Pre-operative Evaluation and Management for Psychological Disorders in Spinal Surgery

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“Clearly, there are people with the same identified spinal pathology who have pain and others who do not”.

“Likewise, there are those with back pain who seek treatment and those who do not”.

“And from those who seek treatment for the same conditions, some experience treatment failure and some experience success”.

Prof. Mc Cracken, Psychologist, King’s College, London
Multidisciplinary approach
• Patients with preoperative psychiatric disorders undergoing major spine surgery are at increased risk for perioperative adverse events and post-hospitalization care.

Menendez et al. 2014
Psych problems along the continuum of spinal surgery

- Pre-op
  - Depression
  - Anxiety
  - Insomnia
  - Substance use
  - Smoking

- Peri-op
  - Delirium
  - Substance withdrawal
  - Pain control
  - Adjustment reaction

- Post-op
  - Somatic symptom
  - Poor coping
  - Personality
Psychosocial Risk and Outcome Studies

High Pre-surgical risk
- Psychiatric factors
- Personality factors
- Cognitive factors
- Environmental factors

Poor Post-surgical outcome
- Pain
- Function/QOL
- Return to work
- Medical treatment

Epker & Block. 2001
Celestin et al. 2009
# Psycho-social risk factors of poor outcome

<table>
<thead>
<tr>
<th>Psychiatric factors</th>
<th>Depression</th>
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<tbody>
<tr>
<td></td>
<td>Anxiety</td>
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<tr>
<td></td>
<td>Substance use disorder</td>
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<td>Somatic symptom disorder</td>
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<td>Insomnia</td>
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<td>Personality-Cognitive factors</td>
<td>Fear avoidance</td>
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<td>Catastrophizing</td>
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<td>Passive coping</td>
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<td>Psychological distress</td>
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<td>History of abuse</td>
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<td>Environmental factors</td>
<td>Low educational level</td>
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<td>Social withdrawal</td>
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<td>Poor job satisfaction</td>
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<td>Perceived poor working environment</td>
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<td>Pending litigation/compensation</td>
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*Vaccaro et al. 2004*  
*Herkowitz et al. 2011*
Pre-operative screening

- **Depression:**
  - HAD, BDI-II, ZDS, PHQ-9

- **Anxiety:**
  - HAD, GAD-7

- **Somatic symptom d/o:**
  - PHQ-15

- **Personality:**
  - MMPI

- **Neurocognitive d/o:**
  - MMSE, MOCA, CAM

- **Cognitive factors:**
  - CSQ

- **Quality of life:**
  - SF-36

Epker & Block. 2001
Celestin et al. 2009
Levenson et al. 2011
Depression (DSM-5)

- Adjustment disorder
- Major depressive disorder
- Persistent depressive disorder
- Substance/medication-induced
- Due to another medical condition

Depressed mood, Anhedonia, Worthless/guilt, Suicidality, Concentration

Appetite, Sleep, Energy, Psychomotor

Irritability, Tearfulness, Depressed appearance, Withdrawal, Pessimism, Rumination

Endicott. 1984
Anxiety (DSM-5)

- Specific phobia
- Panic disorder
- Generalized anxiety disorder
- Substance/medication-induced
- Due to another med condition
- Obsessive-compulsive disorder
- Post-traumatic stress disorder
Management for psychiatric disorders in spine patient

- Depression
- Anxiety
- Somatic symptom disorders
- Poor coping
- Substance use disorders
- Neuro-cognitive disorders (Dementia)

- CBT & Relaxation &
  TCA/SNRI/SSRI & Benzos
- CBT & Rehabilitation &
  Team communication &
  Medications
- MI & Detoxication &
  Medications (Disulfuram,
  Nicotine replacement,
  Bupropion, Varenicline)
- Decisional capacity evaluation &
  Environmental manipulation &
  AChEI/Memantine
Pre-operative management (psychotropic medications)

• **Antidepressants**
  - TCA (Amitriptyline, Nortriptyline)
  - SNRIs (Venlafaxine, Duloxetine)
  - SSRIs (Fluoxetine, Sertraline, Escitalopram, Paroxetine)
  - Other classes: Mirtazapine, Trazodone, Bupropion

• **Benzodiazepines** (Clonazepam, Lorazepam)

• **Antiepileptics** (Gabapentin, Pregabalin, Topiramate)

Urkuhart et al. 2008
Levinson et al. 2011
Common Antidepressants for The Patients with Depression/Anxiety and Neuropathic Pain (Stahl et al. 2006)

<table>
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<tr>
<th>Drugs</th>
<th>Doses (mg)</th>
<th>Side effects</th>
<th>comments</th>
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</table>
| Amitriptyline | 50-150     | Anticholinergic, Antiadrenergic, Antihistaminergic, Cardiovascular | -Most studied in chronic pain  
-High side effects  
-Not the first line for depression |
| Nortriptyline | 50-150     | Anticholinergic, Antiadrenergic, Antihistaminergic, cardiovascular | -Lower side effects comparing to other TCAs  
-Treatment resistant depression |
| Venlafaxine  | 37.5-225   | GI side effects, Nervousness, Increased BP, Discontinuation | -Stimulating effect for fatigue patient  
-Titrate to higher dose for dual actions  
-Less interaction |
| Duloxetine   | 40-120     | GI side effects, Increased BP, Discontinuation         | -More studied in neuropathic pain  
-2D6 inhibitor |
Psychotherapy

- Psycho-education
- Relaxation training, bio-feedback
- Cognitive Behavioral Therapy (CBT)
- Mindfulness-based therapy
Conclusions

• Psychiatric problems are common along the continuum of spinal patient care.

• The presence of these problems is associated with poor treatment outcomes.

• Pre-operative psychological screening and management may be able to prevent or alleviate, not only the psychiatric disorders, but also the adverse medical or surgical consequences.
“The concept of failure would only be considered if the patient was abandoned at some points during management”.

A. AlKaisy et al. 2015
References


References

Questions???

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Thank You