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SYMPATHETIC SKIN RESPONSE PECULIARITIES IN PERSONS EXPOSED TO IONIZING RADIATION AS A RESULT OF THE CHERNOBYL DISASTER

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The problem of intensification of psychoneurological disorders in a great number of the people have been subjected to irradiation related to the Chernobyl accident determines the increasing urgency and significance of elucidating the objective pattern of changes in the nervous system, first of all in the autonomic section. State of the autonomic nervous system was studied by sympathetic skin response (SSR).

Among 80 investigated individuals, involved in the clean-up and repair after the Chernobyl accident, 60 persons working in the exclusion zone from 1986-1987 up to the present time (group 1); and 20 persons were involved only in the works carried 1986 during from 7 days till 3 months (group 2). Calculated integral doses of the external irradiation varied from 5 to 100 cGy. The control group was represented by the practically healthy persons, who have never been not involved in the emergency works and have not visited 30-km exclusion zone.

SSR in the persons of control group to be of three-phase complexes of oscillations, which consisting of first negative, positive and late negative phases. Biphase SSR (with it is significant bad late negative) observed in single instances.

In comparison with a control group showed that the reduction of amplitude of all three phases SSR, significant modification of phase structure at absence marked difference of latency there were for the all clean-up works. The tendency to increase of general duration SSR was observed. At the same time it is necessary to note, that the degree significant shifts in groups was various.

In the group 1of the persons were revealed lengthening early negative and positive phases of SSR, though the parity duration of the phases did not differ from this parameter in the control group (1:1.3 and 1:1.5). A parity of amplitudes of the phases of SSR has changed also. If in control, as a rule, parity of amplitudes made 1:2.5:1.8, in this group - 1:1.3:0.8 accordingly, i.e. the tendency to smooth of amplitudes of the phases was observed.

The shifts of the SSR phase structure had a other pattern in the group 2. Increase of the duration a positive phase (more than in 1.5 time) was marked, whereas the duration of the first negative phase was not practically differ from control parameter. A parity of amplitudes of phases made 1:1.3:1.8 accordingly, i.e. the most significant there was the decrease of amplitude of the positive phase.

Thus, the specified modifications of the SSR inform about dysfunction of the central structures with relative safety of the peripheral autonomic nervous system.