Quite a lot of different applications - new oils and extracts

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An unprecedented number of new oils and extracts is currently introduced into the cosmetic market. To provide some assistance here, Dr. Hans Lautenschlaeger presents an overview on promising substances and their effects.

A multitude of new active agents of various origins has been adopted from the folk medicine of Asian and Latin American countries. Frequently effects and promised impacts have gained the importance which formerly had been reserved for pharmaceutical products only. Already some time ago, biochemical studies accompanying the products have switched from the stratum corneum which used to be the typical field for the cosmetic treatment towards processes in deeper skin layers.

Regeneration

Cosmeceuticals or dermatological cosmetics in other words have already conquered firm ground. Besides the caring effects the focus of attention is laid on specific indications like a reduction of wrinkles including skin smoothing purposes to which hormone-like and anti-inflammatory effects belong to, just to mention the most important of them. Advertising today quite frequently promotes the regenerating effects of cosmetics, a fact which used to be impossible formerly.
One of the reasons for this development is the phenomenon that physicians today get more and more involved with skin care issues and even develop the segment as a second mainstay due to the current conditions in public health policy. This simultaneously means tough competition for traditional beauty institutes specifically in the growing sector of problem skin treatments. It is all the more important to form an opinion on the new active agents to provide the greatest possible benefit for the customers.

Reducing wrinkles

Similar to the pharmaceutical sector there is a countless number of new active agents with identical features on the market. As a matter of fact, also the umpteenth new radical scavenging product will not also signify a newly developed product. By contrast though, an "old hat" in new packaging and in other words, a fat oil encapsulated in nanoparticles may improve its availability and hence achieve a stronger and longer lasting effect.
Regarding the reduction of wrinkles, besides hyaluronic acid which mainly is effective on the skin surface two important groups of substances should be mentioned, i.e. oligopeptides which are synthetic protein-like compounds consisting of few amino acid units, as well as vegetable extracts with unusual fatty acid derivatives whereas the latter are substituted amides of polyunsaturated fatty acids. The most famous exponent here is spilanthol an active agent which naturally occurs in para cress (Latin: Acmella oleracea). This tropical plant is grown in South America, Africa and Asia and its flowers and leaves are extracted for cosmetic applications. The aqueous extract blocks the micro contractions of the mimic wrinkles which results in a reduction of wrinkles and skin smoothing. The effect will even be improved by encapsulating the agent in liposomes. Besides, on sensitive skin the effect may even be noticed by a light tingling sensation announcing that the agent starts to work.
Another very interesting vegetable extract is gained from butcher's broom (Ruscus aculeatus). It contains ruscin, ruscogenin and neoruscogenin as well as the alkaloid spartein and is recommended against cellulite, oedema and couperosis. Popular for the skin care around the eye are combinations of butcher's broom with cucumber extract and hyaluronic acid. Modelling masks and packages support its effect. Tiger grass extracts (Centella asiatica) stimulate the collagen synthesis and improve the micro circulation. In combination with phytohormones (see below), green tea and caffeine, they often form the basis for skin smoothing products which also are used for the care of the neckline and cellulite applications.

Hormonal imbalances

Wrinkle reducing agents like para cress only

have temporary effects on the optical appearance of the skin though. Liposomally encapsulated in phosphatidylcholine which is rich in linoleic acid, and combined with NMF supporting substances like amino acids as well as the vitamins A, C and E, they may have long-term preventive effects.
Phytohormones may have supporting effects, above all during menopause and post-menopause. In this connection soybean extracts should be mentioned which however now are gradually replaced by red cover extracts due to their higher content of phytohormones. In combination with liposomal phosphatidylcholine and agents improving the microcirculation, red clover extracts have smoothing effects, impede excessive hair growth and are also effective against bad skin. Besides soybeans, red clover and Pueraria mirifica (China and Japan) with its main active agents genistein and daidzein which are released from the glycoside compounds and show a minor estrogen effect, the phytoandrogens of the butea extract (Butea superba, Thailand) and the peptides of the tongkat-ali extract (Eurycoma longifolia; Malaysia, Indonesia) have stimulating effects on the male organism. Don quai extracts (Chinese angelica root) are supposed to stimulate the progesterone metabolism. In combination with massages it is used as a cellulite treatment.

Wellness & Massages

Phytohormone containing extracts often are used in the medical wellness sector. Besides the effects of the extracts, hot stamp massages and other physical therapy techniques as e.g. from the Jamu folk medicine play a significant role as not only effects on the skin but also on the internal organs are intended. For this purpose massage oils are used with a specific composition depending on the respective medical purpose. High quality fatty oils like argan oil, grape seed oil, rose hip oil, amaranth, olive, almond and avocado oils are used. Besides the sliding property, the smell and resorption behaviour, above all the specific fatty acid composition is an important issue. The oils may easily be used as active agent concentrates in form of aqueous dispersions after having passed a nanotechnological treatment process. Linseed oil should be mentioned here as a significant example. It is used on the skin susceptible to inflammations and against skin irritations. Also nanoparticles of the lipid soluble fraction of boswellia (Boswellia sacra) have anti-inflammatory effects. Boswellia is recommended in cases of actinic keratoses on the scalp, against psoriasis and inflamed neurodermitic skin as well as an adjuvant for the corneotherapeutic skin care.

Active radical scavengers

Many of the radical scavenging products based on flavones and isoflavones which belong to the group of polyphenols focus on anti-inflammatory effects and the prevention of skin aging. As the structures of phytohormones consist of isoflavones, they have radical scavenging features too. Examples of flavonoid containing extracts are grape seed extract, grapefruit extract (Citrus grandis), kopou beans extract (Pueraria lobata), pear seed extract and Chinese common scullcap (Scutellaria baicalensis) as well as the extract from the leaves of the argan tree (Argania sinosa), just to mention a few. Many of the polyphenolic agents inhibit the enzyme tyrosinase and hence cause a preventive bleaching effect in cases of hyper pigmentation. Also pomegranate extract which has a high content of ellagic acid, and gum rockrose (Cistus ladaniferus) are rich in polyphenols, both have anti-inflammatory effects.

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There is a general tendency towards a transfer from protective principles of the plants onto the skin in whichever form. As examples may be mentioned cationic proteins from the moringa seeds which generate a lotus-like effect and thus are supposed to reduce pollution on the skin surface, and also ectoin. This pyrimidine derivative increases the irritation threshold of the skin and hence may be used in products for sensitive skin.
Also the large number of new essential oils should be mentioned whereas the individual content frequently depends on the geographic origin. Australian sandalwood oil e.g. is specifically rich in anti-inflammatory alpha-bisabolol and trans-farnesol with an antimicrobial activity. Essential oils tend to come into focus for modular massage oil concepts which means that the essential oils are specifically adjusted to the individual application and added to the traditional massage oils only shortly before the respective treatment. This way specific effects may be achieved on the one hand side and individual sensitivities may be taken into account on the other hand.

Blue marked lines: supplemented after publication

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