Transplant International

INVITED COMMENTARY

Pretransplant depression in lung recipients – a lost battle?

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Transplant International 2018; 31: 481–483

Received: 22 December 2017; Accepted: 30 December 2017

What have we learned so far about the relationship between the recipient's pretransplant depression and his survival after lung transplantation?

First, every chronic disease is always accompanied by somatic changes, functional limitations, and emotional, cognitive, and social changes as part of the disease. From the first symptoms, to the time of diagnosis of the chronic disease with the expected future, the patient is exposed to the terrible stress of denying and accepting life with a serious chronic illness whose end result is death. It is not surprising that mixed emotions such as hope, anxiety, depression and despair, aggression, and trust are foreseen in a completely unpredictable sequence in the evolution of acceptance of a serious illness and a changed lifestyle. The process of internal adaptation goes hand in hand with a growing loss of autonomy, social roles (family and work), contacts, and activities. Furthermore, career and financial problems can cause existential concerns. In the end-stage organ failure, the patient faces affected life expectancy and the need for organ transplantation. Fear of death, internal conflicts, and the uncertainty of timely transplantation are the predominant emotional stressors at this stage of the disease. Before lung transplantation, depression appears to be predominant in 40% of patients, and lung transplant patients are more likely to suffer from anxiety disorders, particularly panic disorder [1–3].

Second, in the preoperative phase, the psychosocial evaluation of transplant patients is an important task given the prevalent organ deficiency. A final exclusion is to be considered only if the collaboration with the patient cannot be achieved in the long term and therefore an organ transplant loss is highly probable. A psychosocial evaluation should be part of every transplant program. A history of psychiatric disorders should not be considered an absolute contraindication for transplantation [2].

Third, adherence is essential for the long-term success of transplantation because nonadherence can lead to graft rejection, loss of organs, and even death. Prior to

doi:10.1111/tri.13114

transplantation, nonadherence is considered a contraindication to transplantation. It can be estimated that about 50% of late acute rejection and 15% of graft loss are associated with nonadherence [1,4]. According to the immunosuppressive drug literature, nonadherence rates can reach up to 24–70% depending on the measurement method [1,5]. The best predictor of postoperative nonadherence seems to be the behavior of preoperative nonadherence. The predictors of nonadherence frequently identified are age (adolescence and old age), psychiatric disorders, substance abuse, and lack of social support.

Forth, postoperative delirium (acute organic brain syndrome) may occur within the first days after transplantation. In transplant patients, it is known that immunosuppressants, especially corticosteroids, contribute to this syndrome. Although the symptoms are reversible in most transplant patients, their onset is associated with a longer hospital stay and a higher mortality [1,6]. Some patients have problems accepting the new organ and suffer from guilt feelings about the donor, which in turn can increase mental stress and noncompliance [7]. Patients with the pretransplant depression are certainly more exposed to this risk.

Fifth, in the long-term postoperative period, the side effects of drugs and comorbidities such as infections, diabetes mellitus, hypertension, lipometabolic diseases, obesity, cardiovascular disease, oncological diseases, osteoporosis, and chronic renal failure become central stressors. Psychiatric symptoms (e.g., depression, anxiety, restlessness, and psychosis) and neurological symptoms (e.g., sleep disorders, cognitive impairment, and delirium) can occur as neurotoxic side effects in patients taking immunosuppressive drugs. In view of these multiple health risks, patients often continue to suffer from fears and concerns about possible transplantation, severe comorbidity, and death. In addition, patients may feel stressed due to the need for a healthy lifestyle (e.g., regular physical activity, weight control, and alcohol and tobacco abstinence) and strict adherence to medical therapy (e.g., timely medication, frequently stressed follow-up appointments, dietary restrictions, and infection prevention). Patients with the pretransplant depression are certainly more exposed to this risk [1,8].

In this issue of Transplant International, Smith and the coauthors in the article "Depression, Social Support, and Clinical Outcomes following Lung Transplantation" provide a detailed analysis of a single-center study about the relationship between preoperative depressive symptoms and assessment to after lung transplant outcomes. They concluded that the associations between depressive symptoms, social support, and mortality were moderated by the length of stay [LOS] (greater depressive symptoms and lower social support were associated with greater mortality among individuals with longer LOS) [9].

Due to the fact that patients with pretransplant depression are certainly more exposed to the risk of acute organic brain syndrome, longer LOS might be expected.

Other abovementioned central stressors further increase the risk for postoperative depression in this very sensitive and delicate group of patients.

Interestingly, we are investing enormous resources in research to reduce the 2.5–3.5% annual mortality after lung transplantation, investigating the impact of induction therapy, trying to draw up a most effective and least harmful combination of various immunosuppressants, and many other more or less important factors [10].

On the other hand, we witness an unpredictably high number of patients who do not take prescribed therapy as needed after lung transplantation and do not follow other recommendations. This certainly results in poor functioning of the transplanted lungs, in the final case it can lead to a rejection reaction and to a graft failure.

We struggle with a lot of effort and resources to stop or at least reduce the progression of Bronchiolitis Obliterans Syndrome, which is of course necessary, while during long-term follow-up, we do not offer enough routine psychosocial support and monitoring in the group of patients who are at increased risk due to pretransplant depression. The identification and treatment of depression should be a high priority after transplantation, not only because there are effective treatments for depression, but also because the treatment of depression or depressive traits and states can be a tactic of preventing and decreasing long-term morbidity and mortality after organ transplantation [3].

Funding

The authors have declared no funding.

Conflict of interest

The authors have declared no conflicts of interest.

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