PROSPECTS OF HALOTHERAPY IN SANATORIUM-AND-SPA DERMATOLOGY AND COSMETOLOGY

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In sanatorium-and-spa sector the drug-free methods for treatment of dermatoses and recovery of skin integument become more and more popular. These methods are the part of the programs in rehabilitation dermatology, cosmetology, rejuvenation, clearance and others.
Among the modern therapeutic methods based on the application of natural factors the mostly accepted is halotherapy (HT) - method of treatment under conditions of salt mines microclimate, developed on the basis of speleotherapy.
HT simulates the principal parameters of salt mines in room conditions. The main curative factor of HT is associated first of all with the dry superfine sodium chloride aerosol. Unique effect on organism is related with its' specific physical properties.
The researches have proved natural aerosol environment in rooms can be created by special medical equipment - halogenerators. Due to the specific way of generation (by the using of disperse method), dry sodium chloride aerosol acquires a negative charge and high surface energy. Due to its' physical properties haloearosol provides electro-ionic effect on the walls respiratory tract and skin integument. The particles of sodium chloride aerosol penetrate deeply into respiratory tract where they enhance immune defense and provide bronchodrainage, bacteriostatic and anti-inflammatory effect. As a result, recovery and clearance of respiratory tract internal environment occur. Efficiency of this method for prevention and rehabilitation treatment of different respiratory diseases has been proved thus far. Possibility of choosing aerosol effect level in a controlled halocomplex has ensured application of this method in various branches of rehabilitation medicine and adjustment of treatment for particular patient. This method is widely used in rehabilitation and recovery pulmonology, otorhinolaryngology, allergology and pediatrics. **At present time the using of halogenerator and monitoring devices enables the application of special dermatocosmetological modes of dry sodium chloride aerosol concentrations**.
Sodium chloride particles have a beneficial influence not only on respiratory system, but integumentary system and hairs as well, providing healing and cosmetic effect. Depositing on open skin areas, haloearosol increases activity of skin cell ion channels and activates electrophysiological activity that determines skin protective properties. Research of skin microbiocenosis showed normalization of superficial autoflora composition after administering HT. Also bacteriostatic, antiedematous and anti-inflammatory effect of dry superfine sodium chloride aerosol was confirmed.
Salt aerosol microcrystals effect results in Ph normalization and induction of reparative- regenerative processes in derma, increases skin turgor, stimulates growth and improves hears health. Dry salt aerosol takes beneficial effect on skin microcirculation. Increasing of permeability and electrophysiological activity of the cellular membrane dry salt aerosol helps in penetration of various remedies, used in dermatology and cosmetology and potentate their effectiveness.
Multipurpose physiological effect of dry sodium chloride aerosol ensures perspective application ofHT for various skin problems.
By the end of HT course the positive dynamics has been observed in 65-75% patients with atopic dermatitis. It resulted in decreasing of itching, solution or reduction of lichenification, drying of small fissures, scratches, reducing of sympathicotonia symptoms. Positive effect is more apparent in patients with exudative form of the disease within the remitting phase of acute inflammatory exudative events. Good and sufficiently immediate effect can be achieved in patients with secondary streptoderma implications. Soon after 2-3 procedures elements of skin eruption were disappearing and by the end of the course almost complete solution of streptoderma

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implications has been noted. In patients with pyoderma there was observed improvement, expressed in of exanthema elements solution between the 2 and 3 procedures. Positive effect of HT was observed in patients with psoriasis (resulted in infiltration reduction, and central resolutiondf plates).

Considerable anti edematous and anti-inflammatory effect of dry sodium chloride aerosol is used in post surgical rehabilitation. which is especially important for aesthetic surgery. Improvement of local microcirculation, edema reduction and clearance under the influence of haloaerosol may be efficiently applied in curative cellulite programs. During the dissociation, sodium chloride microcrystals within skin area increase passive transport, which exponentiates application of various curative and cosmetological agents. This effect is perspective to combine HT with local use of creams, ointments and etc.
Respiratory and intergumentary systems are physiologically closely interrelated. Combination of pulmonary and cutaneous pathology (e.g. bronchial asthma and neurodermatitis) is very common. By its treating effect on respiratory tract sodium chloride aerosol provides concurrent detoxification and lymphodrainage influence and as a result the general health improves (including sensitization reduction). These effects contribute to skin clearance, recovery of protective properties, improvement of skin tone and turgor. (This phenomenon can be strictly shown in women who have given up smoking).
There is no doubt that that in order to gain a permanent positive effect when treating cutaneous pathology it is necessary to restore systemic biological protection. In this meaning HT is proved to be the method, which along with the local effect ensures systematic immunobiological action as well. As a result of HT application the positive shifts in systemic humoral and cell- mediated immunity with the background of decreasing of inflammatory process activity and antigens elimination are observed. Positive dynamics of parameters featuring imbalance in lipid peroxidation - antioxidants (LPO-AD) system is extremely important as it comes as an evidence of the systemic antioxidant effect of HT. Systemic immunobiological effect of HT is also highly significant for its application in cosmetological and rejuvenating programs.
Psycho-emotional factor in ethology and pathogenesis of cutaneous pathology is very important as well. During the staying in halochamber any contact with external disturbances (allergic agents, pollutants, noise and others) is cut off and gives positive psycho-emotional and antidepressant effect. Light negative air ions inside of chamber stabilize the vegetative regulation processes; beneficially influence on cardiovascular and endocrine systems and gastrointestinal tract.

Common indications for HT application in skin and cosmetologic programs:

- atopic dermatitis, diffuse and exudative form in maintenance phase;
- recurrent urticaria;
- psoriasis in maintenance phase;
- eczema;
- sebaceous hypersecretion (seborrhea adiposa);
- pyodermatites;
- pinta and onychomycosis;
- thermal cutaneous lesions;
- postoperative states (aesthetic surgery);
- comedogenous disease (acne); - cellulite;
- fading skin; - trichopathy.

Efficient application of the controlled halotherapy combined with the comfort and positive impression of procedures specifies its perspective in sanatorium-resort and spa industry.

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