Abstract

Background: The transposition of the great arteries (TGA) is a common congenital heart disease. In the 1980s the Senning procedure was the major approach in correction of TGA in the Czech Republic. Although the most recent operation technique called arterial switch is the method of first choice nowadays, patients after Senning procedure are still visiting the cardiology centre. The aim of this thesis was to evaluate the relationship between the selected parameters from the exercise test and quantified level of physical activity (PA) in these individuals.

Methods: 71 patients after the Senning procedure underwent a cardiopulmonary exercise test and they completed an international physical activity questionnaire (IPAQ). Selected data from the questionnaire and the exercise test were evaluated by Pearson correlation coefficient ($p < 0,05$).

Results: 56 patients meet criteria of IPAQ (71 % male, n = 40) and were included in the study. Total PA averaged 6576 ± 5204 MET-minutes/week (median 5271 MET-minutes/week) and 70 % individuals meet criteria for high level of PA according to IPAQ data. Peak VO_2 averaged 31,9 ± 6,6 ml/min/kg, maximum heart rate was 177 ± 18,6 beats per minute, the highest work load was 2,7 ± 0,8 W/kg and systolic blood pressure was 185 ± 24,0 mmHg. We found statistically significant correlation between total PA and VO_2 max, the highest workload ($p = 0,012$) and systolic blood pressure during exercise ($p = 0,039$).

Conclusion: Although the exercise capacity in patients after the Senning procedure is impaired compared to general population, after the comparison between our data and data from other studies, we found that our group of patients is more physically active and has higher exercise capacity than comparable individuals after the Senning procedure from abroad.