Utility of patch testing for the diagnosis of delayed-type hypersensitivity reactions to clindamycin

Gilissen L[1], Schrijvers R[2], Breynaert C[2], Goossens A[1], Huygens S[1]

[1] Department of Dermatology, Contact Allergy Unit, University Hospitals KU Leuven, Belgium

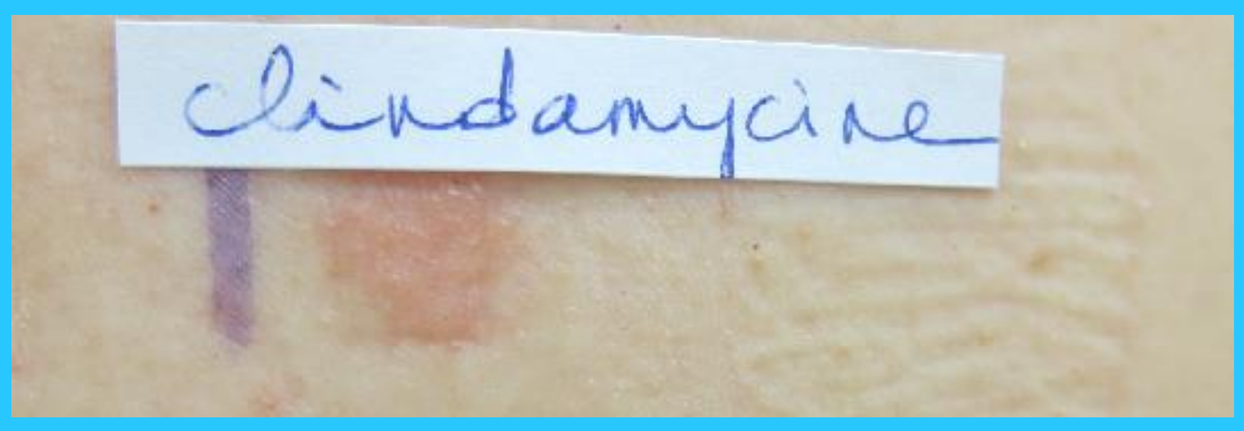
[2] Department of Internal Medicine, Allergy and Clinical Immunology, University Hospitals KU Leuven, Belgium

Introduction

Patch testing is suggested as a useful tool to diagnose delayed-type drug hypersensitivity reactions (DTHs). However, the sensitivity depends on the clinical pattern of the drug eruption and on the pharmacological class of the responsible drug. We here report about 9 patients with DTHs following the administration of clindamycin, confirmed with a positive patch test.

Methods

Patch tests were performed with clindamycin hydrochloride at 10% in petrolatum, prepared lege artis from the powder of the commercialized drug (Dalacin C®, Pfizer, Brussels, Belgium). Results were assessed 2 and 4 days following application.



Results

In the 20-year period between 1999 and 2019, 9 patients investigated in our center for DTHs following treatment with clindamycin, mostly in association with other anti-infective drugs, showed a positive patch-test reaction to it (see **Table 1**). Two of them showed other relevant positive patch-test reactions, i.e. to pseudoephedrine, and to ampicillin and amoxicillin, respectively. Seventy-eight control patients tested negatively to clindamycin.

Left: Positive patch-test reaction to clindamycin at day 2 reading in patient 5

Under: Table 1. Clinical data of patients with a positive patch-test reaction to clindamycin (MPE= maculopapular exanthema, AGEP= acute generalized exanthematous pustulosis, DRESS= drug reaction with eosinophilia and systemic symptoms, NP= Not performed,
? = patient does not remember and no additional information found in e-records)

Patient Nr.	Sex, age (years)	Administration of clindamycin for the treatment of …	Reaction date	Clinical symptoms	Patch test date	Patch test result Day 2	Patch test result Day 4	Other relevant patch -test reactions	Prick- and intradermal testing
1	♀, 37	Erysipelas	Apr 1999	AGEP	Jun 1999	++	++	Ceftriaxone -	*NP*
2	♀, 23	?	?	MPE	Jan 2004	-	+	Pseudoephedrine + Minocyclin -	Clindamycin *NP* βlactam antibiotics -
3	♂, 55	Erysipelas	Jun 2013	MPE	Aug 2013	+	+	Levofloxacin - Pantoprazole -	*NP*
4	♀, 43	Mastitis	Apr 2014	MPE	Jun 2014	+	+	Amoxicillin - Clarithromycin -	*NP*
5	♀, 33	?	2016	MPE	Mar 2018	+	+	Ampicillin + Amoxicillin + Other βlactams - Quinolones -	Clindamycin *NP* Other βlactams -
6	♀, 55	Spider bite	Jul 2018	MPE	Sept 2018	+	+	/	Clindamycin *NP* βlactams - Moxifloxacin -
7	♀, 63	Peritonsillar abscess	Jun 2016	DRESS	Oct 2018	+	+	Benzylpenicillin -	Clindamycin + Amoxicillin + Cefuroxim -
8	♀, 88	Erysipelas	Sep 2018	AGEP	Dec 2019	-	+	/	Clindamycin *NP* Amoxicillin - Cefuroxim -
9	♀, 64	Dental implant	Aug 2019	MPE	Nov 2019	+	+	/	*NP*

Conclusion

Patch testing can be helpful to identify or confirm the imputability of clindamycin in maculopapular exanthema, drug rash with eosinophilia and systemic symptoms, and acute generalized exanthema pustulosis, particularly in patients who have used several concomitant drugs. Although the response rate has been reported to be rather low (15-30%), we recommend patch testing as a non-invasive first step in the diagnosis of DTHs to clindamycin, since prick- and intradermal testing alone has limited diagnostic value and implies a risk of adverse local as well as systemic reactions. Patch-test negative alternative drugs, such as flucloxacillin or amoxillin-clavulanic acid, should be identified by subsequent prick, intradermal, and eventually oral provocation testing.

Contact: liesbeth.gilissen@uzleuven.be