

**Comparison between tilt table and active orthostatic testing for syncope simulation and hemodynamic pattern investigation in children**

*Kinciniene O. , Lukoseviciute R.*

*Clinic of Children Diseases, Vilnius University Medical Faculty, Vilnius, Lithuania*

**Objective:** to evaluate effectiveness of different orthostatic tests (tilt table test and active lying-standing test for syncope simulation and hemodynamic pattern's investigation in children suffering from recurrent syncope. **Methods:** 205 children in age from 4 to 17 years old (mean age  $13,08 \pm 2,88$ ) after at least the 3<sup>rd</sup> episode of syncope and having no contraindications revealed on physical examination, 12-lead electrocardiogram, underwent orthostatic testing: 72 – tilt table testing, 133 – active standing testing according to random selection. Blood pressure and electrocardiogram were recorded by monitors DASH 2000 and Datascope Duo™. Results were compared with those in control group. Control group: 92 healthy children (mean age  $12,64 \pm 3,04$ ) never had syncope or presyncope episode, underwent physical examination, 12-lead electrocardiogram and orthostatic testing. Tilt testing was performed in 40, active standing testing – in 52 control group's children. There was no statistically significant difference of groups in gender and age division. Data were processed with SPSS 17,0 statistical packet. Comparison between groups was made using Student's t-test, F (ANOVA), and  $\chi^2$  test. **Results.** Tilt table test was positive in 72,2%, and active test was positive in 71.4% of investigation group children. There was detected no statistical significant difference,  $p=0.904$ ,  $\chi^2=0.015$ . Tilt testing was positive in 27.5% children from control group, and active standing test – 23.1% accordingly. Statistical significance of control group was  $p=0.627$ ,  $\chi^2=0.236$ . Difference of positivity in orthostatic testing between children with recurrent syncope and children never had the episode was significant:  $p=0.000$ ,  $\chi^2=56.6$ . Patient's age had no significant influence for orthostatic test results ( $p=1.19$ ,  $\chi^2=2.36$ ). No statistical significant difference for orthostatic test results was noticed in patient gender ( $p=0.34$ ,  $\chi^2=0.89$ ) and reflex or atypical circumstances of syncope ( $p=0.31$ ,  $\chi^2=1.03$ ). **Conclusion.** Tilt table testing and active orthostatic testing showed no statistical significant difference for syncope simulation and it's hemodynamic pattern investigation in children suffering from recurrent syncope.