



## PALLIATIVE CARE CASE OF THE MONTH

### PTSD from ICD shocks Lisa Podgurski, MD

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**Case:** Mr. WC is a 69-year old man with advanced heart failure and a destination LVAD who was admitted to the hospital for recurrence of VT with subsequent ICD shocks. He experienced several of these shocks during the admission, and had experienced them prior to this hospitalization as well. When Palliative Care was consulted to help manage his anxiety we noted him to be sitting in his recliner very still, avoiding any extraneous movements and telling us about his fear of additional shocks. He also told us that sometimes he wakes at night due to feeling the ICD fire, and then finds in the morning that on interrogation of the device, there has not actually been a shock delivered. He said he has a friend who had a similar experience prior to his heart transplant, and he now sometimes still wakes at night like this even though he no longer has an ICD.

#### **Discussion:**

##### Defining the problem

Implantable Cardioverter-Defibrillators (ICDs) have a clear role in patients with advanced heart failure whose goals of care include life-prolongation, as a mortality benefit has been shown in large-scale clinical trials. As more patients live with these devices, the psychological effects of having an ICD are being increasingly recognized. The most common forms of psychological distress in patients with ICDs are anxiety (13-38% of patients), depression (18-41%), and PTSD (20%), frequently related to fears of being shocked, whether or not the patient has ever actually been shocked. Effects on body image and on daily behaviors such as physical activities, increased difficulty of screening at airports, and interference with medical care (e.g. MRIs) have also been noted to negatively impact quality of life. Many patients struggle with changing their behavior in an effort to avoid situations they fear will increase heart rate and then lead to a shock, including limiting sexual activity. Although PTSD was previously thought of primarily in cases of combat- or abuse-related trauma, the cardinal features of the condition (vividly reliving an event that was perceived to be

life-threatening, avoidance of reminders of the event, and a general state of hyper arousal, all present for >1 month) are frequently seen in patients with ICDs. Predictors of PTSD in these patients include history of >5 shocks, younger age, female gender, low social supports, and pre-implantation psychiatric history. A recent study notes a temporal relationship between ICD shocks and subsequent development of anxiety symptoms which was not seen with anti-tachycardia pacing, demonstrating evidence for a causal relationship.

There are some unique features of PTSD in ICD patients, compared with PTSD in other settings. One is the risk of recurrent shock (ongoing trauma), which has prompted a suggestion to re-name the condition “post-ICD shock stress reaction.” Another unique aspect of post-ICD shock PTSD is the phenomenon of *phantom shocks*, in which the patient feels the experience of a shock without the device actually firing, as occurred in Mr. WC and his friend.

##### Strategies for treatment

A key aspect of addressing the patient’s anxiety and PTSD symptoms is to address the source of the anxiety. Medical strategies for minimizing ICD shocks are essential, including optimization of the patient’s volume status to reduce risk of malignant arrhythmias as well as adjustments to the device to make effective use of anti-tachycardia pacing.

In addition, treatment efforts should include offering the patient coping support and strategies for dealing with shocks. There is solid evidence for the use of Cognitive Behavioral Therapy in this setting. Studies have shown decreased physical limitations, increased physical quality of life, and decreased anxiety. Additional coping tools include relaxation exercises (diaphragmatic breathing, meditation, progressive muscle relaxation) and distraction techniques (imagery, counting, use of a focal point). Patients should be discouraged from avoiding activities they enjoy for fear of being shocked, as this contributes to anxiety and decreased quality of life.

*Personal details in the case published have been altered to protect patient privacy.*

For palliative care consultations please contact the Palliative Care Program at PUH/MUH, 647-7243, beeper 8511, Shadyside Dept. of Medical Ethics and Palliative Care, beeper 412-647-7243 pager # 8513, Perioperative/ Trauma Pain 647-7243, beeper 7246, UPCI Cancer Pain Service, beeper 644-1724, Interventional Pain 784-4000, Magee Women’s Hospital, beeper 412-647-7243 pager #: 8510, VA Palliative Care Program, 688-6178, beeper 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore and Children’s page 958-3844. With comments about “Case of the Month” call Dr. Robert Arnold at (412) 692-4834.



*(Discussion Continued)*

#### Patient Education

Patient education pages have been developed to help address the psychosocial concerns that develop in people with ICDs including coping strategies for dealing with trauma and stressful events, education on ICDs and sexual health, and support for partners of people living with ICDs. The most recent of these can be found free of charge at <http://circ.ahajournals.org/content/127/4/e426.full.pdf>.

In addition to use of written educational materials, clinical management of all ICD patients should include active screening for PTSD and other forms of psychological distress, anticipatory guidance, and treatment referral.

**Resolution of the case:** Mr. WC met with the palliative care psychologist while he was hospitalized and became a frequent-user of deep breathing relaxation techniques. He also employed music as a self-treatment for his anxiety. His wife was able to participate by developing a routine of relaxing things to do in the setting of a threatened or actual shock (e.g. placing a moist towel on his forehead). He planned to connect with a therapist closer to home after discharge from the hospital. In addition to these behavioral coping strategies, he was started on low-dose clonazepam. He was gradually able to tolerate being less confined to a still position in his chair and worked his way up to walking in the hall on the ward. He did continue to experience frequent shocks until undergoing an extensive VT ablation procedure; after this he has had much more infrequent shocks (a few in the next 6 months).

#### **References:**

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3. Schultz SM, Massa C, Grzbiela A, Dengler W, Wiedemanna G, Pauli P. Implantable cardioverter defibrillator shocks are prospective predictors of anxiety. *Heart & Lung* 42 (2013) 105-111.

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