

Corneotherapy – ...more than just a surface application

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Experience shows that besides their influence on the release of active agents base creams can have substantial effects of their own.

The number of publications describing a successful therapy of skin disorders only by applying appropriate cream bases has been increasing lately. It was Professor Albert M. Kligman who substantiated this idea in the term corneotherapy which he coined in the late nineties. Most important content of corneotherapy is the knowledge that appropriate moisturizers and lipid substances will not only support the integrity of the horny layer but also subsequently support the regeneration of deeper skin layers.

As they will not involve any side effects skin caring active agents are appropriate for the treatment of barrier layer and cornification disorders. For the adequate corneotherapy specific base creams are recommended which can be individually adapted with active agents for the skin care. New on the market are base creams with "derma membrane structure", a specific structure which was copied from the lipid bilayer of the stratum corneum. Just like the skin, these base creams can absorb lipophilic as well as hydrophilic active agents at room temperature. Liposomes and nanoparticles which belong to the "membrane family" just like the derma membrane structure are appropriate additional active agent carriers.

The natural phosphatidylcholine contained can release linoleic acid into the skin and thus serves as a substrate for the natural synthesis of the linoleic acid containing ceramide I which is an essential component for the maintenance of the barrier function.

Compatible with the physiology of the skin

The fact that base creams are free of emulsifiers is an important advantage in corneotherapy as emulsifiers may disturb the integrity of the natural barrier layers. In case of barrier disorders ("dry skin") a penetration of product components also into deeper layers of the skin has to be expected. That is why potentially sensitizing preservatives and perfumes should also be avoided. The general principle of corneotherapy is the use of substances which are compatible with the physiology of the skin. Mineral oil contents like petrolatum and paraffin oil hence are not appropriate. On the contrary, triglycerides are applied whose fatty acid components are comparable with the composition of the stratum corneum. An essential barrier component also is cholesterol which can be replaced by shea butter in case of any reservations against animal raw materials. Shea butter contains a high percentage of vegetable sterols which are closely related to cholesterol. For individually adapted corneotherapeutic cosmetic products ("dermaviduals") there are various additional active agents available like urea, amino acids, lipid substances, hyaluronic acid, ceramides, vitamins and extracts. Besides the visual evaluation, the success of these products can largely be proven by simply measuring the skin hydration, sebum and TEWL.

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