Management of ICD Shocks: A Psychiatrist’s Perspective

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A History Lesson

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 cf antiarrhythmic drugs
  - AVID trial compared ICD with sotalol or amiodarone
  - 24% reduction in mortality with ICD cf 16% reduction with placebo
- Well accepted by the majority of patients
Wait a minute!
▪ Increase in ICDs associated with increase in anxiety
▪ Psychological impact of a single shock not clear
▪ HIGH risk with:
  ─ 5 or more in 12 months
  ─ More than 3 consecutive
▪ 3 year prevalence multiple shocks 4-28%
Further Risk Factors

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

- Depression and anxiety
- Panic attacks
- Fear of death
- Insomnia
- Nightmares

- Somatic flashbacks
- Flashbacks of shocks
- Avoidance
- Withdrawal
- Emotional numbing
- Helplessness
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
- Flashbacks

- Difficulty with sleep
- Irritability
- Outbursts of anger
- Hypervigilance
- Difficulty concentrating
- Exaggerated startle response
- Intrusive thoughts

Prognosis of PTSD

- >20% at ICD implantation
- 6 months – 12%
- 12 months – 13%
Does it matter?

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
Psychotropics and Cardiac Disease

SSRIs:
- RCTs favor sertraline and citalopram

Tricyclics and MAOIs contraindicated

15-25% medication non-compliance
- Including CARDIAC DRUGS
Conclusions (1)

- 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
Conclusions (2)

▪ 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
Questions?