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Heart failure and suicide: the role of depression

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In a case-control study of over 5600 adults from Taiwan published in this month's *Journal of Cardiac Failure*, Liu and colleagues observed that individuals diagnosed with HF within the past two years were at significantly elevated risk for suicide, even when accounting for physical problems, psychiatric illness, and other suicide risk factors.¹ Furthermore, diabetes mellitus, chronic kidney disease, cerebrovascular disease, and cancer were associated with an increased risk of suicide in adjusted analyses.

These findings are notable because there has been minimal study of the links between HF and suicide² and because no prior studies have examined the role that time since diagnosis plays in terms of suicide risk. In this study, patients were most likely to complete suicide within six months of HF diagnosis and continued to be at risk for suicide for two years post-diagnosis. This is consistent with the literature regarding suicide in cancer, which finds that the first year following cancer diagnosis is the highest risk time for suicide.³ The findings in the current study that similar risks were present for other chronic, progressive illnesses suggest that these disorders and their sequelae may lead to feelings of depression and hopelessness, which in turn increase the risk of suicide.

Liu and colleagues also find that the links between HF and suicide persist when controlling for other risk factors for suicide, including mood, anxiety, substance use, and psychotic disorders. This finding is in contrast to much of the literature, which finds that the risks associated with medical illness are attenuated or explained fully when controlling for psychiatric illnesses, such as depression.^{4,5} While it is possible that HF truly increases the risk of suicide above and beyond the risks associated with psychiatric illness, the more likely explanation is that not all psychiatric illness was accounted for in the current analyses.

Indeed, the authors used diagnostic billing codes to account for depression and other psychiatric conditions. While this approach is useful from a population analysis perspective, it may fail to capture many cases of depression, as—in the absence of a formal clinical evaluation—a patient would have to either explicitly express or exhibit such severe

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Conflicts of Interest

depressive symptoms that a non-mental health provider would not only identify depression but also include it in billing documentation. Based on the literature and our clinical experience with depression in medical patients, it seems likely that depression would indeed precede and be linked with suicide in many of the identified cases in this article, even if not accounted for as depression in this analysis. While other psychiatric diagnoses also likely serve as a barrier to mental and physical health in HF patients, the evidence is greatest for depression.

Therefore, in our view, targeting patients with HF for suicide prevention, in the absence of co-existing psychiatric disorders, is not indicated. Instead, the field should focus on depression, given that it is common, linked with suicide, and has many additional deleterious effects. Depression affects approximately 20% of patients with HF, and it is associated with poor psychiatric and cardiovascular outcomes, including poor health-related quality of life, reduced functioning, repeated hospitalizations, and elevated rates of mortality.⁶ Unfortunately, depression remains underdiagnosed in patients with heart disease.⁶

Furthermore, for patients with depression, identification is not enough, and treatment is critical. Depression treatment has been shown to improve depressive symptoms and reduce suicidal ideation,⁷ and it may have cardiovascular benefits as well.⁸ Following myocardial infarction, treatment with antidepressant medications (such as selective serotonin reuptake inhibitors [SSRIs]) has been associated with a reduced risk of major adverse cardiac events.⁸ Depression treatment is well-tolerated in patients with cardiovascular disease, and collaborative care programs, which combine screening with the systematic treatment of psychiatric illnesses, are both effective and cost-effective in primary care and cardiac populations.⁹

Given these facts, American Heart Association has recommended screening all cardiac patients—including those with HF—for depression. However, in practice, such a recommendation can be daunting to implement. Once patients are screened for depression, they must be accurately diagnosed, and once diagnosed, an effective treatment plan must be implemented. This is a non-trivial set of tasks, and diagnosing and treating depression in HF can be particularly challenging. The symptoms of depression and HF overlap considerably, and straightforward treatments (e.g., SSRIs) have had limited utility in patients with HF.¹⁰ Multimodal treatments that can be customized to a patient's needs and specific symptoms likely will be necessary to successfully manage depression and anxiety disorders in this population.

At the same time, the potential benefits of depression treatment are considerable. Effective treatment programs for depressed HF patients could have important and powerful effects not only on depression and suicide but also on major health outcomes in a patient population at high risk for adverse events. Increasingly, the field can and should move toward depression management protocols that link systematic screening with diagnostic assessment, treatment initiation, ongoing monitoring of symptoms, and stepped care. It seems likely that such programs have the potential to improve the mental and cardiovascular health of these patients early in the course of HF and may well help avoid catastrophic outcomes from suicide to cardiac-related death.

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