Cross-reactivity to lincomycin in patients with maculopapular exanthem to clindamycin : a case series

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CASE REPORT

Here we describe 6 cases of maculopapular exanthem (MPE) to clindamycin with positive delayed intradermal tests (IDTs) or patch tests (PTs). All patients also tested positive to IDTs with lincomycin. The clinical features and skin tests results are summarized in Table 1. Clinical photographs from 3 representative patients are presented in Figure 1.

For IDTs, we used clindamycin diluted in saline up to a concentration of 15 mg/mL, previously described as non-irritating [1], and lincomycin diluted in saline up to a concentration of 30 mg/mL which was shown to be non-irritating in immediate and delayed readings in 5 healthy control subjects. Tests were read after 48 hours and considered positive in case of appearance of induration with diameter greater than 5 mm surrounded by erythema. PTs were performed with clindamycin 150 mg/mL 10% in petrolatum as described elsewhere [2]. The preparation was mounted on AllergEAZE patch test chambers (SmartPractice, Calgary, Canada), applied on the upper back, and occluded with Fixomull stretch (BSN Medical, Hamburg, Germany) for 2 days. Readings were taken after 72 hours and 1 week, and results were interpreted according to the International Contact Dermatitis Research Group criteria [3].

DISCUSSION

Clindamycin is a broad spectrum lincosamide antibiotic derived from lincomycin with a 7(S)-chloro-substitution of the 7(R)-hydroxyl group. It is approved for treatment of anaerobic, streptococcal, and staphylococcal infections.

Hypersensitivity reactions to clindamycin are uncommon [4]. The majority of reported presentations of hypersensitivity to this antibiotic are non-immediate (NIHRs), including MPE, symmetrical drug related intertriginous and flexural exanthem, fixed drug eruption (FDE), and severe cutaneous adverse reactions (SCARs) [4]. Just a few cases of immediate hypersensitivity reactions (IHRs) are described in literature [4]. The usual workup for non-SCAR-related suspected clindamycin NIHRs is based on PTs and/or IDTs with delayed reading. In case of negative skin tests a drug challenge is usually performed [4].

To our knowledge, no cross-reactivity between clindamycin and lincomycin has been reported. On the contrary, limited data have shown tolerance of lincomycin in patients with proven hypersensitivity to

clindamycin. In a previous case report of a documented IgE-mediated reaction to clindamycin no cross-reactivity with lincomycin was found, and the patient tolerated its administration [1]. Also in another case report of a documented type IV allergic reaction after clindamycin intake, presenting as FDE, the patient tolerated lincomycin afterwards [2].

Our finding does not seem to be surprising given the structural similarity between the two drugs but seems to be inconsistent with the aforementioned reports regarding IHRs [1] and FDE [2] and could therefore be specific to the clinical phenotype of MPE.

Larger studies with more cases are needed to confirm the extensive cross-reactivity we observed and to further investigate cross-reactivity patterns among lincosamides in both IHRs and NIHRs.

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CONSENT FOR PUBBLICATION

Written informed consent was obtained from patients for publication of this case report and any accompanying images.

AUTHOR CONTRIBUTIONS

ATO: Conceptualization (equal); data curation; formal analysis; investigation (equal); methodology (equal); project administration (equal); visualization; writing – original draft (equal); writing – review and editing (equal).

RMO: Conceptualization (equal); investigation (equal); methodology (equal); project administration (equal); visualization; writing – original draft (equal); writing – review and editing (equal).

MBS: Conceptualization (equal); investigation (equal); methodology (equal); project administration (equal); writing – review and editing (equal).

DEO: Conceptualization (equal); investigation (equal); methodology (equal); project administration (equal); supervision ; validation; writing – review and editing (equal).

VSO: Conceptualization (equal); investigation (equal); methodology (equal); project administration (equal); supervision; validation; writing – review and editing (equal).

CONFLICT OF INTEREST

The authors declare not having any conflict of interests.

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Table 1. Clinical features and skin test results of 6 patients with MPE after intake of clindamycin.

Patient	Age at time of reaction (years)	Sex	Indication for clindamycin administration	Interval first intake – onset of symptoms	Interval last intake – onset of symptoms	Duration	PT clindamycin*	IDT clindamycin**	IDT lincomycin***	Comments
1	50	F	Dental abscess	< 1 day	Unknown	7 days	ND	(1/100) +	(1/100) +	/
2	44	F	Unknown	8 days	3 hours	6 weeks	ND	(1/100) +	(1/100) +	/
3	31	F	Perioperative prophylaxis	3 days	3 days	7 days	ND	(1/100) +	(1/100) +	/
4	Unknown	F	Superficial skin infection	9 days	3 hours	5-7 days	+ (72 hours)	-	(1/100) +	/
5	27	F	Dental abscess	2 days	Unknown	4 days	ND	(1/10) +	(1/100) +	/
6	72	M	Perioperative prophylaxis	2 days	2 days	2-3 weeks	ND	(1/100) +	(1/10) + with coalescing vesicles	Generalized erythema lasting two days after skin tests with lincomycin

MPE: maculopapular exanthem; F: female; M: male; PT: patch test; IDT: intradermal tests; ND: not done; * Clindamycin 300 mg/2 mL 10% in petrolatum; in-house prepared; ** Clindamycin 300 mg/2 mL; 1/100 and 1/10; *** Lincomycin 600 mg/2 mL; 1/100 and 1/10.

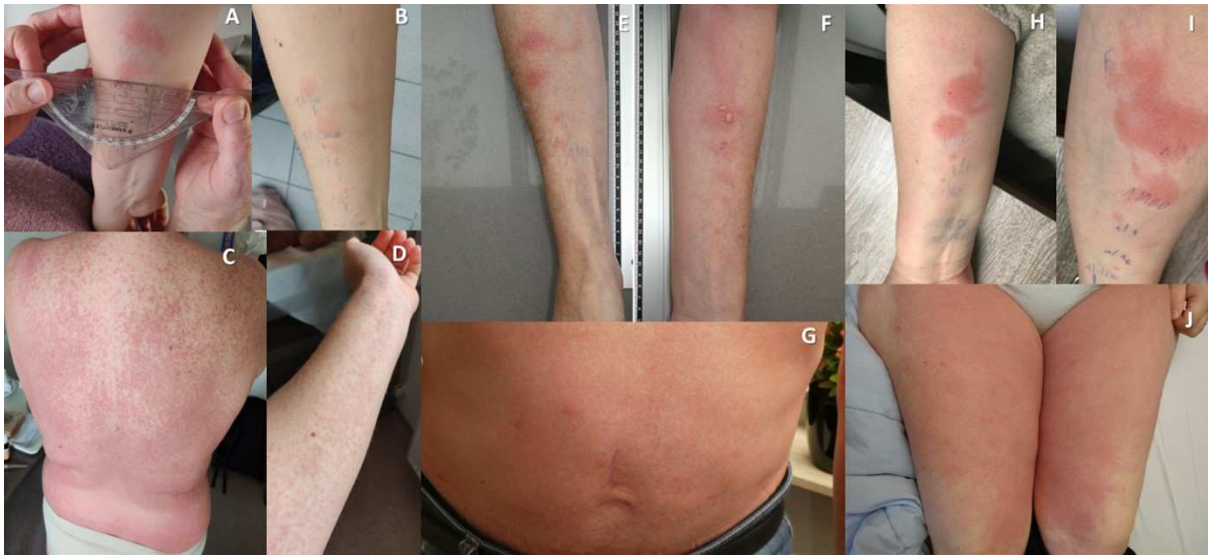

Figure 1. Clinical photographs from 3 patients. Intradermal tests (after 48h) with clindamycin (A, E, H) and lincomycin (B, F, I), index reaction (C, D, J), rash after skin tests with lincomycin (G).