Post-Traumatic Stress in the Cardiac Patient

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Cardiac Psychiatry

- CAD
- Arrhythmias
- Heart Failure
- Risk factors
- Concurrence
- The 20% rule
After the cardiac event: the Road to Recovery

- Shock
- Aftermath
- Reaction
- Rehabilitation
- Reorientation
Common post traumatic symptoms in the Cardiac patient include: Which are correct?

- Hypervigilance, startle response
- Sleep more than usual
- Increased concentration
- Less irritability
- Repeated recall of event
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Posttraumatic Stress Disorder: DSM-5 Checklist

1. Exposure to actual or threatened death
2. One or more intrusive symptoms
3. Persistent avoidance of trauma-associated stimuli
4. Negative changes in cognitions and mood
5. Significant changes in arousal and reactivity
6. Significant distress and/or impairment

Symptoms last more than 1 month
**Persistent Re-experiencing**
- Recalling the cardiac event over and over.
- Dreaming about getting shocked.
- Truly believing or feeling shock is recurring (e.g. phantom shock).
- Exposure to cues that remind them of the event (e.g. couch they were on when shocked) creates psychological distress.
- Exposure to cues that remind them of the event (e.g. heart racing) causes body to react.

**Persistent Avoidance**
- Avoidance of discussing the event (this may include avoidance of office visits or repeated no-shows).
- Cannot remember the event (e.g. SCA or shock).
- Avoid engagement in activities due to fear of shock.
- Feeling estranged from family or friends following cardiac trauma.
- Restricted range of affect (not able to express a range of emotions) following SCA or shock.
- Belief that shock is an indicator of cardiac health and foreshortened future.

**Increased Arousal**
- Following cardiac trauma (e.g. surgery, SCA, shock, storm):
  - Trouble falling or staying asleep.
  - More irritable and angry.
  - Difficulty concentrating.
  - Exaggerated startle response.
  - Hyper-vigilant: preoccupied with heart rate, gastrointestinal and chest pain, and other bodily sensations.
Which condition is most associated with worse outcome (including mortality) in the cardiac patient?

- Anxiety
- Depression
- PTSD
- Social isolation
- Anger
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Depression following myocardial infarction. Impact on 6-month survival.

Frasure-Smith N, Lesperance F, Talajic M.

In 222 subjects (78% male) post-MI and using structured interview, showed that major depression was a significant predictor of mortality at 6 months (adjusted hazard ratio, 4.29; 95% confidence interval, 3.14 to 5.44; P = .013).

Hospitalized CAD

Prevalence of Elevated Depression Symptoms

- About 1 in 3 hospitalized CAD patients
- At least 3 times as common as in the general community

Long-Term Survival Impact of Increasing Levels of Post-MI Depression (BDI Score)

Lespérance, Frasure-Smith et al, Circulation 2002
Potentially Useful Treatments for Depression in CAD Patients

- Antidepressants (SSRIs not TCAs)
- Brief, structured psychotherapies with active therapist involvement
  - Cognitive Behavioral Therapy (CBT)
  - Interpersonal Psychotherapy (IPT)
- Exercise
Which 2 of these options are most associated with best treatment response in the depressed CAD patient?

- Major Depressive Disorder, repeat, with antidepressant
- Major Depressive Disorder with Interpersonal Psychotherapy
- Major Depressive Disorder with Cognitive Behavioral Therapy
- Major Depressive Disorder, first time, with antidepressant
- Minor Depression with cardiac rehab program
Which 2 conditions are most associated with best treatment response in the depressed CAD patient?

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Survival Curves

Log Rank Chi-Square: 0.02
p = 0.89

ENRICHED: CBT vs Usual Care in CAD pts  JAMA 2003
Interpersonal Psychotherapy for CAD pts
Mean 24-item HAMD scores in CREATE

- Interpersonal Psychotherapy (n=142)
- Clinical Management (n=142)

- Baseline
- 6 weeks
- 12 weeks

P = .023
P = .058
Mean Changes in 24-HAMD in IPT vs CM Groups in Relation to Baseline Levels of Functional Performance

(adjusted for baseline HAMD scores; p for interaction = .001)
SADHART
(Sertraline Antidepressant Heart Attack Randomized Trial) JAMA 2002

Endpoint Responder* Rates for Two Treatment Groups: Sertraline vs. Placebo

- Total Sample
  - Sertraline: 67.2%
  - Placebo: 53.3%
- More Severe and Recurrent
  - Sertraline: 82.4%
  - Placebo: 45.8%

*p < 0.005
*p < 0.004

* Responder: CGI -1 ≤ 2
Efficacy of SSRI Treatment for First vs Recurrent Depression in CAD Patients

<table>
<thead>
<tr>
<th>Change in 17-item HAMD Adjusted for Baseline Score</th>
<th>SADHART (sertraline)</th>
<th>CREATE (citalopram)</th>
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<tbody>
<tr>
<td>Recurrent (n=186)</td>
<td>P=.009</td>
<td>P&lt;.001</td>
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<tr>
<td>First (n=183)</td>
<td>P=.58</td>
<td>P=.26</td>
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<tr>
<td>Recurrent (n=149)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First (n=135)</td>
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SSRI Placebo

P values indicate statistical significance.
Escitalopram & Venlafaxine: Change in Blood Pressure and Pulse

Effects on the QTc interval

ESTIMATED ASSOCIATION BETWEEN PROLONGATION OF THE QTc INTERVAL (ms) AND RISK OF ARRHYTHMIA

ICH E14 Guidelines

0 ms  5 ms  10 ms  20 ms

No apparent association

Inconclusive association

Increased risk

10mg  20mg  30 mg
ESCITALOPRAM QTc²

8.5  12.6*  18.5
CITALOPRAM QTc¹

20 mg  40 mg  60 mg

1- CIT QTcNi mean values from Health Canada Celexa PM
2- ESC QTcF mean values from US Lexapro PI and Health Canada Cipralex PM
* Estimated values
CBT Program (incl. stress management) post-CAD event
Cumulative first recurrent fatal and nonfatal cardiovascular events during 9 years from baseline.

Which approach is preferable?

- Screening questions and questionnaires for depression and anxiety, mental health collaboration
- Anxiety, depression, PTSD questionnaires
- Screening questions for depression, anxiety and PTSD, mental health collaboration
- Anxiety, depression, PTSD questionnaires and mental health collaboration
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Which approach is preferable?

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Suggested Questions for Use to Establish Patient Need for Mental Health Care

- **Depressive disorder**
  - Have you been feeling depressed, down or hopeless for most of the past month?
  - Do you find that you no longer enjoy activities you used to look forward to?

- **General anxiety/panic symptoms**
  - Do you feel nervous or jittery most of the time?
  - Do you find that you cannot stop worrying about the potential for a future event?
  - Do you have periods of intense anxiety or panic that occur out of the blue?
Suggested Questions to establish Patient Need for Mental Health Care

- Post traumatic stress disorder
- Do you have nightmares or flashbacks as if you are having the event again?
- Have you been avoiding things that remind you of the event?
- Do you find that you are almost always aware that you may have another cardiac event?
- Are you having trouble concentrating, being irritable or having sleep problems?

*(Impact of Event Scale-Revised)*
Evaluation: which components are required?

- Cardiac, medical clearance
- Structured interview
- Follow up, include partner
- Referral base of mental health professionals
- Consider cardiac rehab, stress management
- All are required
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Karasek’s Job Strain Model

**Psychological job demands**

- **Job control**
  - LOW
  - HIGH

- **Psychological job demands**
  - LOW
  - HIGH

- low strain
- active
- passive
- high strain

**job strain**
Marital Satisfaction and Spousal Contact

Diastolic BP (24 hr)

p=0.008, satisfaction by spousal contact interaction

<4 hrs contact
4 hrs or more

Baseline dyadic adjustment - Satisfaction Scores

Lowest quartile (<35)
Upper quartiles (>=/=35)
Counselling the Cardiac Patient includes: Which statements are correct?

- Supportive communication
- Interpersonal psychotherapy theme of role transition
- Cognitive Therapy themes
- Cardiac Rehabilitation Programme
- All are correct
Treatment of the Cardiac Patient with mild psychological distress includes: Which statements are correct?

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Supportive Communication

1. Define the problem
   • “What are your concerns about having a cardiac event?”

2. Provide information
   • “Sometimes patients start to change what they do because of the event.” “Is this something you have done?”

3. Normalize fears and elicit emotional release
   • “It’s a normal reaction to feel stressed after a cardiac event. Can we discuss your feelings about the event?”

4. Instill hope
   • “Over time, you will adapt to your cardiac event”

5. Encourage patient to take action
   • “We want you to take an active role in your care.”
Cognitive therapy for cardiac patients with psychological distress: Which statement is incorrect?

- Education
- Relaxation techniques
- Deal with cognitive distortion
- Always work through the problem
- Perceived control is a key concept
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Cardiac Rehab Programs

Exercise
Supervision
Education
Group or individual effect

Stress management programs including Mindfulness programs
Benefits of Cardiac rehab and Exercise

Changes in prevalence of depression following cardiac rehabilitation & exercise training \((n = 522)\)

Source: American Journal of Medicine, The 2007; 120:799-806
Survival time based on depression status upon completion of cardiac rehabilitation and exercise training (n=5522)
Mindfulness Based Stress Reduction (MBSR)

- MBSR
  - Group therapy, high adherence
  - Meditation and yoga as stress treatment
  - Promote “relaxation response”
- MBSR as a complementary therapy
  - Chronic pain, cancer, mood disorders
- MBSR and blood pressure
  - Symptoms of stress; Cortisol levels
  - The HARMONY Study, meta analysis: relaxation Rx as adjunct