Management of Depression in Patients with Cardiac Disease

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What "depression" is, and what it isn't:

Depressive illness is an exceptionally common condition and affects one in five individuals at some time in their lives. Patients with chronic physical illness are at even higher risk than the general population with respect to developing serious depressive disorders. Along with causing emotional suffering, depression decreases motivation to work, to exercise and to engage in social relationships. The combination of depression on top of cardiac disease has been shown to cause twice the impairment in functional status caused by either condition alone (1). Depressed patients with cardiac disease often have great difficulty reducing risk factors such as smoking, and adhering to diet and medication regimens.

Depression refers to a mood state characterized by sadness, lack of pleasure or loss of interest in daily life. A depressed mood can be transient with relatively mild symptoms, and improve without therapeutic intervention. At the other end of the spectrum, major depression is a severe mood disorder that persists unless treated, impairs important mental functions such as memory and concentration, causes sleep and appetite changes, and can lead to suicide (2). Deciding what constitutes a depressive disorder in a patient who already has a chronic illness, and whether depressive symptoms require intervention, is a challenge for many health professionals.

Criteria for major depression*

Five or more of the following symptoms, including consistently depressed mood or loss of interest, for at least two weeks causing impairment in social, occupational or other important areas of functioning:

- depressed mood most of the day, nearly every day
- markedly diminished interest or pleasure in almost all activities
- substantial unintentional weight loss or gain
- insomnia or hypersomnia nearly every day
- psychomotor agitation or retardation
- fatigue or loss of energy nearly every day
- feelings of worthlessness or excessive guilt nearly every day
- diminished ability to think or concentrate nearly every day
- recurrent thoughts of death or suicide
Immediately after onset of heart disease many patients go through a period of emotional turbulence. Feelings of anxiety, anger, and sadness, and thoughts of disbelief are common. Providing optimistic emotional support and education about heart disease during this period of emotional adjustment should be the initial intervention. If a patient remains anxious and depressed, has sleep disturbance, and has difficulty resuming appropriate physical activities after a month or so, then specific treatment of depression should be considered. Patients at risk for depression include those with a history of previous depressive episodes, those with few social supports, the elderly, and patients with onset of heart disease at an early age.

What depression isn’t can also be challenging with respect to diagnosis and management. Diagnosing depression in patients with physical illness requires emphasis on the presence of emotional and cognitive symptoms of depression, and less reliance on somatic symptoms such as fatigue and insomnia. For example, heart failure without co-morbid depression often causes fatigue, loss of energy, poor concentration and memory difficulties. Some medications, such as steroids, can directly cause depression, however most cardiac medications, (including beta-blockers), don’t. Physical illness such as cerebrovascular disease (eg. stroke), hypothyroidism, or sleep apnea are associated with a high rate of co-morbid depression, and are not uncommon in patients with cardiac disease. Treatment must be aimed at the underlying disorder along with the depression.

Patients with alcoholism or other types of substance dependence often complain of depressed mood and sleep difficulties. Treatment of the substance abuse itself often leads to rapid resolution of depressive symptoms without requiring specific antidepressant treatment. Patients with severe personality disorders often have a lifelong difficulty with interpersonal relationships. If such patients develop cardiac disease, their problems with coping often intensify. Patients with bipolar affective disorder have episodes of mania as well as severe depressive disorder, and require first-line treatment with mood stabilizers rather than antidepressant medications.

When to treat:

After assessment of the patient’s medical and psychiatric status, the diagnosis of depression should be presented to the patient in terms of an illness that requires treatment. Some patients may become upset if depression is mentioned as a possibility. They may more readily accept a diagnosis of depression if it is presented as a common but treatable complication of their illness. A discussion about the effects that depression can have on their physical illness, such as exacerbating symptoms of pain, sleep difficulty, and fatigue can be helpful in decreasing resistance about accepting help. Options for treatment of depression with specific types of psychotherapy, antidepressant medication or both should be discussed with the patient. Both antidepressant medication and certain types of structured psychotherapy have proven efficacy in physically healthy, depressed patients (3). Randomised trials of psychotherapy and antidepressant medication are now underway in cardiac patients.
**How to Treat:**

**Psychotherapy:** Common psychological reactions seen in depressed cardiac patients include regression and excessive dependency, manipulation of others, perceiving heart disease as a punishment, a compulsive need for control, irritability and anger, denial of illness, and hypochondriasis. Psychotherapeutic interventions that emphasize that social support may be particularly important in helping cardiac patients cope with chronic illness, and avoiding depression. Frasure-Smith and associates found that post-myocardial infarction depression was a predictor of one-year cardiac mortality in 887 patients, and high levels of social support appeared to buffer the impact of depression on mortality (4). In this study, high levels of support predicted improvements in depressive symptoms over the first year after myocardial infarction.

Interpersonal psychotherapy (IPT) is an evidence-based, structured psychotherapy designed to reduce symptoms of depression through resolution of current interpersonal problems and improvement of social functioning (5). It is time-limited (usually up to 16 weekly sessions) and involves a decision between patient and therapist to focus on a particular problem such as grief, life transitions (common in patients with heart disease), interpersonal disputes or social isolation. It may have particular relevance for patients with cardiac disease, however there are not yet any published trials of IPT for treatment of depression in these patients.

Cognitive-behavioural therapy (CBT) is also a proven structured psychotherapy based on the premise that patients with depression have recurrent pessimistic or self-critical thoughts which lead to depressive feelings. Patients are taught to correct their thinking errors in order to relieve depressive symptoms. Common thinking errors include: "all or nothing thinking" (eg. "I have heart disease so I can't do any physical activity"); forecasting the future (eg. "I've had a heart attack so I am going to die young, just like my father"); and "catastrophizing" (eg. "my life is ruined because I have heart disease"). Behavioural treatment, often combined with cognitive therapy, emphasizes involvement in rewarding activities, decreasing behaviour that reinforces depression (eg. social withdrawal), and problem-solving techniques. A large randomized trial is now investigating CBT for treatment of depression or social isolation in cardiac patients (6).

**Antidepressant Medication:** When antidepressant medication is suggested, it is often helpful to address the following concerns right away: 1. Reassure the patient that antidepressant medication is not addictive, and not a "tranquilizer" or "happy pill"; 2. Tell the patient that medication won't change their personality, but it may help them feel more like their usual self; 3. Tell the patient that about 70% of patients respond to a trial of medication, and that if there is no response, or if adverse effects occur, another medication can be tried; 4. Remind the patient that antidepressant medications have to be taken every day, and if there is an improvement in two or three weeks, the medications must be continued for about a year at full dosage to prevent a relapse.

The following table outlines several common antidepressants that are recommended for patients with heart disease. The older tricyclic antidepressants such as amitriptyline are not recommended, as they have resemble type 1A antiarrhythmic medications, which were shown to increase mortality in randomised trials (7). The initial dosage of an antidepressant should be reduced in elderly, debilitated patients or patients with liver or renal dysfunction. Many of the newer antidepressants can potentially interact with some antiarrhythmic medications, coumadin and some beta-blockers (8). If this is a concern, then the choice of an antidepressant with low potential for drug interactions is best.
### Recommended Antidepressants for Patients with Cardiac Disease

<table>
<thead>
<tr>
<th>Drug</th>
<th>Initial - maximum daily dosage</th>
<th>Common side effects</th>
<th>Drug interaction potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram (Celexa®)</td>
<td>10 - 40 mg.</td>
<td>gastrointestinal upset, sexual dysfunction</td>
<td>low</td>
</tr>
<tr>
<td>Fluoxetine (Prozac®)</td>
<td>10 - 40 mg.</td>
<td>gastrointestinal upset; sexual dysfunction; headache, diarrhea, shakiness</td>
<td>high</td>
</tr>
<tr>
<td>Fluvoxamine (Luvox®)</td>
<td>50 - 300 mg.</td>
<td>gastrointestinal upset; sexual dysfunction; headache, diarrhea, shakiness</td>
<td>high</td>
</tr>
<tr>
<td>Sertraline (Zoloft®)</td>
<td>50 - 300 mg.</td>
<td>gastrointestinal upset; sexual dysfunction; headache, diarrhea, shakiness</td>
<td>moderate</td>
</tr>
<tr>
<td>Paroxetine (Paxil®)</td>
<td>10 - 40 mg.</td>
<td>sedation; dry mouth; constipation; gastrointestinal upset; sexual dysfunction</td>
<td>high</td>
</tr>
<tr>
<td>Venlafaxine extended release (Effexor XR®)</td>
<td>75 - 300 mg.</td>
<td>shakiness; sexual dysfunction; sweating; gastrointestinal upset; headache; elevation of blood pressure (dose dependent)</td>
<td>low</td>
</tr>
<tr>
<td>Bupropion sustained release (Wellbutrin SR)</td>
<td>100 - 300 mg.</td>
<td>shakiness; insomnia; gastrointestinal upset</td>
<td>moderate</td>
</tr>
<tr>
<td>Nefazodone (Serzone®)</td>
<td>100 - 400 mg.</td>
<td>sedation; gastrointestinal upset; headache</td>
<td>high</td>
</tr>
</tbody>
</table>

### Follow-up:

Patients should have some improvement in depressive symptoms within four to six weeks with either psychotherapy or antidepressants. If there is no response to psychotherapy, then addition of antidepressant medication should be considered. Disability issues are often important considerations in the management of depressed patients with heart disease. Significant depression often requires three to six months off work. However, depression alone rarely causes long-term disability, and functional impairment due to cardiac disease is usually the cause of permanent disability.
REFERENCES

- Wells KB, Stewart A, Hays RD, Burnam MA, Rogers W, Daniels M, Berry S, Greenfield S, Ware J. The functioning and well-being of depressed patients. Results from the Medical Outcomes Study. JAMA 1989; 262:914-919.


