

## THE SPECTRAL PARAMETERS OF HEART RATE VARIABILITY AT CHILDREN WITH PREMATURE BEATS

Romanciuc Lilia, Pediatrics Department, SUMPPh „Nicolae Testemitanu”

### Introduction:

Premature ventricular contractions are early depolarizations of the myocardium originating in the ventricle. PVCs are common with an estimated prevalence of 40% to 75% in the general population on 24 to 48 h Holter monitoring. Frequent premature contractions are rare in healthy children.

### Keywords:

premature beats, spectral parameters, children

### Purpose:

Evaluation of the spectral parameters of heart rate variability at children with supraventricular and ventricular premature beats.

### Material and methods:

The study included I group 160 (84,2 %) children with premature supraventricular and ventricular beats, average age (13,32±0,23) years and II group, healthy children 30 (15,79 %), average age (12,2±0,72) years, who were examined with ECG, ECOCG, ECG Holter monitoring over 24 hours, and ambulatory monitoring of blood pressure over 24 hours.

### Results

Ambulatory ECG Holter monitoring for 24 hours have been determined supraventricular premature beats in 86,25% cases vs 13,33% healthy children (p<0,001), ventricular premature beats in 18,75% cases I group vs 3,33% II group (p<0,05), sinus tachycardia in 75,50% children vs 43,33% healthy children (p<0,001) and supraventricular tachycardia in 43,38% cases I group vs 13,33% II group (p<0,001).

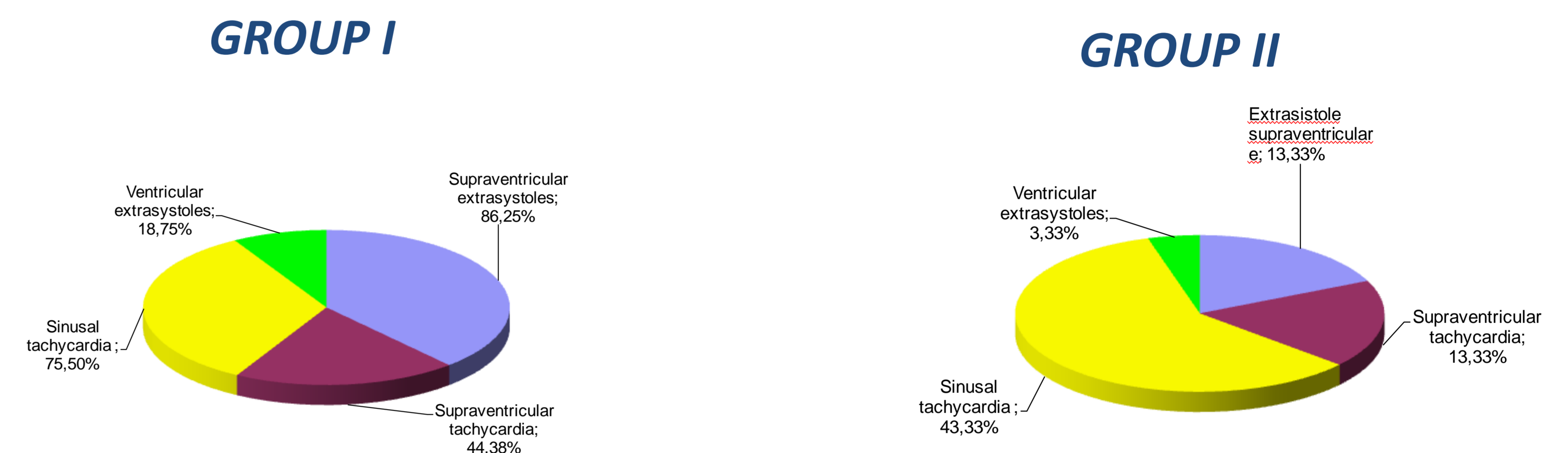


Figure N.1 Results of the ambulatory ECG monitoring for 24 hours, (n=190)

Spectral parameters of the heart rate variability at children have been calculated during 24 hours period and there were observed a prevalence of waves with low and very low frequency at children with premature beats.

Table 1. Heart rate variability, spectral indexes in children

Spectral indexes	Group I n=97	Group II n=25	p
VLF, msec <sup>2</sup>	125869,61±98225,25	8899,76±2003,20	>0,05
LF, msec <sup>2</sup>	6949,57±3803,18	1452,84±290,03	>0,05
HF, msec <sup>2</sup>	2158,36±755,13	1714,2±1046,54	>0,05
Total	132339,093±99428,30	11197,12±2196,18	>0,05
LF/HF	2,88±0,26	2,97±0,77	>0,05

### Conclusions

Results of the study showed that cases from I group are associated with supraventricular premature beats in 86,25% cases.

Analysis of the spectral parameters of the heart rate variability on ECG Holter monitoring over 24 hours, demonstrates prevalence of waves with low and very low frequency at children.