

# DEPRESSION AND RECOVERY FROM CARDIAC EVENTS

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## Introduction

Imagine a condition which has the following characteristics: (i) it is common; (ii) it is easily diagnosed; (iii) it is easily treated; and (iv) patients who have this condition who are recovering from a heart attack have a greater mortality risk than those without this condition. How common is this condition? About one out of every five patients recovering from a myocardial infarction has it. How easily diagnosed? Simple tests are available to screen for this condition and specific diagnostic criteria are available to establish the diagnosis. How easily treated? Tablets are readily available by prescription to treat this condition. How much greater risk are patients with this condition at than those without it? Individuals who have this condition are about twice as likely to die in the first few months after a heart attack than those who do not have it.

There are some other important characteristics of this condition. First, to date it has not been established that treating this condition decreases the associated mortality risk. Second, cardiologists are generally not the experts in either diagnosing or managing this condition. Given all these issues, would you encourage healthcare workers, and especially cardiologists, to screen for this condition in myocardial infarction survivors?

## Diabetes mellitus

The condition that fits all these characteristics is diabetes mellitus. Diabetes mellitus is common among patients recovering from a myocardial infarction and while it is known to be a risk factor for increased mortality, the role of glycaemic control for secondary prevention is unclear.<sup>1-3</sup> Screening for diabetes is typically performed in patients with myocardial infarction, although the most recent US Preventive Services Task Force (USPSTF) recommendations note: “Existing studies have not shown that tight glycemic control significantly reduces macrovascular complications including myocardial infarction and stroke. The USPSTF found poor evidence to assess possible harms of screening. As a result, the USPSTF could not determine the balance of benefits and harms of routine screening for type 2 diabetes.”<sup>3</sup>

Of course, another condition that fits all these characteristics is depression. Depression is common among patients recovering from a myocardial infarction<sup>4,5</sup> and it is easily diagnosed and treated. Individuals with depression are at greater risk of dying in the first few months after their heart

attack than those who are not depressed.<sup>6,7</sup> Although it has not been demonstrated that treating depression reduces mortality, it is clear that successful treatment of mood disturbance improves quality of life and, therefore, more widespread screening and treatment should be encouraged even if proof of a mortality benefit never becomes a reality.

## Depression and post-myocardial infarction mortality

Depression is at least as potent a risk factor for post-myocardial infarction mortality as other ‘traditional’ predictors of poor outcome, as the relative mortality risk of depression is similar to the relative risks of long-standing diabetes mellitus,<sup>8</sup> left ventricular failure,<sup>9</sup> advanced age,<sup>9</sup> frequent or complex ventricular arrhythmias<sup>9</sup> or inability to perform an exercise stress test.<sup>9</sup> Several hypotheses have been advanced to explain why depression may be associated with adverse prognosis in those surviving a heart attack. Possible pathophysiological mechanisms include behaviour and lifestyle issues (especially poor adherence to medical therapies and risk-reducing behaviours),<sup>10</sup> abnormally ‘sticky’ platelets in those with depression,<sup>11,12</sup> abnormalities in sympathetic neural traffic to the heart in depressed patients that may predispose to ventricular arrhythmias<sup>13,14</sup> and differences in cardiac treatment in those with mental illness compared to those without.<sup>15</sup>

## Depression and quality of life

In addition to effects on mortality, depression has very clear effects on healthcare utilisation and quality of life.<sup>16</sup> It is notable that in the Heart and Soul Study,<sup>17</sup> depression was a far stronger predictor of cardiac patients’ reported health status, symptom burden, physical limitation, quality of life and overall health than the severity of their cardiac condition. Indeed, in this study of over 1,000 individuals with coronary artery disease, measures of cardiac function (left ventricular function and ischaemia) did not predict these important measures of health status, whereas depressive symptoms did.

## Summary

In summary, depression is common in those recovering from a heart attack. Although minor mood disturbance is often transitory, major depression is typically long-lasting and may respond well to antidepressant treatment. Because depression is associated with increased morbidity and mortality in heart attack survivors, and because it makes it

more difficult for individuals recovering from a heart attack to engage in risk-reducing behaviours or to adhere to medical therapy, and because it has such a negative effect on quality of life and overall health, no additional arguments should be required to encourage healthcare workers to screen for and treat depression in patients recovering from a myocardial infarction. When working with patients who have recently had a myocardial infarction, depression should get as much attention as diabetes mellitus. At the very least, this will result in greater quality of life for many heart attack survivors.

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