Psychological Issues after Cardiac Transplantation: A Case Study

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Abstract

Progressive improvement in the techniques of cardiac surgery together with the emergence of cyclosporine as a powerful immunosuppressive agent have led to a resurgence of interest in cardiac transplantation. Despite its life-saving function, the same technical environment with its range of restrictions can lead to physical and emotional stress. Psychosocial implications and psychiatric morbidity are worth considering, but scarcely investigated. Further, severe life-threatening illness followed by high technology support and heart transplantation does not only affect the life of the patients but their whole family, especially the spouses’ life and could represent a traumatic event in their lives. The present case gave us the opportunity to consider the causes and clinical findings and review the specific psychological interventions for patients with end-stage heart disease.

Introduction

Although optimized medical therapy has improved the survival rates of patients in chronic heart failure, heart transplantation has become the therapeutic option for patients for whom neither standard forms of medication nor the usual surgical treatment are of any long-term benefit. If patients’ physical status deteriorates dramatically during the waiting period or the surgeons could not accept the current risk of transplantation, clinicians provide these patients with cardiac assist devices (the ‘artificial heart’) to sustain life over months [1,2].

Since cardiac transplantation has become a valid treatment modality for end-stage heart failure with a great increase in survival, the assessment of psychosocial aspects appears to be essential for the evaluation of the long-term outcome of those patients [1-3]. Psychological post transplantation complications could be distinguished into two groups [4]. The first includes organic mental disorders which tend to occur in the immediate postoperative period and are usually caused by immunosuppressive drugs or additional metabolic and/or psychological factors. During the first days of hospitalization, it is often possible to find neurological and psychiatric complications. Transient syndromes such as delirium, hallucinations, memory loss and periods of unconsciousness have also been described in nearly 25% of patients who underwent heart transplantation [5-7]. The second group of psychiatric complications is represented by mood disorders [5,7-10] and is often induced in the immediate postoperative period by administration of corticosteroids. The depressive state could also be part of an adjustment process after a long and uncertain waiting period. Sadness after the operation could also depend on the development of unrealistic hopes in the case the patient experiences financial or employment problems, and unexpected complications such as cytomegalovirus infection. A depressive mood in this period is an important risk factor which could increase a noncompliant behavior and/or suicide attempts. The present report indicates a case of a male patient who had cardiac transplantation as well as the psychological impact on him. There is little evidence in literature concerning the association between depression and compliance in cardiac transplanted patients.

Case Report

We report the case of a 43-year-old male patient, married with two children. In July 2003 he suffered the first clinical manifestation of coronary artery disease (CAD) when he was admitted for an inferior ST-elevation acute myocardial infarction (STEMI). In August 2007, after a new anterior Non-ST elevation myocardial infarction (NSTEMI), his left ventricular ejection fraction was 20%. From this moment on, the patient developed progressive shortness of breath and symptoms of right heart failure. He required several hospitalizations despite optimized therapy, and was referred to a heart failure and heart transplantation (HTX) unit for evaluation. Right heart catheterization showed non-reversible pulmonary arterial hypertension (PAH) that precluded HTX consideration. Treatment with sildenafil citrate 20 mg TID was initiated and gradually up-titrated to 100 mg TID. After achieving target doses, a new right heart catheterization showed improved pulmonary resistance with reversible PAH. The pre-transplant study did not show any formal contraindication for HTX. Because of the patient’s critical end-stage heart failure, young age and lack of comorbidities, he was listed for HTX September 25, 2009. On October 17, 2010, the patient underwent successful elective orthotopic HTX.

Two months after the heart transplantation, the patient indicated a depressive mood and anxiety symptoms. The fear of rejection, of infection, of a tumor or death was very intensive. In response to this fear, he also expressed suicidal ideation. During the same time period, the patient began to experience additional symptoms of depression including somnolence, decrease appetite, social withdrawal and feelings of hopelessness. Further, the patient’s symptoms of depression and fear interfered with his ability to attend consistently to his medication regimen, engage in recommended exercise, contribute to impending medical decisions, and participate meaningfully in his family life. Over the next several months, the patient’s medical condition worsened.

Problem areas targeted for treatment by the Psychology Service of our Hospital included the patient’s potential for dangerous behavior with associated symptoms of depression. Initial intervention focused on stabilizing the patient’s suicidal ideation with supportive therapy and development of a plan to assure adherence to his medication.

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Brief cognitive and behavioural skills training was delivered to assist the patient in his efforts to cope with depressive symptoms. Education about the implications for day-to-day functioning, and normalization of related fears was provided to the patient and his wife. After consultation with the patient’s physician, appropriate levels of physical exertion were discussed.

Discussion

A consistent body of literature has indicated a very high prevalence of psychological disturbances in heart transplanted patients. The incidence of mood, anxiety and organic mental disorders in the heart-transplanted population is high and has been studied by many authors [4-19] who underscored the need of a longitudinal assessment and interventions which take into consideration the factors mentioned above.

Noncompliance is one of the most important factors that could predict a negative long-term outcome. A low compliance is in fact considered one of the major risk factors, both for morbidity and mortality in the postoperative period, and it is responsible for a significant percentage of rejections and for more than 25% of deaths [20].

Symptoms of depression and anxiety are frequently encountered in patients even in the first year after successful HTx. Prevalence rates for major depression of 15.8% have been reported [21]. Recent studies show an increasing deterioration of emotional well being in the long-term course after heart transplantation [22]. There is a growing body of literature in the field of psychosocial research in HTx focused on predicting morbidity and mortality in the course of transplantation. Early studies demonstrated that psychosocial factors, particularly coping style and social support, may be significant predictors of morbidity and mortality in patients awaiting HTx [23,24] and in the intermediate term after successful HTx [14,25,26]. In this case, assisting the patient to redefine acceptable levels of activity allowed him to resume safe recreational activities that he enjoyed. Returning to such activities with his family and friends was especially significant to the patient given realistic limitations on his life span. Increased social activities had positive effects on the patient’s mood status as well. Education about the implications for day-to-day functioning, and normalization of related fears was provided to the patient and his wife. After consultation with the patient’s physician, appropriate levels of physical exertion were discussed.

References