

Hormone cycles – menopause skin care

published in Kosmetik International - Best Ager 2009, 26-28

We cannot live without hormones. They influence our bodily functions, physical capacity and moods from birth to old age. We are particularly sensible of their effect during menopause.

We notice the fluctuations in our hormone balance and feel accordingly. We particularly sense their influence during menstruation, menopause as well as after that period. Effects on skin and hairs are clearly visible.

First skin problems appear during puberty and a typical keyword here is acne with all the related conditions. Even after regular cycles have started there is a potential for temporary skin conditions following the monthly rhythm as e.g. blemished skin, skin redness, increased sebum and perspiration as well as a general sensitivity. People between 30 and 40 may develop late acne (acne tarda). In contrast to adolescent acne the characteristics are dryer and low-fat skin, a fact which also requires different skin care measures. Some time between the late forties to the mid fifties menopause starts whereas the individual onset is different. Due to a lack of skin elasticity more and more wrinkles start to develop and changes in the connective tissue can be observed. Skin hydration is reduced, the epidermis is getting thinner and hyperpigmentations (age spots) increase. The hair on the head becomes thinner and sparse whereas the hair growth on upper lip and chin increases.

A rollercoaster of feelings

There are numerous scientific rationales on how hormone levels increase and decrease during monthly cycles and during the different phases in life. Hence premenstrual low progesterone levels are associated with uneasiness, imbalance and symptoms of anxiety. The progesterone level is also reducing during menopause. As a result, similar symptoms like headaches, hot flashes and irritability can be observed.

Estradiol production that previously increased together with other estrogens before and during puberty now is reduced to a fraction of its former level. These hormones play a significant part in the formation of the sexual characteristics. That is the reason why we clearly notice this decline of hormones during menopause and post-menopause. Some women dare to joke that they live their second puberty

only backwards, though, and this joke is not just made out of thin air.

Men experience these hormonal changes more like a gradual process - except for puberty. Some time around 40 their testosterone release decreases by about 1 percent per year. The external effects that are visible like reduced beard growth and a slight increase of the (head) hair growth for bald persons are not spectacular so. Yet, more noticeable is an increasingly dry skin due to the reduced sebum production.

Compensating imbalances

How positive hormones are for our skin and general well-being can be experienced with late pregnancies. Hormone replacement therapies (HRT) during and after menopause also are aimed at improving the personal mood and compensating deficiencies. There is a multitude of medical products on the market and distinct economic interests cannot be denied in this context. Since these products intervene into a complicated control system of the human body, effects and side effects are rather close. There is no doubt that there are individual cases where the general well-being and skin appearance can be improved for some time. On the other hand, however, the risk of thrombosis, strokes, asthma and cancer statistically increases. Hormone replacement therapies still are discussed controversially. The interaction between hormone balance and skin also is influenced by other factors.

External stimuli

It is a well-known fact that external stimuli, among others, can help to cope with stress phenomena or depressions. Success, sports activities, positive challenges and individual fulfillment after years of parenting or a new love will stimulate our hormone balance and enhance the skin appearance.

It has been proved that exercises increase the testosterone level and stimulate the immune system. Sexual activity increases the hormone production. Also nutrition can contribute its share: Asian women with a high content of

phytohormone rich soybeans in their daily nutrition have less menopausal problems than European women.

Also an adequate cosmetic care can be beneficial for hormonal changes. After all, an attractive appearance improves self-confidence as well. Furthermore there is the option to rely on anti-aging products and concepts. Though, it should be mentioned that not every product offered in this context will be helpful. This shows quite plainly after tracking the highly appraised active agents of recent times. After a period of about 3 to 5 years approximately 90 to 95 percent of the new active agents and products are no longer on sale. These days, the development of innovative concepts progresses pretty fast and customers are eager to see novelties on the market. However, excellent and effective active agents never become superfluous or boring after some time. After all, it is the (long-term) effect that counts.

A gentle replacement

Following the hormone replacement therapy and knowing about the ban of “substances with estrogen and gestagen activity” and “anti-androgens with steroid structure” in skin care products as specified in the European Cosmetic Decree, cosmetic product development has focused on phytohormones (vegetable hormones). They occur in soybeans, red clover and linseed and appear as components with a spatial structure that resembles the human steroid hormones and hence may dock onto the same hormone receptors, or in other words, they are like a spare key that fits the same keyhole.

These substances mainly are isoflavones, lignans and coumestanes with low estrogen effects. This estrogen effect is by several orders of magnitude lower than that of human hormones.

Combined with phosphatidylcholine they have smoothing and anti-comedogenic effects on the skin, stimulate the microcirculation and inhibit the facial hair growth (upper lip).

It should be mentioned at this point that there are hardly any phytohormones in linseed oil in contrast to linseed. On the other hand, however, the alpha-linolenic acid content is very interesting. This omega-3 acid forms the basis for hormone like substances which build up after oral consumption. The individually appropriate ratio of omega-6 and omega-3 acids and their metabolites plays a significant part for a healthy body and skin.

The structure of phytosterols is quite similar to the one of human hormones. In the context of nutritional supplements they are also reported to have hormone like effects. Beta-sitosterol,

campesterol and stigmasterol for example belong to this substance group and can be found in shea butter, avocado oil, among others and generally in the non-saponifiable components of vegetable oils. These active agents are appropriate remedies for a local treatment of the skin. They will not have systemic effects. Regarding the skin protecting effects phytosterols are similar to cholesterol.

Multifunctional active agents

Isoflavones have a polyphenol-like structure and phytohormone effects. They are tyrosinase inhibitors and thus impede the formation of melanin. These “side effects” are beneficial for customers with age spots. Both the functions are complemented by an anti-radical activity. Flavones like quercetin (capers, brokkoli), oligomeric proanthocyanidines (OPC; in grape seeds), the flavones of green tea as well as polyphenols like resveratrol which is found in polygonum species or grapes have anti-oxidative effects.

Still more vegetable power

Related to phytosterols are vegetable saponins like ruscin, ruscogenin and neo-ruscogenin as well as diosgenin. The first three substances mentioned are found in butcher’s broom and have astringent and vessel-toning effects. Diosgenin is found in yams species and used as a basic substance for the semi-synthetic manufacturing of progesterone.

Glycyrrhizin also is a saponin found in liquorice roots and used for the manufacturing of liquorice and skin-brightening cosmetics.

Mother Nature offers a multitude of cosmetic active agents suitable to cope with hormone based impacts and the related aging of the skin. Believing the publicity campaigns of appropriate nutritional supplements there seems to be no such thing like an aging process. Well, evidently this is somewhat exaggerated, however, an adequate set of appropriate measures can effectively help to achieve excellent results.

Well-targeted preventive measures

It is an important criterion to tackle the hormonal changes of the skin condition as early and as individually as possible. Many of the above mentioned active agents but also many of the conventional substances are able to contribute their share. In this context it is essential to focus on four indicators:

- Dry skin: amino acids (NMF); hyaluronic acid, phosphatidylcholine

- Skin recovery: vitamins A, B, C, E including panthenol and coenzyme Q10
- Blemished skin or atrophic skin, late acne: essential fatty acids (omega-3 and omega-6)
- Formation of wrinkles: spilanthol as well as peptides

With regular light vegetable oil massages in addition, the customers will be well equipped for the coming and going of hormones. Adequate professional advice will be an excellent support as well.

Dr. Hans Lautenschläger