

Title: Contact urticaria caused by chlorhexidine in hydroalcoholic gel

Running head Contact urticaria caused by chlorhexidine in hydroalcoholic gel

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Chlorhexidine is used as an antiseptic and disinfectant agent due to its broad anti-microbial spectrum. Immediate hypersensitivity reactions to chlorhexidine have been rarely reported. We report a case of contact urticaria caused by chlorhexidine following skin exposure to an hydroalcoholic gel.

Case report

A 20-year-old medical student consulted for an acute itchy eruption which occurred 5-10 min after application of an hydro alcoholic gel (OLCARE® gel disinfectant) for prevention of covid 19 infection. The patient presented urticarial lesions with annular erythematous wheals localized on the trunk and upper limbs (Figure 1). There was neither angioedema nor respiratory symptoms. He reported a similar eruption localized initially on the hands and forearms after the first application of this hydroalcoholic gel and resolved spontaneously within few hours. He had never used any products containing chlorhexidine formulation before. He has no history of previous allergic reactions. A contact urticaria to the hydroalcoholic gel was suspected. The patient was treated with Cetirizine at 10 mg once daily with rapid resolution of skin lesions. The hydro alcoholic gel contained chlorhexidine gluconate and ethanol. Given the immediate nature of his symptoms, he underwent a targeted prick test to chlorhexidine digluconate 0.1% in aqueous solution which was negative. An intradermal reaction to chlorhexidine digluconate 0.1% was performed and the patient developed sizable wheal of 15 mm with flare of 35 mm to the chlorexidine digluconate 0.1% within 10 min of performing the test (Figure 2). The patient used an hydroalcoholic gel containing ethanol and chlorhexidine free without incidents. The diagnosis of contact urticaria caused by chlorhexidine in hydroalcoholic gel was retained. Allergen avoidance was recommended and the patient tolerated a chlorhexidine-free alcohol based hand gel without recurrence of his symptoms.

Discussion

Our case report illustrates an immediate type reaction to chlorhexidine manifesting as contact urticaria. Contact urticaria is characterized by the development of wheals and flare skin or mucosal reaction after skin contact with an external agent. Symptoms developed typically

within 20-30min after exposure and dissipate within 24h [1]. Cases of immediate type reaction to chlorhexidine have rarely been reported. Urticarial reactions have been documented previously following skin exposure to chlorhexidine [2], and also after mucosal exposure via the vaginal [3] , oral [4] , and urethral route [5]. Contact urticaria can evolve to generalized urticaria and anaphylaxis [5,6]. Given the current frequent use of hydro alcoholic gel, it is important to be aware of chlorhexidine's potential to cause contact urticarial and severe immediate hypersensitivity reactions.

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Figure legends:

Figure 1: Annular erythematous wheals localized on the trunk and upper limbs

Figure 2: A: Positive intradermal reaction to chlorhexidine digluconate 0.1%

B: OLCARE® hydroalcoholic gel containing chlorhexidine digluconate



577x692mm (72 x 72 DPI)



254x190mm (96 x 96 DPI)