Published in final edited form as:

J Cardiovasc Nurs. 2017 ; 32(2): 135–139. doi:10.1097/JCN.0000000000000293.

A VENTRICULAR ASSIST DEVICE RECIPIENT AND SUICIDALITY: MULTIDISCIPLINARY COLLABORATION WITH A PSYCHIATRICALLY DISTRESSED PATIENT

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Abstract

Background—Ventricular assist device (VAD) recipients are at high risk for depression and anxiety, and poor psychosocial functioning is associated with worse medical outcomes.

Purpose—We present a case of a 31-year-old depressed patient who demonstrated passive suicidal behavior through multiple episodes of noncompliance, including temporarily discontinuing Coumadin several months after VAD implantation. The patient's psychosocial and medical histories and outcomes are presented.

Conclusions—This case underscores the importance of pre-VAD as well as ongoing psychosocial evaluation and management for this unique patient population.

Clinical Implications—Medical teams who are treating patients with cardiovascular disease who are under consideration for VAD or heart transplantation need to be aware of the multitude of ways in which patients can express depressed and suicidal mood and work with a multidisciplinary team to treat such symptoms to optimize patients' success with VAD/heart transplantation.

Keywords

Ventricular assist device; depression; anxiety; suicide; compliance

BACKGROUND

Ventricular Assist Devices (VAD) are used as a bridge-to-heart-transplant, while patients await transplantation, or to be found eligible for transplant.¹ VADs are also used as

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The authors have no conflicts of interest that are directly relevant to the content of this study. One table is presented

Disclaimer: Care has been taken to assure anonymity of the patient; any similarities to an actual individual patient are purely coincidental in nature.

destination therapy for those individuals who have been found not suitable for transplant. Living with a VAD requires challenging lifestyle changes, including close monitoring of the device and adherence to complex medical recommendations.² Such changes highlight the importance of patients' needs for effective coping skills, social support, motivation for treatment, and understanding about their condition and treatments. Further, individuals with heart failure (HF) are at risk for developing clinical depression and anxiety (up to 33%);³⁻⁷ which in turn, are associated with poorer adherence to medical recommendations and increased risk of morbidity.⁸⁻¹² Recent findings suggest that although perceived quality of life may improve with VAD implantation, emotional distress frequently continues.³ Depression is highly related to suicidality (passive ideation to committed action)⁴. Suicidality can be thought of as occurring on a gradient, with passive suicidal ideation, or a desire of death, typically labeled as "lower risk severity" compared to suicidal attempts which are considered "high risk severity" in the literature¹⁵⁻¹⁸. Moreover, the risk of suicidality and/or self harm significantly increases in individuals with CHF who have a history of pre-morbid, lifetime depression.¹³ Although risk factors including medical illness, disability, psychiatric instability, and past history of suicide attempts are common risk factors for suicidal ideation, limited empirical evidence exists regarding prevalence rates of suicidality among VAD recipients.

Case report

Patient History and Background

The patient is a 31-year-old, African-American male with nonischemic cardiomyopathy, status-post biventricular ICD placement, who has multiple comorbidities, including: obesity, hypertension, obstructive sleep apnea, and a history of transient ischemic attacks. He was diagnosed with HF in May 2010 and presented to our specialty mental health clinic in November 2010 to complete a comprehensive psychological assessment as part of the pre-VAD/heart transplantation evaluation. During the evaluation he acknowledged depressed mood since his HF diagnosis and ambivalence about VAD implantation. He had been taking paroxetine (unknown dose) prescribed from his general practitioner at the time of his pre-surgical evaluation. He disclosed a life-time history of recurrent depression and had one previous suicide attempt in his early 20s, however he denied active suicidal ideation at the time of the evaluation; he also completed the Center for Epidemiological Studies Depression scale-10 and did not exceed the clinical cutoff for depression; though given the relatively face valid nature of the measure he may have minimized emotional distress to present himself in a favorable light. Neurocognitive screening (Wechsler Abbreviated Scale of Intelligence; Repeatable Battery for the Assessment of Neuropsychological Status; Trail Making A and B) revealed intact general intelligence and cognitive functioning, indicating the ability to engage in informed consent and medical decision-making. Based on his significant psychiatric history, which places him at greater risk for suicidal ideation and attempts, and current depressive symptoms, we recommended he return for psychological treatment prior to VAD implantation to address his depression, ambivalence about surgery, and obesity (BMI = 46).

Initial Treatment and Response

Patient's treatment included psychotherapeutic and pharmacologic interventions separately on a twice-monthly basis. Due to limited benefit of the antidepressant paroxetine (a potent P450 inhibitor), sedation, weight gain, and potential for medication interactions, he was switched to sertraline, based on evidence of reasonable safety profile in patients with HF¹¹, and titrated to an effective dose by the patient's psychiatrist based on self-reported symptom improvement in mood. Contents of initial psychotherapy sessions addressed ambivalence about transplantation and barriers to weight loss. Sessions were semi-structured within a cognitive-behavioral supportive framework and included psycho-education, emotional identification, distress tolerance, assertiveness training, and behavioral strategies for weight-management. Over the first 6 sessions of individual psychotherapy, patient's depressive symptoms began to remit, he was present-focused, and losing weight.

Relapse and Early Poor Adherence

In session 7, the patient disclosed an increase of depressive symptoms and stated 4 days prior, he discontinued all of his medications. He denied active suicidal ideation and expressed his desire to "do things [his] way." He verbalized feeling "unimportant" to his medical team, and expressed anger in feeling "abandoned" by his nurse coordinators and cardiologists. Poor adherence to his medical regimen and his disclosure of feeling "unimportant" to his medical team was explored and patient acknowledged to his psychotherapist that if his team was not going to "care" about his failing health he would "make his own decisions, and do it his way" and discontinue taking all medications prescribed. Since poor medication adherence placed him at high risk for medical complications, his cardiologist was contacted, and we arranged for a same-day appointment. The patient discussed his frustrations with his cardiologist, nurses, and other medical staff, who all encouraged him to play a more active role in his health care. Following these appointments, patient again experienced a remittance of depressive symptoms. This was evidenced by an improvement in mood, sleep, and social relationships that patient described to his psychotherapist, which was corroborated by patient's significant other. Additionally, he reported a renewed trust in his medical team, a desire to continue adherence to recommendations, and insight that his frustration served as a barrier to implementing appropriate coping skills. A safety plan was developed in therapy should he begin contemplating withdrawing medical care again.

Shortly thereafter, he was hospitalized for a transient ischemic attack and was found to have a left ventricular thrombus and subsequently prescribed Coumadin. He continued to do well from a psychosocial standpoint (e.g., denied symptoms consistent with depression, relationships with family and medical providers remained positive, was relatively active), despite this medical set back, and was adherent to his medication regimen. His two nurse coordinators additionally made weekly phone calls to patient to check on his symptoms, instruct any necessary changes regarding Coumadin dosage and to ensure compliance with medical regimen while simultaneously encouraging active participation in his own health care.

VAD Implantation

Despite the team's initial reservations about the patient's psychological stability, he had demonstrated significant improvement in his medical and mental health adherence. He underwent VAD implantation in April 2011 with the hope it would serve as a bridge-to-transplant while he worked on meeting a goal weight for appropriate body mass index (BMI<40).

The first three months following his VAD implantation, he reported good mood but expressed frustration about chronic pain, insomnia, and length of recovery time. Psychotherapy then focused on goals of chronic pain management, sleep hygiene, and distress tolerance. He remained stable for seven weeks post-discharge until he presented to his emergency department with complaints of chest pain and dyspnea upon exertion. Despite patient's reported adherence to his hypertensive medical regimen, he was transferred to our medical institution and found to have hypertensive urgency with mean arterial pressure >100. His medications were optimized and he was discharged within a week. Over the next three months, the patient was hospitalized three additional times for hypertensive urgency; throughout these hospitalizations patient reported adherence to his hypertensive medication regimen.

The patient continued with psycho-and-pharmaco-therapy but reported fatigue, pain, insomnia, loss of appetite, anhedonia, and a lack of meaning in his life. He began gaining weight, partly due to fluid retention and physical inactivity, which exacerbated his feelings of hopelessness concerning the potential for heart transplantation. Nonetheless, he continued to engage in psychotherapy and remained compliant with his medication regimen, denying any suicidal ideation.

Poor Adherence as Passive Suicidality

In November 2011, patient arrived to his 21st session of psychotherapy, with a 17lb weight gain over the last year. He was visibly agitated following his weigh-in and expressed frustration about his lack of success. He disclosed to his psychotherapist that family and financial stressors were contributing to his decline in mood. These stressors were identified, explored and processed using cognitive-behavioral and interpersonal approaches in this session of therapy. He denied suicidal ideation, plan, intent, and verbally contracted for safety. However, at the end of session he revealed that 2–3 days earlier he had discontinued taking all of his medications, including his Coumadin (placing him at risk for thrombus) stating that he “just didn't care anymore.” Given his history of depression with a relapsing and remitting course, and the recent life stressors, a relapse to a depressive episode was not uncommon, though needed to be imminently addressed. Although patient denied the intent to end his life he expressed again a desire to do “things his way,” and indicated that if he were to die due to non-adherence it would be on “his terms.” The patient became tearful and left the session abruptly before the psychologist could call the cardiologist or nurse coordinators and discuss patient's noncompliance and risk for complications.

Members of this patient's health team, including his two nurse coordinators, made significant efforts to speak with him over the next 24 hours. He refused to answer phone

calls, but his wife elaborated that he had not taken any of his medications, was not eating or drinking, and would not leave the bed. Given his nonadherence with Coumadin (i.e., risk of VAD pump thrombus) and his wife's report of poor self-care, *his mental health team collectively decided that his psychiatric status had sufficiently compromised his medical decision-making capacity*. He was at imminent risk for further self-harm. We initiated the process of involuntary psychiatric commitment. The patient's emergency department did not feel he was involuntarily committable for his psychiatric symptoms because he overtly denied suicidal ideation. However, hospitalization was recommended due to subtherapeutic international normalized ratio. Patient was transferred to our institution, admitted to the cardiology service, and another psychiatric evaluation was completed. Patient reported increased symptoms of depression but continued to deny suicidal ideation. He disclosed his noncompliance was related to indifference and/or apathy rather than an active suicidal ideation, and he did not appear to fully comprehend the severity his withdrawal of medication could have had on his health and life. His sertraline was increased to 100 mg daily.

Outcome

The patient returned to mental health care two weeks following hospital discharge. He described an improvement in depressive symptoms, and acknowledged that his anger and frustration again "overrule[d]" previously learned coping skills.

To date, he has been seen for 35 psychotherapy sessions. Recent sessions have focused on patterns of maladaptive behaviors within the context of life stressors and difficulty coping with his illness. Cognitive-behavioral techniques are used to help him gain insight into his pattern of withdrawal during depressive episodes, low-frustration tolerance, and ways his thinking influence his emotional state and subsequent behaviors. At the time of this report, he is compliant with all medical recommendations, actively engaged in psychotherapy, has a remittance of depressive symptoms, and has achieved a 5lb weight-loss. Importantly, patient has remained an outpatient in cardiac clinic and out of inpatient care for 12 months. Patient has discussed learning appropriate ways to express his emotional experience to others in addition to distress tolerance skills as the most beneficial aspects of his psychological treatment.

Discussion

Patients may experience increased hope, improvement in quality of life, and a reduction of depressive symptoms following VAD implantation. As time elapses increased frustration and even anger with continued poor health and hopelessness regarding achieving transplantation may replace initial relief. Patients may sense a loss of control regarding their health, emotional state, and coping abilities. These experiences occurred for the patient presented in this case. Passive suicidal ideation has been defined as thoughts of being better off dead (e.g., dying in one's sleep; dying in an accident), or desire for death, whereas active suicidal ideation involves thoughts of ending one's life¹⁸ Non-adherence to a medical regimen might be perceived as one way to regain control over an otherwise hopeless situation in which one may feel powerless, even if that means the end of one's life. Most VAD patients, including

the patient presented here, are placed on anticoagulant therapy, as well as other medications, necessary to maintain health and prevent adverse effects of their treatments. As this case demonstrated, it is essential that patients and caregivers understand the purpose and function of medications, devices, and/or other treatment components as well as the relationship between depressive symptoms (e.g., anger, frustration, apathy) and HF.

Depression can negatively interfere with cognitive processing, thereby adversely interfering with informed medical-decision making. However, it can be difficult to discern whether medical non-compliance is the result of a patient's inability to appreciate the serious consequences of such actions, or a suicide attempt.¹⁹ This case highlights the importance of a comprehensive psychosocial evaluation and ongoing treatment with VAD candidates/recipients. It also underscores the necessity of a multi-disciplinary treatment approach in working with medically and psychiatrically compromised patients. Had it not been for the multidisciplinary evaluation, the interdisciplinary team's treatment plan, and ongoing bidirectional communication, this patient would not have been admitted into the hospital as quickly and successfully as he was, and then given the hope and instilled trust for him to resume both his medical and mental health treatment. More specifically, weekly correspondence between patient and his nurse coordinators helped to allow the patient to know he was cared for, while simultaneously ensuring proper adherence to his medical routine (e.g., lab work, diet, medical appointments). Given the high comorbidity of depression and HF, we likely expect that continued and greater collaboration between cardiology, nursing staff, and psychiatry will be needed as technology continues to extend the lives of patients with suffering from HF.

Acknowledgments

No sources of funding were used to complete this research.

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