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News from Allpresan® Science and Research

Placebo-controlled studies show: Allpresan® diabetic INTENSIVE+REPAIR foam creams repair the defective skin barrier

For various reasons, diabetics are more prone to dry skin. Among other things, it is assumed that the skin barrier in diabetics is structurally damaged (Tarhani et al.). Based on this assumption, two blinded, randomized and placebo-controlled studies were conducted with Allpresan® diabetic INTENSIVE+REPAIR foam cream. The results show that under application of Allpresan® diabetic foam cream the skin barrier of diabetics is completely repaired, i.e. brought to the level of healthy skin. In addition, it was shown that Allpresan® diabetic REPAIR foam cream can be applied in the interdigital spaces between the toes without increasing the risk of bacterial infection.



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Introduction

Dry, cracked foot skin represents a potential entry point for pathogenic germs and thus increases the risk of skin infections. Especially in diabetics, these are often the starting point for serious foot complications. The repair and regeneration of the skin barrier represents a real added value in medical skin care, from which diabetics in particular can benefit.

Aim of the study

In two blinded, randomized, placebo-controlled studies, the effects of studies were conducted to evaluate the effects of Allpresan® diabetic INTENSIVE+REPAIR foam cream on very dry to cracked skin of diabetics.

Methods

Verum and placebo were used in both studies twice daily for a period of four weeks in a right-to-left comparison. Measurement and examination times were in both cases before the the first application and after two and four weeks of application.

Study 1: The nature of the skin barrier was examined by means of detailed observation of the intercellular lipid lamellae (ICLL). For this purpose, electron microscopy was used to analyze the intercellular space and relate the ICLL to a defined intercellular space of 1000 nm². Using highperformance thin-layer chromatography (HPTLC) was used to determine the content skin barrier lipids was determined.

Study 2: Skin swabs were used to determine the bacterial the bacterial colonization of the interdigital toe was investigated. In addition, skin moisture was measured.

Results

Study 1: After four weeks of Allpresan® diabetic foam cream application, the proportion of ICLL increased significantly compared to both baseline and placebo (Fig. 1). In addition, after four weeks of Allpresan® application, the proportion of ICLL reached a level equivalent to the ICLL proportion of healthy skin evidence that the skin barrier is repaired by Allpresan® diabetic INTENSIVE+REPAIR foam cream. Furthermore, under Allpresan® application, the content of ceramide NP, which is a component of Allpresan® diabetic REPAIR foam cream, significantly increased in the skin barrier compared to baseline and placebo (Fig. 2). (Fig. 2).

Study 2: No changes in bacterial colonization of the interdigital spaces between the toes were observed for Allpresan® diabetic INTENSIVE+REPAIR foam cream during the study period (gram pos. (Fig. 3); gram neg. (not shown)). In addition, the Allpresan® diabetic REPAIR foam cream increased skin hydration significantly better than the placebo foam (Fig. 4).

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Change in the proportion of intercellular lipid lamellae (ICLL) (n=12).

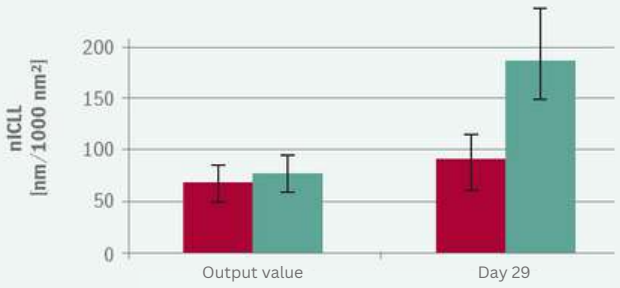


Fig. 1: Change in the percentage of intercellular lipid lamellae (ICLL) over a four-week application period. of four weeks. **The Allpresan® diabetic INTENSIVE+REPAIR foam cream significantly increases the ICLL percentage significantly compared to baseline and compared to the placebo. Values between 40 nm and 70 nm correspond to very dry skin. Values between 70 nm and 100 nm represent dry skin. From 180 nm we speak of healthy skin barrier.**

Change in ceramide NP content of the skin barrier (n=12).

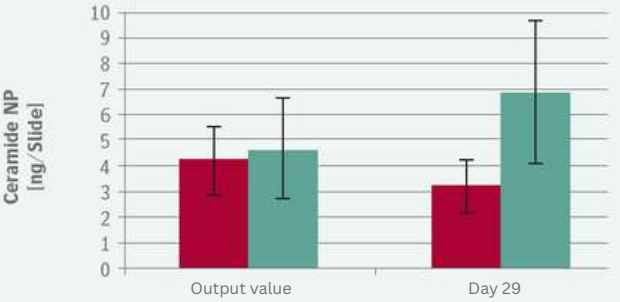


Fig. 2: Change in the ceramide NP content of the skin barrier over an application period of four weeks. **Allpresan® diabetic INTENSIVE+REPAIR foam cream significantly increases the ceramide NP content compared to baseline and compared to placebo. Ceramide NP is a component of the Allpresan® diabetic REPAIR foam cream.**

Change in bacterial colonization (gram-positive bacteria) of the toe interspaces compared to baseline (n=29).

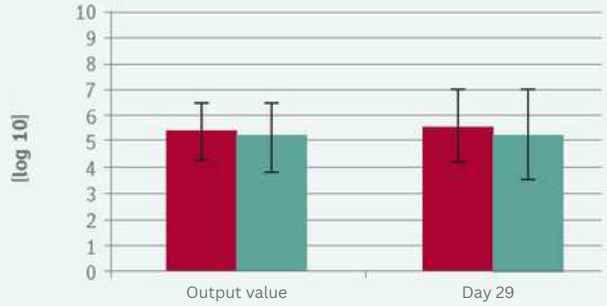


Fig. 3: Change in bacterial colonization of the interdigital spaces between the toes over an application period of four weeks. **The colonization of the interdigital spaces of the toes with gram-positive bacteria did not change during the study period.**

Placebo Allpresan® diabetic REPAIR Schaum-Creme

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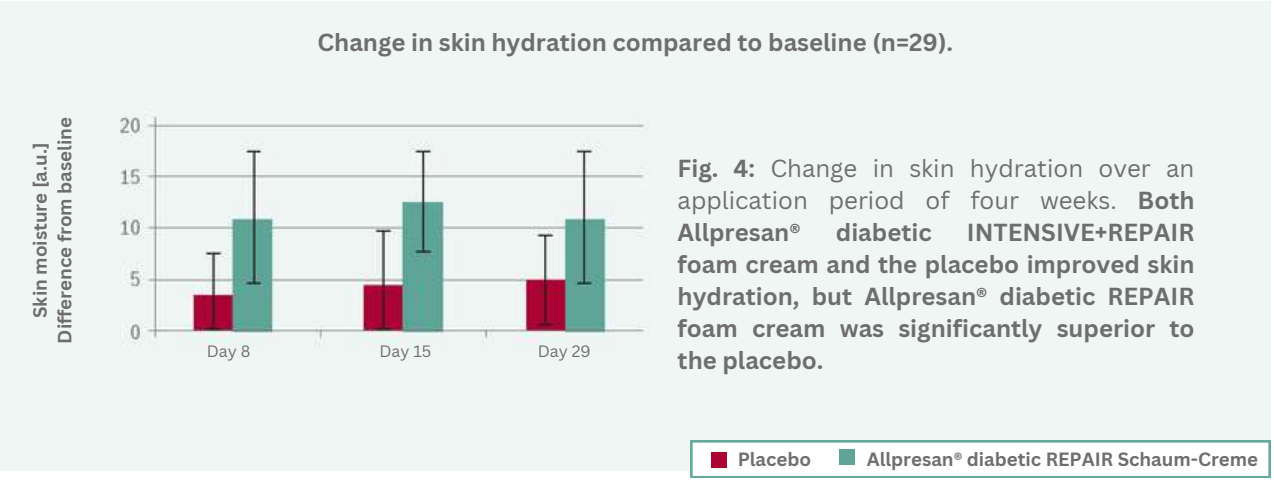


Fig. 4: Change in skin hydration over an application period of four weeks. **Both Allpresan® diabetic INTENSIVE+REPAIR foam cream and the placebo improved skin hydration, but Allpresan® diabetic REPAIR foam cream was significantly superior to the placebo.**

Conclusion

The data show that after four weeks of application of Allpresan® diabetic INTENSIVE+REPAIR foam cream, the proportion of ICLL reaches the level reaches the level that corresponds to healthy skin. The previously incomplete, damaged skin barrier is is completely repaired.

The results of this study demonstrate high-quality repair and regeneration of the skin barrier with the use of Allpresan® diabetic INTENSIVE+REPAIR foam cream. In view of the fact that diabetics in particular are at increased risk of foot skin infections due to a defective skin barrier, which not infrequently result in serious compli-cations and, in the worst case, in diabetic foot syndrome, these results are a real added value for medical foot care and the prevention of serious foot complications associated with diabetes.

Also in view of the increased risk of infection, the use of foot care products in the interdigital spaces is not reco-mmended. The data presented here show that Allpresan® diabetic INTENSIVE +REPAIR foam cream can be applied in the interdigital spaces between the toes without increa-sing the risk of bacterial infection. An additional added value offered by Allpresan® diabetic REPAIR foam cream.

The data from both studies show that Allpresan® diabetic INTENSIVE+REPAIR foam cream goes well beyond the simple moisturizing potential of conventional foot care products and makes a real contribution to high-quality, holistic medical foot care.

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