CHARACTERISTICS OF THE INDIVIDUAL REACTIONS OF THE CARDIOVASCULAR SYSTEM OF HEALTHY PEOPLE TO CHANGE THE METEOROLOGICAL FACTORS IN A WIDE TEMPERATURE RANGE

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Abstract. Based on the results of four years of observations of daily variations in blood pressure (BP) and heart rate (HR) in seven healthy volunteers two distinct types of reactions of complex physiological parameters (PP) on the change in meteorological parameters were found. The first type of reaction – a monotonic (but non-uniform speed) decrease in systolic BP with increasing temperature, most pronounced in the $T_{\text{atm}} < -5$ °C and $T_{\text{atm}} > 15$ °C, with a weaker response of diastolic BP and HR of no response (from the four volunteers). The second type of reaction – the two-phase non-monotonic dependence of the BP of the T_{atm} , which coincides with the first type in the range $T_{\text{atm}} < -5$ °C and is characterized by positive correlation of BP and HR to T_{atm} at $T_{\text{atm}} > -5$ °C (for two volunteers). The detailed physiological mechanisms that can provide the observed nature of the compensatory-adaptive reactions of healthy individuals to the effect of weather conditions in different temperature ranges are analyzed. It is shown that the results obtained in earlier studies can be explained on the basis of the discovered patterns.

Keywords: blood pressure, parameters of hemodynamics, individual meteorological sensitivity.