

Depression: Post- Cardiac Surgery

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Depressive disorder is more common among patients with cardiac diseases undergoing cardiac surgery. Chronic and debilitating diseases have numerous psychiatric consequences. According to World Health Organization, depression is the leading cause of disability worldwide, and is a major contributor to the overall global burden of disease. Coronary Artery Disease (CAD) on the other hand is a disease with not only morbidity but also mortality. In fact, CAD is one of the leading causes of death over the world.

Mental health problems are becoming the global burden of disease and depressive disorder contributes most. One-third of patients with serious medical conditions experience symptoms of depression. Cardiac diseases and its consequences and cardiac interventions including cardiac surgery strongly affect mental health of patients. In 2012, depression is estimated to affect 350 million people of the world.¹ “Depression: A Global Crisis” was the theme of world mental health day-2012, to advocate for recognizing the disease and addressing it. These depressive symptoms are often chronic and persistent and associated with development and progression of coronary artery diseases, worse health related quality of life, poor physical functioning, recurrent cardiac events with 2 to 2.5 folds increased risk of mortality. Research over the past two decades has shown that depression and heart disease are common companions and, each can lead to the other. It appears now that depression is an important risk factor for heart disease along with high blood cholesterol and high blood pressure.

Most importantly, major depressive disorder itself, as well as presence of depressive symptoms, is believed to be associated with poorer outcome of

CAD and higher risk of developing further cardiac events.

After cardiac surgery, temporary feelings of sadness and a depressed mood are common for the first few weeks. However, treatment is necessary when depression is severe and accompanied by other symptoms persist daily for 2 weeks or more including low mood, lack of experiencing pleasure, withdrawal from activities, significant difficulty with daily routine, social activities and/or work, not responding when visiting with family and friends, increased negative thoughts, tearfulness and suicidal thoughts or feelings etc.

Moreover, in patients undergoing coronary artery bypass graft (CABG) surgery, major depressive disorder (MDD) in all its minor, moderate and major forms, was reported as an independent risk factor for mortality after being adjusted for potential confounding factors. While the pathways that play a role in the initiation of depression and/or in the pathogenesis of heart disease remain largely undetermined, a number of causal pathways have been proposed. Hyperactivity of Hypothalamic-Pituitary-Adrenocortical (HPA) axis, cortisol elevation, heart rate variability, pro-inflammatory cytokines, platelet activation, genetics, risk factor clustering, medication non-compliance, anger and anxiety, demographics and psychosocial factors play important role in the etiological relationships between the two conditions.

There are many treatments for depression. Major depressive disorder may be treated with antidepressants, psychotherapy (supportive counseling or “talk therapy”), or a combination of both. Lifestyle has a mediating factor in the

relationship between depression and heart disease and affects both primary CVD prevention activities, as well as secondary prevention behaviors. Important components of the latter, adherence to cardiac rehabilitation programs and medication regimens can often be compromised by the presence of depression after a heart event, increasing the risk of recurrent CVD events.

Newer, safe antidepressant medications, such as SSRIs (selective serotonin reuptake inhibitors) have an established safety record and are safe for cardiac patients. The antidepressants sertraline and citalopram have been the best studied, are effective and safe in patients with heart disease.

Psychotherapy can increase a person's social support and help the patient develop more positive thinking patterns. The Enhancing Recovery in Coronary Heart Disease (ENRICHD) study, which evaluated the efficacy of cognitive behavioral therapy (CBT) in post-MI patients with minor or major depression, was more promising. Brief supportive models of talk therapy appear to be the most appropriate for helping the depression in the cardiac patients. A healthy lifestyle including regular exercise, proper sleep, a well-balanced diet, as well as relaxation and stress management techniques can help you manage depression. In a recent intervention trial, physical exercise was found to have a significant effect on depression.²

Major intervention studies both pharmacologic and psychotherapy has been performed in patients who are clinically depressed after a heart attack. These studies are helping clinicians better understand the link and treatment of depression and heart disease and guide for optimal treatments. Patients with a previous history of depression or who are experiencing severe depression can be the best responders to medication intervention.³⁻⁷

In patients who are diagnosed with MDD, both antidepressants and psychotherapeutic interventions are effective at alleviating depressive symptoms. Standard doses of SSRIs are safe and effective in patients with cardiac disease and may

be considered first-line if pharmacologic treatment is appropriate. Psychotherapeutic interventions, especially those that are supportive and work to improve adherence to rehabilitation programs, cardiac treatments, and psychiatric medications may also be helpful. As coordinated care programs appear to be effective at delivering these interventions, such a model should be adopted in cardiology practices and inpatient cardiology units when possible. If such a model does not exist, relationships with psychiatrists, therapists, and primary care physicians should jointly create a treatment model that resembles collaborative care as much as possible.

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