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CONTACT DERMATITIS AND OCCUPATIONAL DERMATOSES

## INCONTINENCE-ASSOCIATED DERMATITIS AND THE EFFECTS OF A BARRIER CREAM BASED ON RHEALBA OAT PLANTLETS EXTRACT ON SKIN EXPLANTS

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Introduction: Incontinence-associated dermatitis (IAD), is an inflammation of the skin associated with exposure to urine or stool. Elderly adults, especially those in long-term care facilities, are at risk for urinary or faecal incontinence and therefore IAD.

In ageing skin, barrier function and wound healing are impaired. In consequence, any prolonged exposure to moisture in presence of ammonia will lead to a decreased stratum corneum cohesion and finally, IAD.

Objective: The objective of this study was to determine the effect of a barrier cream based on Rhealba Oat plantlets extract on bacterial growth and inflammation markers in incontinence conditions.

Material and Methods: A microbiological study was conducted to determine the effects of a barrier cream containing Rhealba Oat plantlets extract on bacterial growth. We put the product in contact with 1% inoculum containing 108CFU/mL (Colony Forming Unit) of bacteria. Colonies were counted after 15 minutes, 1h, 2h and 6h of contact time.

A pharmacological study was then conducted on human skin explants incubated with urinelike/urease/SDS  $\pm$  tested product. IL-1a production, which is linked to the inflammatory state was then measured in the medium.

Results: Residual bacteria enumeration demonstrated that the tested product had antimicrobial properties as it led to a decrease of the number of colony-forming units for each strain.

The pharmacological study showed that the tested product significantly reduces (p<0.05) IL-1 $\alpha$  release when skin explants are treated under conditions that reproduce the irritation caused by urine.







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Conclusion: IAD is responsible of a skin barrier impairment as well as an inflammation caused by the release of cytokines. To avoid any infection by the skin flora, skin-care products should have antimicrobial properties but also preserve the skin from a possible inflammation.

In this context, our barrier cream containing Rhealba oat plantlets extract represents a key component in preventing Incontinence Associated Dermatitis.



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