

## 17. PREMATURE VENTRICULAR BEATS IN SCHOOL-AGE CHILDREN

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**Introduction.** Premature ventricular beats (PVB) have been described in 40–75% of apparently healthy persons as detected by 24–48 hour ambulatory (Holter) ECG recordings. This decreases in 10% of young children and school-age children and increases in 20%–30% of normal adolescents. Pediatric studies have shown that in some asymptomatic children, an increase in the frequency of PVB can cause ventricular dysfunction and arrhythmogenic cardiomyopathy.

**Aim of study.** Clinical-paraclinical evaluation of PVB in children with normal structural heart.

**Methods and materials.** A descriptive analytical study was performed, which included all children of both sexes of school age (7–18 years), hospitalized consecutively in the pediatric cardiology service of the Mother and Child Institute for a period of 3 years (2019–2021). The data of the patient files were analyzed, including the results of instrumental investigations, such as standard 12-lead ECG, Holter ECG monitoring (24 hours), and echocardiography.

**Results.** The study group included 55 children of both sexes, with a prevalence of boys (62%). From the general group, the vast majority (50 ptc, 90,9%) of children had PVB on a normal structural heart. Analysis of ECG pathways and Holter ECG protocols determined the prevalence of PVB in 16 (32%) children and 7 cases with combined extrasystoles (PVB and premature supraventricular beats, SVPV). It should be noted that in a significant number of patients (15 children) there was a combination of PVB with other arrhythmias, including 5 children with AV block and 1 case with long QT syndrome. Performing the ECG test with effort showed the disappearance or thinning of PVB in most patients, only in 4 children the test induced arrhythmia. Echocardiography performed in all patients in the study confirmed the presence of arrhythmogenic cardiomyopathy criteria in 6 (12%) of cases (dilation of the left or right ventricular cavity  $> 2 z$  score, decreased ventricular ejection fraction  $< 60\%$ ). Regardless of the symptoms, both patients with cardiomyopathy and children with frequent, polymorphic and allorhythmia type of PVB or SVPB administered chronic antiarrhythmic treatment, mainly beta-blockers (83.9%) of the 2<sup>nd</sup> or 3<sup>rd</sup> generation. Evaluation of patients at 2.5–3 months confirmed the efficacy of treatment by clinical ECG and echocardiographic improvement. No side effects have been reported.

**Conclusion.** PVB is frequent asymptomatic arrhythmia in school-age children. Some children (12%) may evaluate with ventricular dysfunction or cardiomyopathy. Beta-blockers may be used for symptom control and improve systolic ventricular function.