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PREMATURE SKIN AGEING: CLINICAL AND MORPHOLOGICAL CHARACTERISTICS

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Abstract:

During the human existence, the skin undergoes a strong process of morphological, structural and biochemical changes, which are manifested by thinning, inconsistent tone, hyperpigmented patches spots, loss of flexibility and decreased turgor. [1,2].
The study of the biological results of the sun in the skin is considered one of the more important issues in the dermatological literature.
Interest in
in these findings has increased, as it is confirmed that the sun accelerates internal
skin aging and is also considered a major factor in the development of skin cancer. This
has focussed interest in identifying the phenotypic conditions
conditioning the skin's response to the sun, and thus in the
the establishment of the thus called phototype [16].
Determining the causes of the changes found
has led to the development of different strategies
against aging. The superoxide radical theory is one example. Although wrinkles are one of the most important features of aging skin, the mechanism of their formation
is by no means fully understood. The main difficulty is
is that single folds of skin are volumetrically
limited and also appear as linear depressions of skin, in such a case as all popular properties of skin ageing are obliged to divide more or less
equally according to its surface as well as according to its volume.
In such a case, the assumption is that degradation of collagen or excessive formation of independent radicals can be carried out along any line and thus cause wrinkles, can be completely ruled out. It has been found that for such deformations to develop, the stress in the upper layer of a rigid material must exceed a certain critical value[. 17,18].

Keywords: Chronological skin ageing , turgor , wrinkles , photoageing.

RELEVANCE: In recent years, more and more preparations have been chosen for the treatment of photodamaged skin. photodamaged skin are considered to be external products with retinol as well as retinol peels [3,4,5].
The tolerability of the therapy and the patient's tolerance to it are still considered important for both the physician and the patient.
The patient's tolerance to the therapy and the patient's withdrawal from social activities during the post-procedure period are still considered important. the patient's withdrawal from social activity during the post-procedure phase post-procedure phase [6].
Fitzpatrick's 1975 study of the effects of the sun, the most belated studies have revealed that the skin's response to UV rays can be determined determined by colourimetry. This simple, accessible, non-invasive characterisation makes it possible to predict skin appearance together with the response to the sun and also assess melanoma risk. [16].
The main methods of pathogenetic correction of VIKL and improvement of skin quality are: botulinum therapy, intermittent plastics with fillers Botulinum therapy, intermittent plasty with fillers based on stabilised hyaluronic acid (SHA) based on stabilised hyaluronic acid (SHA) [7,8], biorevitalisations, chemical peels and the use of retinol-based cosmetics retinol-based cosmetics[9]. There has been an increased interest in protocols for the combined

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protocols for the combined use of SGC injections (skinbusters, fillers) and retinol peels [10].
Skinbusters (substances with a concentration of 12mg/ml and 20mg ml)
are used to improve the elasticity and moisturisation of the skin, to correct the first signs of ageing of the face and neck the first signs of ageing of the face and neck [11,12]. Cosmetic physicians are developing various regimens The use of external retinoids and skinbusters to optimise the results of chronoage therapy The results of chronoaging therapy, but there are few published works in the scientific literature There are few published papers in the scientific literature [13,14,15].
Retardation of photo- and chrono-ageing of the skin, as well as correction of involutional skin changes are considered to be modern trends in dermatology and dermatology skin changes are considered to be modern trends in dermatology as well as important scientific tasks in the intersection of dermatology and cosmetology important scientific tasks at the junction of dermatology and cosmetology.

MATERIALS AND METHODS : The material of the study was literature data presented in scientific articles, textbooks, journals.

RESULTS OF THE STUDY : We start by studying the two-layer "epidermis-dermis" model and first assume that the subcutaneous fat layer is mechanically isolated from the dermis dermis and therefore unable to influence the deformation of the skin of the skin. In addition, let's assume that the dermis layer is considerably thicker than the epidermis. Although these theories are by no means completely valid, they make it possible to carry out a clear (research) calculation of the critical stress that must be applied to the epidermis in order to cause its undulation deformation.
Now it is possible to change this form step by step For example, it is possible to divide the skin into horny layer and viable skin, and the dermis into papillary and reticular layers, which have very different mechanical properties mechanical qualities. To this end, it is necessary to remember that the bonding (adhesion) between the different layers as well as the thickness of these layers vary (Fig. 3), and see how all these parameters influence the mechanical stability of the skin. For any constructed structural model, it is possible to establish a corresponding critical tension, which is bound to be the source of morphological change in the most top layer of the skin. With increasing decreasing critical stress the system becomes more resistant / unstable to wrinkle formation [18].
The height of dermal papillae is largely dependent on the adhesion between the epidermis and papillary dermis [19]. It should be mentioned here that structures similar to dermal papillae are also formed at the dermis/subcutis boundary (DHG). These structures are known as adiposae papillae (adipose papillae) and are part of the dermal fatty layer (dWAT) [20]. Although some authors consider such significant protrusions of subcutaneous adipose tissue into the reticular dermis as a typical sign of cellulite, they can be found in women without cellulite and in men. The so-called "irregularity index" of fat papillae in the thigh skin of women with cellulite, women without cellulite and men is 2.29±0.32; 2.08±0.12 and 1.91±0.24, respectively [21], which suggests that this structure is physiological rather than pathological in nature. At the same time, visual improvement of skin condition during cellulite treatment correlates with smoothing of DHG boundary. It has been reported, for example, that regular application of mechanical pressure (massage) to the skin resulted in a 34±3%, 50±3% and 56±2% smoothing of the boundary between the dermis and subdermis after 1, 2 and 3 months of treatment, respectively [17]. This "behaviour" of DEG and DHG indicates that skin aging and cellulite may be of similar mechanical nature. This is fully consistent with the results obtained by Ortonne et al. [18], who showed that women with cellulite show signs of skin ageing earlier than women without cellulite. Morphologically, adhesion at the DEG boundary depends on the structure of the basal membrane, which is linked to both boundary layers by various molecular bonds [3]. In addition, it should also depend on the content of oxytalan, whose fibres connect the epidermis to the papillary dermis [19]. A decrease in collagen/oxytalan content as a result of chronic or photo-induced skin aging [19, 20] leads to a decrease in adhesion between the epidermis and papillary dermis and may therefore have a negative effect on the formation of surface wrinkles. Adhesion at the DEG interface generally decreases with age. However, it is not known whether it changes depending on the region of the face in which the skin is located.
The present study in the initial phase of analysing the properties of chrono- as well as photoaging of the skin was performed together with the interest of 360 patients from 35 to 70 years of age, from which 100 women in the year 35-65 years were selected for injectable monotherapy with skinbusters as well as step therapy with retinoids as well as skinbusters. In accordance with the inclusion and non-inclusion criteria, prevalence of chronoaging or photodamage properties 96 women were included in the study for differentiated therapy differentiated therapy. The patients were divided into 2 therapeutic observation groups (group I -

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monotherapy, category II - composite modality) together with intra-group allocation by simple randomisation into 2 subgroups taking into account the 1st stage therapy: retinol peel and also cream together with retinol, and also retinol peel alone (IIA main subgroup and IIB comparisons). When assessing the immediate and outcomes (M05 as well as M12), the efficacy of the therapy was compared in the two age subgroups 35-49 years and 50-65 years.

The work was conducted in several stages. The first objective of the study was to assess the involutional changes of facial skin in 360 women and development of the author's visual scale of photo-aging. In our study, including several stages of analysis of methods aimed at correction of photo- and chrono-aging signs, we presented immediate (3-5 months) and long-term results (12 months from the beginning of therapy), evaluated the effectiveness based on a number of criteria (GAIS, objective instrumental methods (corneo-, elasto- and colourimetry) and scales (Mertz, R.Glogau, author's photo-aging scale). The evaluation of differentiated therapy consisted in the analysis of the efficacy and tolerability of monotherapy with skinbusters and external retinoids, as well as their combination in the form of an optimising protocol for the staged use of these methods to correct VICL. The analysis of long-term results in both therapeutic groups was performed 12 months after the start of therapy and was based on GAIS, total and average ageing scores (stage 0 was estimated as 0 points, stages I and II as 1 and 2 points, stages III and IV as 3 and 4 points, respectively), and instrumental indices. The aging index was calculated as the sum of the mean aging score on the visual scales of Merz, R.Glogau and VSF divided by 3. Assessment of the clinical effect of therapy by group II patients using the GAIS scale demonstrated a high degree of satisfaction with the results of combined therapy and was 100% (2 and 3 points) at M05, and 92.3% (1 point-17.3%, 2 and 3 points-75%) at M12. Comparison in the two age subgroups showed that patients 35-49 years old were more satisfied with the results compared to patients 50-65 years old: there was a significant difference between the age subgroups in the mean 111 GAIS score on M05 and M12 ((2.6 (0.5) and 2.2 (0.48); 2.6 (0.49) and 1.6 (0. 87)), Analyses of long-term results in both therapeutic groups were performed 12 months after the start of therapy and were based on GAIS scores, total and mean aging scores (stage 0 was assessed as 0 points, stages I and II as 1 and 2 points, stages III and IV 3 and 4 points, respectively), and instrumental indices. The aging index was calculated as the sum of the mean aging score on the Merz, R.Glogau and VSF visual scales divided by 3. Evaluation of the clinical effect of therapy by patients in group II on the GAIS scale demonstrated a high degree of satisfaction with the results of combined therapy and was 100% (2 and 3 points) at M05, and 92.3% (1 point-17.3%, 2 and 3 points-75%) at M12. Comparison in the two age subgroups showed that patients 35-49 years old were more satisfied with the results compared to patients 50-65 years old: there was a significant difference between the age subgroups in terms of mean 111 GAIS score on M05 and M12 ((2.6 (0.5) and 2.2 (0.48); 2.6 (0.49) and 1.6 (0.87)). [22].

CONCLUSION:

These structural changes in the skin surface take on forms characteristic of ageing skin, namely folds and/or wrinkles. skin, namely folds and/or wrinkles. Analyses of these parameters indicate that the optimal anti-ageing strategy should not focus on strengthening individual skin layers, but on reducing the difference in mechanical properties between individual skin layers and subcutaneous tissue, and on increasing adhesion between them. All this may lead to significant changes in anti-ageing strategies in the future.

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