternatives available include procaine or diphenhydramine. We recommend adding lignocaine to the standard series more widely.

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