

Abstract 3

Prevalence of Anxiety and Type D Personality in an Outpatient ICD Clinic

Leo Pozuelo, MD;¹ Melanie Panko, RN;¹ Betty Ching, RN;¹ Denise Kosty-Sweeney, RN;¹ Scott Bea, PhD;¹ Karen Broer, PhD;¹ Julie Thornton, MS;¹ Kathy Wolski, MPH;¹ Karl-Heinz Ladwig, MD;² Sam Sears, PhD;³ Suzanne Pedersen, PhD;⁴ Johan Denollet, PhD;⁴ and Mina K. Chung, MD¹

¹Cleveland Clinic, Cleveland, OH; ²Helmholtz Zentrum München, Neuherberg, Germany; ³East Carolina University, Greenville, NC; and ⁴University of Tilburg, Tilburg, Netherlands

Background: Implantable cardioverter defibrillator (ICD) patients can exhibit significant psychosocial stress including anxiety. Type D personality, characterized by negative emotions and social inhibition, has been shown to negatively impact perceived quality of life and have an adverse effect in cardiovascular illnesses. We sought to measure the incidence of type D personality and the prevalence of overall anxiety in an ambulatory ICD population.

Methods: To date, 244 patients have been enrolled in a prospective study of anxiety in ICD patients, with recruiting in the ICD device clinic at the Cleveland Clinic. Patients are enrolled

at least 4 weeks after implantation of an ICD, seen in routine followup, and administered the Type D Scale-14 (DS-14) questionnaire, from which the individual constructs of negative affectivity (NA) and social inhibition (SI) are also scored. The Beck Anxiety Inventory (BAI) was also administered, with total scores of 0 to 9 correlating with no or low anxiety; 10 to 18, mild to moderate anxiety; 19 to 29, moderate to severe anxiety; and 30 to 63, severe anxiety. SAS statistical software was used to analyze the data.

Results: This outpatient population consisted of 74% males with a prevalence of 18% type D that was equally distributed among gender. The median BAI score was 4.0, with 73% scoring no or low anxiety. Female patients had higher median BAI anxiety scores compared with males (8.5 vs 4.0, $P < .001$). Patients with type D personality had higher median BAI anxiety scores (12.0 vs 4.0, $P < .001$) and NA correlated with elevation of anxiety more so than SI (Pearson coefficient 0.59 vs 0.33).

Conclusions: In our ambulatory ICD population, overall anxiety rates were surprisingly low. The presence of type D personality is a risk factor for increased anxiety. Screening for type D personality may assist detecting at-risk psychosocial ICD patients. Outcome studies of this patient population, including time from implantation and incidence of firings, warrant further study for quantification of overall ICD quality of life.

* BHBI = Bakken Heart-Brain Institute