

Tilt-table and ergometry tests in relation to cardiac status

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Ergometry and tilt-table test are non-invasive diagnostic tools for cardiac status evaluation of patients with arrhythmia, chest pain or syncope, whose negative findings exclude cardiac causes.

The aim of this study was to evaluate these methods in paediatric patients. The investigation was performed at Clinical Centre of University of Sarajevo, Paediatric Clinic: Department of Cardiology, during April 2008 till April 2010. Step ergometry was performed in all pts with continuous monitoring of: blood pressure, electrocardiogram, oxygen saturation and symptoms, according to Naughton protocol 2.0. A total number of 119 patients were tested. Group of 75 patients age 7-18 years (mean age 13.4 years) was subjected to the ergometry: 41 boys (54.7%) and 34 girls (45.4%). The most common diagnoses of evaluated patients by ergometry were: arrhythmia cordis 27 (36%), stenocardia 32 (42.7%), hypertensio arterialis 6 (8%) and others. A positive finding was diagnosed in 17 patients (22.6%) and negative in 58 patients.

Tilt-table test was performed in 44 patients: age from 8 years till 18 years (mean age 13.9 years), 19 boys (43.2%) and 25 (56.8%) girls. The majority of patients observed by tilt-table test had syncope in 41 (93.2%), vertigo 2 patients (4.5%) and others. Positive findings were detected in 27 patients (61.4%) and negative findings in 17 patients (38.6%). These results were helpful in establishing diagnosis of syncope aetiology as the most common cause for performing this test. However, ergometry was negative even in 58 patients, excluding the cardiac cause of disease.

Conclusion: These results are the first experience of Sarajevo school in performing these tests. Ergometry and tilt-table test are valid non-invasive diagnostic tools in assessing cardiac status of paediatric patients.