Problem skin – relapses in skin care and dermatology – how to handle them?

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In medical terminology, the expression relapse describes the reoccurrence of a disease or a symptom after an already finished treatment. Relapses also occur in the dermatological or cosmetic context when disorders reappear after a successful treatment phase. Find out here what causes the relapses and for which indications the accompanying skin care makes sense.

It may sound as a trivial case when symptoms like dry skin or dry eyes reappear again and again and consequently have to be treated again and again. This can be a burden in the everyday life of the patients concerned. As in the medical field, it is of great interest to avoid recurrence. Acne, rosacea and perioral dermatitis are medical indications par excellence to prove how skin care and dermatological treatments can merge.

Adjuvant corneotherapy

There are various causes for relapses and frequently also several triggering factors. With infections often the early stopped antibiotics treatment can cause a renewed flare-up of a skin reaction. On the other hand, the long-term treatment with corticosteroids can result in a higher sensitivity to microorganisms and allergens. Psoriasis often is the consequence of the intake of pharmaceuticals such as beta blockers. In all cases, however, it makes sense to inform oneself about the specific properties and potential adverse effects of pharmaceuticals. With certain indications the accompanying skin care (adjuvant corneotherapy) can be of great help after the medical therapy. Examples:

- Neurodermatitis, among others, is characterised by a disordered skin barrier. Barrier disorders can be effectively attenuated or even avoided by using lamellar base creams. They are based on the principle of refilling the imperfections in the skin barrier with physiological bio-membranes (bilayers) consisting of hydrogenated phosphatidylcholine and possibly ceramides.
- In the case of actinic keratosis frankincense extracts have anti-inflammatory effects. The mechanism behind the effects still has to be studied. The contained boswellic acids indeed inhibit the 5-lipoxygenase, yet the effects could only be verified in in-vitro studies.
- Cornification disorders such as acne respond well to liposomal dispersions of low dosed azelaic acid (≤ 1%). The liposome membranes (bilayers) consist of native phosphatidylcholine that contains chemically bound essential fatty acids instead of the saturated acids of the hydrogenated variant.

Needless to say that adjuvant skin care can also be applied for preventive and after-care purposes. It even is of particular importance as the treatment stop of medical dermatics implies discontinuity for the skin which can be attenuated by appropriate skin care adapted to the medical indication. An ideal solution is to use the same base cream for the medication and the skin care. Required in this case is the cooperation between dermatology and cosmetics, however, this still is an exception to the rule.

Cosmetic causes

Besides pharmaceutical formulations there are various other causes for recurring skin reactions and relapses. A lipid-enriched skin care administered on the rosacea skin can foster a phenomenal growth of anaerobic germs. Analogous to the acne treatment the application of liposomes with azelaic acid in combination with boswellic acid preparations can be beneficial. The boswellic acids have protease-inhibiting effects in the process. To what extent both, the endogenous proteases that degrade the antimicrobial proteins (AMP) or the proteases of the participating microorganisms are inhibited still has to be studied. The rosacea condition clearly shows the importance of skin care – for its formation as well as for the prevention of relapses.
Besides the excessive skin care also insufficient care should be considered in this context.

Hygiene also belongs into the category of excessive skin care, in other words, the skin is too often and too intensely exposed to the tensides contained in cleansing agents. This almost automatically leads to barrier disorders in the dressed skin areas such as feet and pubic area where again and again fungus- and bacterial infections are reported. The initial infections do not occur within the swimming baths but outside in the barefoot areas and are facilitated by careless drying off and the thus remaining moist milieu.
Tight, less permeable and chafing clothing should absolutely be avoided if the skin is sensitive to this effect. Shaving of armpits and pubic area is another issue since the protecting air paddings between skin-skin-contact (armpits) and between skin and textiles (pubic area) thus are removed.

Routine acid peelings not only involve barrier damages, when applied on a long-term base they also lead to superficial disorders of the connective tissue and experience has shown that they can intensify the already existing prevalence for rosacea and perioral dermatitis (POD).

Affecting the microbiome

A whole series of unwanted reactions can be ascribed to individually inappropriate ingredients of cosmetic preparations. While up to now only the onset of allergies and irritations had been attributed to the direct impact of such substances on the skin, the recent focus on the microbiome revealed a series of other causes. Preservatives can be mentioned as an example here as they influence the variety of the skin flora and can lead to accidental resistances of unwanted pathogenic germs. The same applies to high concentrations of antioxidants and complexing agents that impair the oxidoreductases of the microbiome which actually are needed to produce the acids that form the acid mantle of the skin (pH-level).
As already mentioned, the fat-enriched skin care preparations, in particular those produced from inert non-absorbable paraffins can lead to a selection and preference of anaerobes and consequently a change of the natural balance within the skin flora. In the case of rosacea but also with perioral dermatitis and comedone-prone skin a recurrence of inflammations can be observed. Curiously enough, many of the extemporaneous products of the pharmacies are compounded without considering this issue. To mention an example in this context: antibiotics formulations to treat the above listed symptoms still are prepared with vaseline and paraffins (e.g. Unguentum molle). This mainly is based on the reflection that pharmaceutical agents are better available out of these bases. The disadvantage here is that the regeneration of the skin is completely impaired that otherwise would be an essential prerequisite for an effective self-protection in the period following the medical therapy. Pathogenic germs hence have an easy job in reactivating their damaging work once the antibiotics are discontinued and the normal condition of the skin barrier is not yet adequately built up.

Influences of our everyday life

Other causes for relapses seem rather marginal and hence are not taken notice of. One of these causes is the influence of water hardness on neurodermitic conditions. The already damaged skin is further eroded by the penetrating hardness components of the drinking water in the form of calcium hydrogen carbonate (temporary hardness) and calcium sulphate (permanent hardness). Consequently, the long-chained fatty acids of the skin barrier will form lime soaps. Also the acid mantle of the skin formed of medium-chained fatty acids will be damaged.
A similar phenomenon appears in the context of work with cardboard boxes that contain filling materials such as calcium carbonate. When the skin gets in contact with this substance, the acid mantle will be damaged and the dry, receptive cardboard will dehydrate the skin. In combination with mechanical strain it can lead to wear and tear (alias abrasive) dermatitis (cumulative subtoxic contact eczema) that will facilitate the penetration of other foreign substances and microorganisms. Breathable cotton gloves can be an effective remedy in this case.
It also is difficult for the body to deal with continued physical strain such as hours and hours of VDU work without physical activities. The dry eye symptom meanwhile has become a wide-spread phenomenon. There are lots of therapies whereas a continued application of physiological membrane lipids (phosphatidylcholine) in combination with low-dosed vitamin A derivatives has the best tong-term chance of success. Also eye exercises that activate the microcirculation combined with physical activities to compensate sedentary work as well as sufficient periods of rest, in other words, free of stress and enough sleep, help keeping the problem under control.
Flight crews also experience a high stress level. Low air pressure and low air humidity in the airplanes dehydrates the skin. Irritations and susceptibility to allergens and microorganisms are inevitable in particular if the skin care is not adequately adapted, or in other words, is not suitable for the mentioned conditions. Barrier supporting treatments also are

the means of choice whereas the focus is on maintaining and improving the NMF (Natural Moisturizing Factor). Intense cleansing routines after work remove the make-up but also the barrier lipids and thus damage the NMF. This can only be avoided by largely physiological formulations – also for the skin cleansing.
Within the industrial skin protection emphasis still is laid on a hundred per cent protection against working substances whereas the support of the skin regeneration during work and during leisure time still is neglected. Abrasive substances in cleansing preparations still make matters worse for the skin condition. By end of winter and early spring a maximum of sick notes is reported since the skin condition also is subject to seasonal fluctuations.

Peripheral factors

Besides physical inactivity and body weight that both influence the metabolism and last but not least the skin condition, unbalanced nutrition (vitamin deficiency) and particularly hormonal influences during puberty, period, climacteric and menopause as well as age-induced modifications are personal factors that can involve an earlier or even more intense relapse of skin problems.
The exact opposite can also happen and symptoms do not resurface. The personal mindset also is an essential factor, in particular in the context of neurodermitic skin, rosacea and perioral dermatitis.
Furthermore, from my own experience, there are always cases where hospitals discharge patients who are considered to be out of treatment. I.e. the formal, guideline-based therapy with drugs is discontinued without success. Even worse: the condition of the patient has deteriorated. A closer look can reveal that individual conditions had not been taken into consideration such as the age (small children) or that the oral administration of pharmaceuticals was preferred to an individually adapted topical treatment. In these cases modular cosmetic treatments based on the corneotherapeutic principle developed by Professor A. Kligman can work miracles as the typical counterproductive and sometimes cumulative adverse effects due to a range of different pharmaceuticals can be avoided.
The proportionality principle in therapy often is neglected. In the dermatological education and training it is desirable to lay more emphasis on the bases of skin care preparations. They contribute more than 50% to the successful treatment and help avoiding relapses.

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