This Issue at a Glance

Atopic dermatitis, psoriasis and chronic wounds and their treatments are topics of high interest in skin pharmacology and physiology. This issue of the journal *Skin Pharmacology and Physiology* is dedicated to these research topics.

Paquet and Piérard (Skin Pharmacol Physiol 2007;20:66–70) report that glutathione-S-transferase π expression in toxic epidermal necrolysis is a marker of putative oxidative stress in keratinocytes. Glutathione-S-transferase π is a fast phase II detoxifying enzyme involved in drug metabolism by human keratinocytes. The pathomechanism of toxic epidermal necrolysis is not related to an impaired quantitative expression of glutathione-S-transferase π but an early event in toxic epidermal necrolysis.

Wohlrab et al. (Skin Pharmacol Physiol 2007;20:71–76) investigated the antiseptic efficacy of a low-dose topical triclosan/chlorhexidine combination application in atopic dermatitis. The combination of two antiseptic compounds in very low concentrations offers a possible option using their additive effects in order to minimize the risk of local side effects.

Abramovic et al. (Skin Pharmacol Physiol 2007;20:77–84) investigated the effects of two general anesthetics on skin oxygenation in mice by electron paramagnetic resonance oximetry. Isoflurane and ketamine/xylazine were applied and the partial pressure of oxygen in the skin, heart rate and hemoglobin oxygen saturation were followed as a function of time and inhaled oxygen concentration. The type of anesthesia has a significant influence on the partial pressure of oxygen in the skin.

The resilience of human skin is mediated by elastic fibers, mainly consisting of fibrillin and elastin. In order to establish a model to study the impact of cosmetic and pharmaceutical compounds on the elastic system in vitro, Mewes et al. (Skin Pharmacol Physiol 2007;20:85–95) analyzed the expression of elastin in a full-thickness skin model by immunohistochemistry. They demonstrated an

environment- and age-dependent decrease in skin elasticity.

Bonnekoh et al. (Skin Pharmacol Physiol 2007;20:96–111) investigated the CD11a binding site of efalizumab in psoriatic skin tissue by multiepitope ligand cartography robot technology. Efalizumab is an immunomodulating recombinant humanized IgG1 monoclonal antibody that binds to CD11a, the α -subunit of leukocyte function antigen 1. The study demonstrated that efalizumab represents a psoriasis treatment that targets memory CD4+ and CD8+ T cells. Additionally, a biological drug-binding biochip assay was introduced, useful for the future monitoring of psoriatic disease activity skin lesions under efalizumab treatment conditions.

Maggots of the green blowfly are used as an alternative to surgical intervention and long-term antiseptic therapy for the treatment of chronic wounds. Daeschlein et al. (Skin Pharmacol Physiol 2007;20:112–115) developed an in vitro test model, with a coculture of maggots and bacteria. The numbers of bacterial colonies, with and without maggot exposure, were compared after 24, 48 and 72 h of exposure. Maggot secretion fulfilled the required definitions of an antiseptic. In addition, the maggots' ability to ingest bacteria was also evaluated.

Schroeder et al. (Skin Pharmacol Physiol 2007;20:116–120) investigated the effect of processed water on the constitutive and ultraviolet-A-radiation-induced level of mitochondrial DNA mutations in human dermal fibroblasts. They demonstrated that replacement of normal deionized water by processed water in cell culture medium decreased the constitutive levels of the most frequent large-scale deletion of the mitochondrial genome in human dermal fibroblasts. The presence of processed water also prevented the generation of the common deletion, which was induced in these cells by repetitive UVA irradiation.

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