Abstrakt: Thesis is a pilot study to get reference figures for evaluation of relevancy of hemodynamic development disorders of coartation of the aorta. 18 healthy girls aged from 11 to 13 were tested. In total 450 measurements were carried out and 2700 figures were measured within 1 year in 5 positions. Blood pressure was measured on arteria brachialis and femoralis, supplemented by electric impedance technology on lower limb. The following positions were measured: standstill lying down on a bed, stand after passive verticality up to 66 degrees, standstill seat on a bicycle ergometer and load of 1W/kg and 2W/kg of body weight for 3 minutes. This thesis confirmed the differences in circulation reactions. The systolic pressure gradient among healthy population was lower than among patients with coarctation of aorta and during the physical load was decreasing. The results are important for diagnostics examinations of evolutionary defects.

Keyvords: BMI, coarctation of aorta, systolic blood pressure, pressure gradient, load testing