

Skin & hormones

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INTERVIEW – We asked Dr. Hans Lautenschläger to explain how hormones influence the skin and what kind of skin care you could apply in the case of hormone-induced skin conditions. The scientist gives an insight into the use and effects of hormonally active substances and the reactions they trigger in the body.

BF: How do hormones affect the skin and how does it show?

Sexual hormones are responsible for childhood development, for puberty, reproduction, climacteric period and aging. Accordingly, the hormonal balance is subject to changes during the whole life. In addition to that, a series of hormonally active substances find their way into the body through oral contraceptives, hormone therapies in the case of cancer and menopause conditions and, last but not least, due to hair growth preparations. Endocrine disruptors in food, skin care and environment are another source.

The effects of these substances on the skin are varying and depend on the individual condition and gender. Just to mention an example: during puberty¹ oily skin and acne² can develop and later in life, cellulite³, combination skin⁴ and acne tarda⁵ during menopause⁶, but also dry skin⁷⁻⁸ and changes in the female genital area⁹ are symptoms of hormonal influence. Frequently the skin condition improves as for instance during pregnancy¹⁰. In terms of hair loss and intensified hair growth, there is a variety of different effects depending on gender

¹ Akne – Möglichkeiten der kosmetischen Prävention, Beauty Forum 2015 (2), 88-91

² Hautpflege während der Pubertät, Kosmetik International 2009 (10), 20-23

³ Cellulite von A bis Z, Kosmetische Praxis 2011 (1), 10-13 und 2011 (2), 10-12

⁴ Mischhaut – Haut mit zwei Gesichtern, Kosmetik International 2005 (11), 32-34

⁵ Akne – Prävention und Pflege, Kosmetik International 2003 (5), 27-31

⁶ Moisturizer in der Hautpflege, Beauty Forum 2011 (3), 86-88 und 2011 (4), 46-49

⁷ Wasserhaushalt der Haut – Moisturizer & Co., medical Beauty Forum 2014 (1), 18-20

⁸ Die Facetten der Intimpflege – Weniger ist mehr, medical Beauty Forum 2014 (2), 35-37

⁹ Hormonzyklen – Hautpflege im Klimakterium, Kosmetik International Best Ager 2009, 26-28

¹⁰ Im Anflug – Die Landung vorbereiten – Hautpflege bei Schwangeren, Kosmetik International 2012 (10), 26-29

and body area¹¹. With regard to phytohormones¹²⁻¹³ generally positive effects are reported.

BF: What kind of skin care is beneficial?

Besides modifying the hormone dosage and checking for endocrine disruptors, unwanted hormonal action can only be symptomatically treated. In the case of bad skin and acne, protease inhibitors, essential fatty acids and regeneration-supporting vitamins are important remedies, while sebum-suppressive substances are beneficial in the case of oily skin, and moisturizers and filming substances in the case of dry skin. Cellulite and hair growth problems are a different and complex issue.

BF: Which cosmetic products contain hormonally active substances and how do they influence the body/skin?

Phytohormones alias isoflavones often are concomitant substances in natural extracts and higher concentrations, for instance, can be found in soya and red clover extracts. In the INCI, isoflavones only are declared if they are used in pure form (example: genistein) or in the form of glucosides (compound with glucose; example: genistin). Their various effects often are utilized in anti-aging preparations. Prostaglandin-related substances frequently are administered to induce the growth of eyelashes. A number of substances already used in cosmetics for a long time are supposed to interact with hormonal receptors, just as hormones do. Among others, they have been detected in breast milk. Other studies are mostly based on statistical surveys, structural

¹¹ Damit es sprießt – Wirkstoffe und Wirksysteme, die den Haarwuchs fördern, medical Beauty Forum 2013 (2), 37-39

¹² Auf dem Prüfstand – Phytohormone, Kosmetische Praxis 2006 (1), 13-15

¹³ Flavone und Isoflavone – die Wirkstoff-Generallisten, Kosmetik International 2016 (10), 62-65

resemblances with hormones and in-vitro experiments.

Results sometimes are contradictory and cannot be used for final evaluations. The group of substances that, rightly or wrongly, are defined as endocrine disruptors comprises e.g. parabens (preservatives), a number of long-established sun protection filters, plasticizers (phthalic acid ester) and the disinfectant triclosan. The latter-mentioned product has recently been banned from preparations that remain on the skin after application (leave-on products). It still is little known, whether and in which way a long term application of endocrine disruptors has an impact on the skin.

BF: Avoiding such substances: Are there alternatives?

Parabens can be substituted by other preservatives listed in the KVO (German Cosmetic Regulation). However, formulations without preservatives are the preferable alternative here.

The whole panoply of supposed endocrine disruptors can also be avoided or substituted without any disadvantages for consumers. It should however be mentioned that production costs may rise, as for instance if the alcohol denatured with phthalic acid ester (INCI: Alcohol denat.) is substituted by the more expensive and tax-paid ethyl alcohol.

The multifunctional phytohormones can only be substituted by active agent combinations. There is however no reason for replacement since phytohormones also are ingested with our nutrition and since the Federal Institute for Risk Assessment (BfR – Bundesamt für Risikobewertung) has issued an all-clear signal.

It should be mentioned in this context, that prescription hormone creams currently are a booming market.

Martina Schmieder (BF) conducted the interview.