Prospective, Systematic Evaluation of the Psychological Effect of ICD Implantation

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Background: The effects of implantable cardioverter defibrillators (ICDs) insertion and ICD shocks on emotional well-being have been studied in the past with conflicting results. Most previous studies have been cross-sectional analyses and rarely used validated and standardized instruments to document patients' psychosocial status.
Aim: Systematic evaluation of the ICD implantation effects on the psychological, physical, and mental well-being of cardiac patients using a set of standardized quality of life (QOL) scales.
Methods: Thirty-six consecutive patients without previous psychopathology, who underwent an elective ICD implantation in our Arrhythmia Center since June 2010, were enrolled to the study. Various demographic, clinical and echocardiographic data were prospectively collected. Each patient was psychologically evaluated upon enrolment and 3 months after ICD implantation using the Hamilton Rating Scale for Depression (HAM-D) and Anxiety (HAM-A). Furthermore, patients were asked to describe their subjective feelings towards the ICD.
Results: Out of 36 patients, 26 (72%) were men, average age 64 ± 14 years, average LV ejection fraction (EF) $24\% \pm 1\%$ with NYHA functional class of 2.17 ± 0.89. The average scores on the baseline HAM-D and HAM-A were 8.13 ± 8.54, and 3.75 ± 4.14, respectively. Three months after ICD implantation we observed a significant improvement in the depression parameters with HAM-D of 5.35 ± 6.51 (paired t test=2.7, p=0.011). The anxiety evaluation showed no significant change at 3 months follow up 3.75 ± 4.59 (t=1.5, p=0.14). The subjective feelings towards the ICD were overall positive, ranked 2.21 ± 0.98 on average. Only 2 patients received shocks during the 3 months follow-up period, not showing any acute psychopathology.
Conclusions: In a small cohort of patients, vast majority with severe cardiomyopathy, ICD implantation was associated with a significant reduction in depressive parameters with no change in anxiety rate.