

Wound healing characteristics of a novel wound healing ointment in an abrasive wound model: A randomised, intra-individual clinical investigationWalter Wigger-Alberti¹, Y V Mackensen¹, M Kuhlmann² and R Wolber²¹bioskin GmbH, Germany²Beiersdorf AG, Germany

Objective: Most wound healing conditions are beneficial in a professional wound care setting as well as for self-treatment of acute, superficial wounds. The purpose of this randomized, controlled, investigator-blinded investigation was to determine the local tolerability, wound healing efficacy and cosmetic outcome of a novel wound healing ointment in an intra-individual comparison of 4 treatment regimens using an abrasive wound model.

Methods: Standardized abrasive wounds were induced on the inner forearms of 30 healthy subjects and 4 treatment regimens were randomly allocated to test areas (wound healing ointment covered with standard first aid dressing, wound healing ointment covered with gauze, standard first aid dressing alone, untreated area covered with gauze). Wounds were treated once daily for 11 days. Local tolerability and wound healing were assessed using visual scoring and digital photography on 5 different days. The cosmetic outcome was evaluated during a follow-up visit on Day 31.

Results: The wound healing ointment exhibited excellent local tolerability with superior assessments in comparison to treatment utilizing only dressings without ointment. Significant differences between AUC values for re-epithelization and overall wound healing efficacy were demonstrated in favor of treatment with the wound healing ointment in comparison to dry wound healing conditions. Wounds treated with the wound healing ointment showed a faster onset of healing and the cosmetic outcome was rated as being superior for the wound healing ointment both by the investigator and the subject.

Conclusion: Superficial cutaneous wounds treated with the novel wound healing ointment displayed a significant improvement of wound healing with an earlier onset of re-epithelization, faster wound closure and a better cosmetic outcome. Clinically relevant accelerated wound healing compared to traditional dry healing could be shown demonstrating the benefits of moist wound healing conditions also in the treatment of minor, superficial wounds.

Recent Publications:

1. Wilhelm K P, Wilhelm D and Bielfeldt S (2017) Models of wound healing: an emphasis on clinical studies. *Skin Research and Technology* 23(1):3-12.
2. Sabadotto M, Theunis J, Black D, Mengeaud V and Schmitt A M (2014) *In vivo* assessment of the effect of a cream containing Avena Rhealba(®) extract and hyaluronic acid on the restoration of the skin barrier in de-epidermised skin produced with an erbium-YAG laser. *European Journal of Dermatology* 24(5):583-588.
3. Ferraq Y, Black D R, Theunis J and Mordon S (2012) Superficial wounding model for epidermal barrier repair studies: comparison of Erbium: YAG laser and the suction blister method. *Lasers in Surgery and Medicine* 44(7):525-532.
4. Wigger-Alberti W, Kuhlmann M, Ekanayake S and Wilhelm D (2009) Using a novel wound model to investigate the healing properties of products for superficial wounds. *Journal of Wound Care* 18(3):123-128.

Biography

Walter Wigger-Alberti has completed his graduation from University of Kiel as Medical Doctor and from University of Jena as Dermatologist in 1997. He has completed his dermatological residencies at University of Zurich, Switzerland, with occupational dermatology and skin physiology. He then started working as the Head of the Skin Physiology Lab in Jena where he continued his research. Presently he is working as CEO and Clinical Advisor Dermatology at bioskin GmbH in Hamburg.

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