

Tags

Hand disinfection, tolerability, allergy-friendly

Title

Study to evaluate the skin and mucosal tolerability of desmanol® pure

Authors

Zuberbier T., Bergmann K-C., Özkan I

Source

2024, Internal report, ECARF Institute GmbH

Aim of the study

Hand disinfection is the single most effective measure to stop the spread of infections according to World Health Organization (WHO). Especially in a hospital setting, where multi-resistant pathogens play a crucial role, up to 50% of avoidable infections can be prevented through frequent and correct hand disinfection.¹ On intensive care unit (ICU), more than 200 hand disinfections are needed per patient-day and the time spent to achieve a 100% hand hygiene compliance would amount to 12 - 17% of the working time of an 8-hour shift.^{2,3} This shows how important a high tolerability of the hand disinfectant is, especially for users with sensitive/irritated skin or respiratory diseases. As a rule, hand disinfectants must not contain irritating ingredients or those with allergic potential. However, often these properties are not comprehensively clinically tested. In this study desmanol® pure was clinically tested for its skin and mucosal tolerability in adults with atopic dermatitis or asthma/bronchial hyperreactivity (alcoholic vapors).

Methods

Skin: The product was evaluated in a usage test on the hands of 22 subjects with atopic dermatitis under everyday conditions for a period of seven days with 20 applications daily. The tolerability was dermatologically assessed. The Three Item Severity (TIS)-Score adds scores for the symptoms erythema, oedema/papules/scaling and excoriation on individual scales of 0 to 3 to a total value on a scale of 0 to 9.

Mucosa: 20 patients with bronchial hyperreactivity were exposed to desmanol® pure in a closed study room (15.8 m³) for 20 minutes while using the product as intended twice. Before and after values were recorded for redness and lacrimation in the eyes, nasal airflow and bronchial reactions.

Results

Skin: There was no evidence of deterioration in the subjects' skin condition after one week of use. There was no significant difference in the TIS-score before (0.45) and after (0.64) the treatment. The mean itchiness score after the treatment was rated by the subjects at 0.43/10 and the tolerability at 9.4/10 after one week of use.

Mucosa: 4 out of 22 subjects showed slight eye redness before and after the test. One subject showed increased lacrimation after the provocation, which quickly resolved afterwards. The *positive nasal inspiratory flow* was not negatively influenced after exposure to the product, indicating no irritant or allergenic reaction to the nasal mucosa. The bronchial indicators *forced expiratory volume* and *peak-flow value* as well as the *blood oxygen saturation* remained unchanged after the exposure. Three subjects experienced coughing after the exposure to the disinfectant, the irritation resolved quickly with no lasting effects and without bronchial obstruction. The well-being of the subjects did not change after the provocation.



Conclusion

desmanol® pure is well tolerated and safe to use, even for people with allergies, asthma and sensitive skin. Following the studies, desmanol® pure was awarded with the ECARF certificate.