

Management of ICD Shocks: A Psychiatrist's Perspective

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- 1. First ICD created by Dr. Michel Mirowski in 1969 after his boss died from VT**
- 2. It took until 1975 to develop the first working dog model**
- 3. First successful human model 1980, required a thoracotomy and defibrillated only**
- 4. Current models are tiny, defibrillate, pace, overdrive pace**



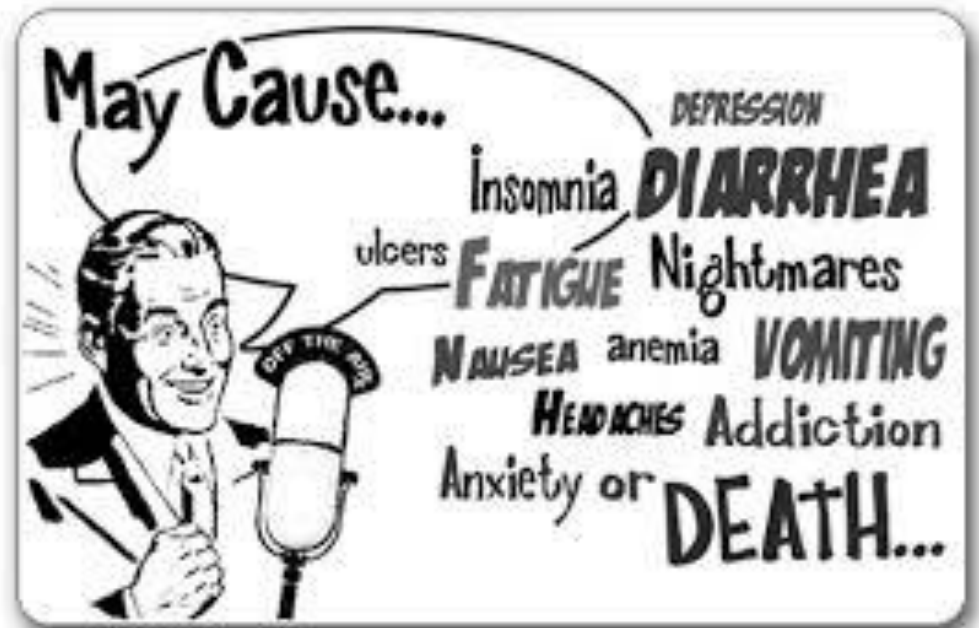
Great News!

- **First choice for primary and secondary prevention of sudden cardiac death**
- **Significant risk reduction in mortality of antiarrhythmic drugs**
 - AVID trial compared ICD with sotalol or amiodarone
 - 24% reduction in mortality with ICD of 16% reduction with placebo
- **Well accepted by the majority of patients**





Wait a minute!



- **Younger age**
- **More depressed at baseline**
- **Type D personality**
 - Negative mood
 - Social inhibition
- **Anxiety sensitivity**
 - Fear of behaviour or sensations related to anxiety



- Depression and anxiety
- Panic attacks
- Fear of death
- Insomnia
- Nightmares
- Somatic flashbacks
- Flashbacks of shocks
- Avoidance
- Withdrawal
- Emotional numbing
- Helplessness

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Diagnosis: Shock Anxiety

Poorly specified

- Anxiety disorder NOS
- Panic disorder (recurrent panic attacks)
- Adjustment disorder (self-limited anxiety symptoms)
- PTSD (re-experiencing, hypervigilance, avoidance)



- **~20% due to cardiac arrest, device implantation, ICD shocks**
 - **ACS: 8-20%**
 - **Out of hospital cardiac arrest: 27-38%**

Signs & Symptoms: PTSD

- Efforts to avoid thoughts
- Avoids activities
- Poor memory
- Anhedonia
- Feeling detached
- Feeling 'flat'
- Sense of a foreshortened future
- Flash-backs
- Difficulty with sleep
- Irritability
- Outbursts of anger
- Hypervigilance
- Difficulty concentrating
- Exaggerated startle response
- Intrusive thoughts

Adapted from DSM-IV-TR (2009) p.468.

- **>20% at ICD implantation**
- **6 months – 12%**
- **12 months – 13%**



PTSD associated with increased:

- **5 year mortality (Hazard ratio 3.2)**
- **Cardiovascular stress response**
- **Impaired quality of life**
- **Risk of non-adherence**

How do we treat this?

- **Sears S. et al randomized 193 patients to CBT vs. usual care**
- **8 phone sessions, education book, relaxation CD**
 - **Catastrophic thoughts about cardiac diagnosis and previous cardiac events**
 - **Behavioral avoidance of elevated HR and stimuli associated with past shock experiences**
- **Self-report PTSD questionnaire at start, 6 and 12 months; severe if mean > 1.5**

- **In all groups, scores reduced over time**
- **For low PTSD score patients:**
 - No significant difference in outcome in CBT vs usual care
- **For high PTSD score patients:**
 - Significant reduction in symptoms score with CBT (mean change 1.25) vs usual care (mean change 0.59)



- **31 patients yoga; 24 standard care**
- **8 week yoga program**
 - Breathing
 - Physical postures
 - Relaxation
 - Meditation
- **Yoga:**
 - Reduced shock anxiety
 - Increased self-compassion
 - Reduced device-treated ventricular events

- Pubmed and Google scholar studies conducted on 16/7/2017 revealed....

NOTHING



SSRIs:

- RCTs favor sertraline and citalopram

Tricyclics and MAOIs contraindicated

15-25% medication non-compliance

- Including **CARDIAC DRUGS**



- **Who's at risk?**
 - Multiple shocks
 - Young
 - Depressed
 - High anxiety sensitivity
 - Type D personality
- **Why is it a problem?**
 - Increased mortality
 - Reduced quality of life
 - Reduced adherence

- **What's the prognosis?**
 - **>20% at ICD implantation, reduces to 12-13% at 6-12 months**
- **What about treatment?**
 - **Yoga generally helpful**
 - **Reduces shock anxiety and device-related ventricular events**
 - **CBT effective in patients with more severe symptoms**

