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[Negative result of microvolt T-wave alternans test is helpful in scheduling the order of cardioverter-defibrillator implantation in primary prevention of sudden cardiac death in individuals with the left ventricular systolic dysfunction].

[Article in Polish]

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Source

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Abstract

Implantation of cardiac cardioverter-defibrillator (ICD) is an established modality in the primary prevention of sudden cardiac death (SCD) in patients (pts) with left ventricular systolic dysfunction. However, fulfillment of this recommendation in our country is associated with a substantial increase in healthcare costs and results in a progressive elongation of waiting lines comprised of individuals qualified to ICD implantation. Consequently, this situation substantiates the search for additional noninvasive markers enabling the stratification of patients into high- and low risk groups so that the order of ICD implantation procedures favors those at higher risk. Analysis of microvolt T-wave alternans (MTWA) can be a helpful test in this matter. The aim of this study was to analyze the incidence of SCD episodes and malignant ventricular arrhythmias (ventricular tachycardia - VT, and ventricular fibrillation - VF) in a group of pts with left ventricular systolic dysfunction who were qualified to ICD implantation in primary prevention of SCD and had negative result of MTWA test.

MATERIAL AND METHODS:

The study included pts with left ventricular ejection fraction (LVEF) < or =35%, who were qualified to ICD implantation in primary prevention of SCD and had negative result of MTWA (spectral method, CH2000 system, Cambridge Heart). Pts were followed up (scheduled visits every 3 months) and, among others, screened for adverse events (SCD/VT/VF).

RESULTS:

Of 115 pts analyzed for MTWA in the course of qualification to ICD implantation, 49 individuals (mean age 58 +/- 13 years, LVEF 30 +/- 6%) were enrolled to further analysis due to negative result

of this test. The duration of follow up was 9 +/- 7 months. None of analyzed pts had episodes of SCD/ VF/VT.

CONCLUSIONS:

On follow up, SCD/VT/VF episodes were not recorded amongst patients with left ventricular systolic dysfunction who were qualified to ICD implantation in primary prevention of SCD and had negative results of MTWA test. After taking other potential risk factors into account, the negative MTWA result will probably enable identification of patients in whom the implantation can be postponed in favor of individuals who urgently require this procedure. However, further studies are needed to confirm these preliminary findings.

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