

Cosmetology

USAGE OF MODERN MEDICAL TECHNOLOGIES IN COSMETOLOGY

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The life of the modern people in industrially developed countries and in the countries with lower level of development is integrated with the large psycho-emotional loads. Ecological conditions on the Earth for last decades considerably got worsened. The economical difficulties result that the majority of the people can not supply themselves with worthy conditions of existence. Many of them during the life have no capability to receive the qualified medical care. A nonrational meal, difficult conditions of labor, parasitic habits, which develop into morbid condition (smoking, drunkenness, a drug addiction) also promote deterioration of the general conditions of health of the person. All these factors conduct to an early aging, an external development of which folds on a face and neck, swellings under eyes etc.

The placing of folds on a face is conditioned by the decrease of turgor of tissues, thinning of skin, reduction of hydrophylic nature of skin. Thus, the trophicity of dermal cover is sharply degraded at the expense of disturbance of blood flow and there could be seen the phenomenon of artery-vein shunting, when the capillary network spasmed and descends the drop of blood from arterioles at once in veinular channel. The disturbances of microcirculation are in spasmic structure of arterioles and dystonia of veinul, and also a slice-syndrome inside the vessels, when the blood plasma is abjoined from its form members. The surface tension in erythrocyte changes, as a result they glue among themselves, promoting an intravascular thrombogenesis. The falling out fibrin completes the formation of microthrombuses. Thus, blood plasma sweating through the thinned apindim of vessels in intercellular space, the cells degrade and are blasted. The products of degradation of their membranes representing by lipoprotein complexes, lipide chips and phosphotides, are autoallergens. Their presence in tissues start the cascade mechanism " of peroxide stress ", that enhances the development in tissues free radical formations (singlet oxygen, superacid radical, hydroxyl groupings). The last blasts the membranes of cells, and the process becomes unguided. In tissues there is a phenomenon " of peroxide stress " forming in such condition, at which the antioxidant protection falls.

The swelling results in the disturbance of veinal and lymphatic outflow. Aging people have outwashing of calcium from the bones and deposit of it in muscles and skin. This phenomenon explains a senile brittleness of bones, conditioned by an osteoporosis. The changes of conditions of exchange promote the deposition of the undissolved calcium in muscles and joints, and also originating of such conditions as an osteochondrosis and spondillitis. For the women this term starts at the moment of menopause. The decrease of a level of estrogens in blood considerably reduces the quantity of vitamins of group "D". The shortage results in the disturbance of phosphorus-calcium exchange, and in the total to deposit of it in mild tissues. At the balanced exchange the calcium is retained in tissues

in a dissolved condition at the expense of availability of inorganic pyrophosphate, which is derived as a result of ATP-metabolism. At shortage of estrogens the manufacturing of ATP in mitochondrions is reduced and results as in described above phenomena [1].

There are known such methods of confronting the aging of skin, as cosmetic operations, executed by the movement of dermal flaps and muscle members with so-called "braces", called as "lifting"; intrusion under the skin of gold threads for creation of a skeleton. It is needless to speak that these operations are carried out under the strict indications. They can have the different complications, such as a rough cicatrization of the area of post operational junctures or pyesis of wounds. At all technical complexity these methods are not pathogenically justified, because do not allow to stop the described conditions.

It is important to allow the factor, that the services of the cosmetolog-masseur, and furthermore the surgeon, to the majority of the people are not affordable.

Studying a genesis of the ageing process, we came to a conclusion, that the model for research can be served by pathogenetic mechanism of chronic and critical diseases for children, with the disclaimer, that for them all studied phenomena are reversible more often. It is explained by a high scale of regenerative capacities of tissues of the children's organism.

Applying the physical factors for improvement of the trophicity of tissues, we have used the experience of many generations of cosmetologists, who apply to the patient's face the heat and the cold.

It is known that in a cosmetology the ways of heat treatment of the skin of face by water vapor is used. The dry heat or water vapor is opening the pores of skin and promotes a vasodilatation, which improves a vascularization of tissues. Other specialists prefer to use the low temperature, treating a skin of the face by cotton balls, wetted by fluid nitrogen, or by slices of ice. This method is invoking to stimulate " the game vaso-engines ", i.e. to invoke a vasospasm of the face with the subsequent vasodilatation.

One of the factors contributing to acceleration of ageing processes and, as the result, withering of skin of the face, is disbolism and dirtiness of an organism. The suction of toxic products by the way of drosses descends in an intestine. At a comprehensive approach to a problem it is necessary to pay steadfast attention to this aspect.

All the described above also has formed the basis for the realization of the given activity.

At the first stage we put before ourselves a problem theoretically to justify the efficiency of a designed technique.

This activity was conducted on the basis of the clinic of children's surgery and department pathomorfology of the Moscow scientific and research Institute of pediatric and children's surgery of the Ministry of Public Health of Russia, the department of pathological anatomy of the Moscow University of friendship of people, inter-faculty laboratory complex of the Moscow medical university by the name of N.I.Pirogov [4].

Using the experimental animals there were studied the operating of laser radiation of low intensity on histological structures and cell reacting of the bronchial epithelium. Also were studied the processes which were descending under operating of quantum energy in under layer of trachea and bronchuses. The activating of cells of an inflammation is marked and immunodefence in an exposure zone [2-5].

There was studied the laser influence on biochemical processes which are going in peripheral blood, affecting an epithelium of trachea and bronchuses at the time of sanation bronchoscopies of children with the different forms of endobronchitis. Treating the abdominal cavity at the peritonitis, we studied bioelectric activity of intestines and biochemical reactions in peripheral blood. In the complex treatment of hard burn wounds of children, we applied laser effect to accelerate the processes of neogenesis.

Thus, the katalasa activity (the antioxidant) was increased directly during the sessions on the average in 2,2 times, and the activity of ferment complexes, called

ksantinooxidase (prooxidant), was reduced from 25 % up to 40 % [6-9].

We modeled the dermal reactions on low intensive laser influence, working with autho-dermo-flaps used in children's combustiologic clinic for authodermoplastics. Studying the condition of vessels in an insulated autho-dermo-flap, we conducted the histological researches of this material. For this purpose we picked up the part of transplanted body before processing it by the laser, and then - after processing. Then, in parallel, with the help of light microscopy, we determined in Unguentums-impreses the condition of cells and cell's detritis. The impreses were made applying to microscope slides the bottom part of the flap before and after laser influencing.

In the impreses made at once after processing of dermal flap (from its lower surface), found out loosened "cloud-like" histic detritis consisting of the same components, that were found in drugs before effect, but located in the finely divided condition. The cells of an inflammation and immunodefence, as a rule, we did not find out.

Histologically, we watched the increase of number of orthogonal capillary tubes, arranged in a field of vision (3-5 before the session, 15-18 - after the session). That, apparently, indicates on the sanction of a spastic structure in the small-sized vascular formations and occurrence of collaterals. The activating of fibroblasts expressed in bright painting of chromatin in them was marked. That indicated to the kinds of the active division these plural-potential cells. At the implementation of the mechanism of activating the fibroblasts and metamorphosis of them in epithelial cells there do not descend of a rough cicatrization of healing tissues. They remain specifically organic [10-15].

We studied generalized influencing of low intensive laser radiation on blood circulation, watching for the changes in micro circular channel of conjunctiva of the eyes of children who are suffering the affliction by diseases of urinary paths. We applied the method of microscopy of microvessels of eyes' conjunctiva with the computer data processing, for testing the efficiency of laser treatment of cyst cystitis, chronicle pyelonephritis, neurogen disturbances of urinary bladder. There was detected that before the laser effect the disturbances of microcirculation were II - III of a degree, and after the laser effect - 0-1 degrees [16-19].

Technical supply of a method.

1. Steam inhaler "Romashka".
2. Dewar vessel for the storage of fluid nitrogen.
3. Laser equipment (any of the below enumerated apparatus):

The apparatus helium-neon "AFL-1", built in Lvov company "POLARON" (wavelength 0,632 microns, power 10 mVt).

The laser therapeutic two-channel apparatus with magnetic nozzles "Uzor-A-2K", GP "Voshod" (city of Kaluga) fixit number 94/271-122. (The multifunctional apparatus for the medical purposes and on gallium arsenide. It has the semiconductor laser radiator, generating radiation in short-range infrared band with a wavelength 0,89 μ m. The output average power of radiation is regulated from 0 up to 2 mW; a pulse mode with pulse repetition frequency 80, 150, 300, 600, 1500, 3000 Hz; an exposure time of laser radiation in an automatic mode: 4, 8, 16, 32, 128, 256 sec). We have used the frequency of 1500 Hz.

The magnet-infrared-laser therapeutic apparatus RICTA, built by ZAO "MILTA-PKP GIT". (Semiconductor laser with wavelength 0,89 microns, range of LED radiation 0,89-0,95 microns. Adjustable power of the continuous infrared radiation of light emitting diodes - from 0 up to 60 mW. An average power at frequency of 1000 Hz - 0,4 mW, at frequency of 5 Hz - 2 μ W; pulse repetition frequency - 5, 50, 1000, Hz. And variable 1 ~ 250 Hz. Induction of constant magnetic field in a working place of the radiating aperture of the terminal 35 mTl). We have used frequency of 1000 Hz.

The apparatus MAKDAL - 00,00.02.2. (Ga-AS laser with wavelength 0,65 microns with pulse-repetition frequency from 1 up to 2000 Hz). We have used frequency of 1000 Hz.

Technique of effect.

I. For improvement of blood flow and refinement of pores of the skin the procedure starts with warming up of a face through an inhaler "Romashka". The steam treats the face of the patient from a boiled daisy. The procedure lasts 3-5 minutes, then a face and the neck wiped by a mild towel or napkin.

II.a. In one case, a face of the patient massed by a slice of ice along the tucks. Reached the effect of vasoconstriction of vessels of a face, i.e. stimulated, so-called, " the game of vasomotors". It allowed well to train the vascular wall. Then the face wiped by a napkin.

II.b. At the stages of starting the method we become to treat the face with the help of a cotton ball, wetted by fluid nitrogen. By tacking motions wiped a skin in the same directions, as at application of described above ice.

III. A following stage of the procedure - the deposition of a nutrient wetting cream on a skin of face, and then massage of the face and neck by the generally accepted techniques. A cream in each separate case selected with the allowance for the specific features of a skin.

We recommended to our patients some specialized creams, designed and made by the employees of the Moscow institute of beauty, department of biochemistry of the Moscow research institute of pediatrics and children's surgery MH of Russian Federation. 000 "REFARM".

The massage cream "KSANTI" contains in the structure the antioxidant KSIDIFON, permitting to stop a condition of a peroxide stress in tissues. A cream "ANTIKS" - the drug of a new generation of cosmetic creams. It contains in the structure not only ksidifon, but vitamin "D" and amber acid. The last is plugging into a Krebs cycle and promotes ATP formation [1].

IV. The laser stage of a procedure was in treating the skin by a laser beam, by scanning of the treated area.

The average power of laser radiation was from 2 up to 10 mW. Time of effect - 300 sec (5 minutes), frequency - 1000 Hz. For realization of the given manipulation have used one of the described above laser apparatus.

The courses of treatment consist of 5-10 procedures conducted daily or in two day. The parameters of sessions in each case were selected individually. It depends on an expressiveness of clinical developments, age and reacting of tissues to a used method. Annually, we recommend conducting no more than 2-3 courses of treatment. More often usage of a technique can result in a decrease of its efficiency.

During a course of treatment we recommended to the patients to execute the ascent of drosses from an organism with the help of usage of the following techniques:

1. Citric acid: for one day 1 teaspoon during the meal within two months (if no hyperacid gastrite).
2. Laxative - 1 time per one week within two months (English salt, castor oil, Purgenum, tablet of Senna).
3. The bath - 1 time per one week, 40 minutes at the temperature of 36 degrees with herbs (daisy wheel, chistotel, Calendulae, milfoil, needles of pine tree) - 4 table spoons of one herb to insist (if there are no contraindications on the part of a cardiovascular system).
4. Festalum, Digestalum, Pepsinum - after the dinner 1 time per day within 6 weeks.
5. Vitamins - "AEVITUM", "D2", "A", "E".
6. Propolisum - 15 days, 15 drops 3 times per day within 15 days.
7. Vegetables oil (1 piece of garlic drink down by 1 table spoon of vegetable oil 30 minutes prior to dream).
8. If there are no high-gravity diseases of a stomach - it is possible to eat garlic, onion, horseradish, and mustard.

9. To eliminate from the meals - milk, sour cream, cottage cheese and smoked meat.

With the help of the indicated methods on the basis of laser centers of medical-technical associations MAKDAL, ZAO "MILTA-PKP GIT", consulting company " Marriage and Family " for 5 years we have conducted treatment of 579 patients. Thus, noticeable improvements in a condition of tissues of a face and the necks came already after the first 3-5 sessions.

Yanging effect of a technique we account for by complex effect on different links of the genesis of aging of laser radiation in combination with thermo – cryo-applications, massage and discard of dirties from an organism.

Under the influencing of the indicated factors there happened an improvement of vascular reacting, improved the veins and lymphatic outflow, descends the outslicing of not functional cells of an epithelium of the skin, the phenomena " of a peroxide stress " in tissues gets stopped, decreases "dirtiness" of an organism, improves the trophicity and boosts the exchange processes.

Conclusion.

Usage of modern technologies in cosmetology allows to refuse from invasive methods of treatment, the result of which can be the difficult complications. It makes the treatment less labour-consuming, allows considerably to make it cheaper. The utilized techniques do not demand the composite instrumentation and plenty of medical staff. They are simple in fulfillment and can be applied not only in medical clinics, but also directly in-home of patients, that makes this kind of a medical care accessible to the most of the population.

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