Abstract

The aim of the study is to monitor three biventricular pacing parameters measured in the left-ventricle: stimulation threshold, impedance and R-wave voltage. The progression of parameters depending on the configuration of the left-ventricle lead is evaluated in this study. First aim of this study is to evaluate if the configuration has an effect on the progression of parameters. Second aim of this study is to detect and evaluate an effect of the used device.

The data were collected at three intervals: day of implantation, 2^{nd} - 5^{th} month after implantation and 8^{th} - 15^{th} month after implantation. Repeated measures analysis of variance (ANOVA) and software *Matlab* and *Statistica* were used for the statistical analysis. The configuration of the left-ventricle lead and also used device were used as factors in ANOVA.

The progression of parameters depending on configuration of the left-ventricle lead is not statistically significant for all quantities. Impedance with LV tip > LV ring configuration is significantly greater in every interval than impedance with other configurations. R-wave voltage and impedance increase significantly between implantation and 2^{nd} interval and between implantation and 3^{rd} interval.

Used device does not influence values and time progression of measured parameters significantly.

Key-words: biventricular stimulation, resynchronization therapy, configuration, stimulation threshold, impedance, R-wave voltage.