

# Nature and correlates of post-traumatic stress symptomatology in lung transplant recipients

Cynthia J. Gries, MD, MSc,<sup>a</sup> Mary Amanda Dew, PhD, MPH,<sup>b,c,d,e,f</sup>  
J. Randall Curtis, MPH, MD,<sup>g</sup> Jeffrey D. Edelman, MD,<sup>g</sup> Annette DeVito Dabbs, RN, PhD,<sup>h</sup>  
Joseph M. Pilewski, MD,<sup>a</sup> Christopher H. Goss, MD, MSc,<sup>g</sup> Michael S. Mulligan, MD,<sup>i</sup> and  
Douglas B. White, MD, MAS<sup>j</sup>

From the <sup>a</sup>Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA; <sup>b</sup>Department of Psychiatry, University School of Medicine; <sup>c</sup>Department of Psychology, University of Pittsburgh; <sup>d</sup>Department of Epidemiology, University of Pittsburgh; <sup>e</sup>Department of Biostatistics, University of Pittsburgh; <sup>f</sup>Clinical and Translational Science Institute; University of Pittsburgh Pittsburgh, Pennsylvania; <sup>g</sup>Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of Washington, School of Medicine, Seattle, Washington; <sup>h</sup>Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, Pennsylvania; <sup>i</sup>Department of Surgery, University of Washington, Seattle, Washington; and <sup>j</sup>Program on Ethics and Decision Making in Critical Illness, Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

## KEYWORDS:

post traumatic stress disorder;  
PTSD;  
lung transplantation;  
prevalence;  
symptoms;  
PCL;  
risk factors

**BACKGROUND:** The burden of post-traumatic stress disorder (PTSD) symptoms may be associated with worse outcomes after transplantation. Little is known about the prevalence and correlates of PTSD symptoms in lung transplant recipients.

**METHODS:** We conducted a cross-sectional study of lung transplant recipients between April 2008 and February 2010 at a single center. The PTSD Checklist was used to determine the burden of PTSD symptomatology (total score) and percent of subjects with a provisional PTSD diagnosis (validated algorithms). We assessed the relationship between PTSD symptom burden and patient characteristics with multivariable logistic modeling.

**RESULTS:** We enrolled 210 subjects (response rate 91%). Most patients were female (50%), and Caucasian (89%). The median age was 59 (interquartile range [IQR] 48 to 63) years and the median time between transplant and follow-up was 2.4 (IQR 0.7 to 5.3) years. Clinically significant PTSD symptomatology was observed in 12.6% (8.4% to 17.9%) of subjects. Subjects were more likely to endorse symptoms of re-experiencing (29.5%) and arousal (33.8%) than avoidant symptoms (18.4%). Multivariable linear regression showed higher PTSD symptom scores among recipients who were: younger ( $p < 0.001$ ); without private insurance ( $p = 0.001$ ); exposed to trauma ( $p < 0.001$ ); or diagnosed with bronchiolitis obliterans syndrome ( $p = 0.005$ ).

**CONCLUSIONS:** Overall prevalence of PTSD (12.6%) in our study was two times higher than the general population. Patient characteristics found to be associated with an increased burden of PTSD symptoms may be useful to consider in future interventions designed to reduce this comorbidity.

J Heart Lung Transplant 2013;32:525–532

© 2013 International Society for Heart and Lung Transplantation. All rights reserved.

Reprint requests: Cynthia J. Gries, MD, MSc, Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, University of Pittsburgh Medical Center, 628 NW Montefiore, 3459 Fifth Avenue, Pittsburgh, PA 15213. Telephone: 412-692-2210. Fax: 414-692-2260.

E-mail address: [griescj@upmc.edu](mailto:griescj@upmc.edu)

Post-traumatic stress disorder (PTSD) encompasses feelings of re-experiencing a traumatic event in addition to having avoidant and hyperarousal symptoms, which last for periods of at least 1 month.<sup>1</sup> Lung transplant recipients may be at a high risk for developing symptoms of PTSD because they may be exposed to several traumatic events such

as: (1) having experienced a life-threatening exacerbation of their underlying lung disease and its associated dyspnea prior to transplantation; (2) undergoing transplant surgery; (3) staying in an intensive care unit (ICU) after transplantation where they may experience hallucinations and delusions associated with delirium; and (4) experiencing episodes of life-threatening infections, rejection or bronchiolitis obliterans syndrome.<sup>2-6</sup>

Studies of PTSD in other types of solid-organ transplant recipients have revealed a significantly higher prevalence of PTSD symptoms in comparison to the general population.<sup>7-13</sup> Few studies have assessed PTSD in lung transplant recipients, although a recent study of 178 lung transplant recipients revealed a prevalence of PTSD related to the transplant as high as 15% at the end of the first year post-transplantation.<sup>14</sup>

A high prevalence of PTSD in lung recipients is of particular concern, because, as illustrated in other types of solid-organ transplant recipients, PTSD may lower medical adherence and may predispose recipients to a higher morbidity and mortality risk.<sup>15,16</sup> Because PTSD may increase the risk for poor outcomes in lung transplant recipients, it is also important to understand the prevalence and potential correlates of this condition so that those who may develop PTSD can be identified.

In this study we sought to assess the prevalence of subjects with a provisional PTSD diagnosis and explored what specific types of PTSD symptoms (re-experience, hyperarousal and avoidant) were most prominent in these subjects. Exploration of specific types of PTSD symptoms has never been assessed in the transplant population and may be important to define, particularly because studies have suggested that patients with a higher burden of hyperarousal symptoms have a lower resolution of symptoms over time and therefore may need an increased intervention. In addition, we examined potential clinical characteristics associated with an increased burden of PTSD symptomatology in order to better understand which patients might be at a higher risk for this condition. In particular, we assessed variables that had been identified in the literature as potential risk factors in other chronic conditions. Furthermore, we hypothesized that life-threatening complications of lung transplantation, such as a history of acute rejection, bronchiolitis obliterans syndrome and severity of disease, may be associated with the development of PTSD, and we evaluated these variables.

## Methods

### Design

A cross-sectional, observational, survey-based study was conducted between April 2008 and February 2010 at the University of Washington (UW) Lung Transplant Center.

### Study participants and clinical management

All adult patients (aged  $\geq 18$  years) receiving lung transplantation and/or follow-up care at the UW were identified for potential inclusion. Ambulatory appointment logs and medical records were reviewed by the research coordinator to determine subject

eligibility for the study, which included being at least 18 years of age and English speaking. As acute PTSD can occur up to 6 months after the event, patients were also required to be at least 6 months post-transplant. Gender, race and ethnicity were collected on participants and non-participants. Subjects completed the questionnaire in a private setting at their regularly scheduled clinic appointment. Institutional review board approval (IRB) was obtained for all activities and subjects provided written informed consent (IRB No. 32823).

Routine post-transplant clinical assessments included pulmonary function testing weekly for the first month, bi-monthly for the second month, and then every 3 months for at least the first 2 years. Routine surveillance biopsies were not performed. Biopsies were performed when subjects demonstrated any of the following: (1) a 10% drop in either forced expiratory volumes in 1 second (FEV<sub>1</sub>) or forced vital capacity (FVC); (2) symptoms such as shortness of breath or cough; or (3) lower-than-expected values on pulmonary function tests (PFTs) after transplantation.

### Measures and data collection procedures

*Post-traumatic Stress Disorder Checklist—Civilian Version (PCL).* The PCL is a 17-item self-report questionnaire that assesses symptoms of PTSD over the last month. Responses range from 1 (“not at all”) through 3 (“moderately”) to 5 (“extremely”).<sup>17</sup> The PCL includes the 3 symptom clusters of PTSD described in the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)*: re-experiencing (5 items); avoidant (7 items); and hyper arousal (5 items). A score of  $\geq 3$  on any question item indicates clinically significant distress. The PCL can be scored with an algorithm to meet criteria for a provisional diagnosis of PTSD, or it can be scored continuously to report the burden of symptoms.<sup>17</sup> To identify patients that have a provisional diagnosis of PTSD, we used an algorithm described by Blanchard et al. First, it was determined whether participants met criteria for any of the symptom clusters of the PCL. Participants were identified as having re-experiencing symptoms if they had clinically significant distress (score of  $\geq 3$ ) on 1 of the 5 questions that asked about re-experiencing symptoms. Similarly, participants were identified as having avoidant symptoms if they had clinically significant distress on 3 of the 7 of the questions about avoidant symptoms. Finally, participants were identified as having hyperarousal symptoms if they had clinically significant distress on 2 of the 5 questions that asked about arousal symptoms. To meet criteria for a provisional diagnosis of PTSD, participants had to meet criteria in each of the symptom clusters.<sup>17</sup> We did not ask specifically if the symptoms were related to the lung transplant process. Continuous scores on the PCL can range between 17 and 85. A higher PCL score indicates a higher burden of PTSD symptomatology. The measure has been shown to be reliable and has demonstrated criterion and construct validity in chronic disease populations.<sup>17-23</sup> We used both approaches to scoring (provisional PTSD diagnoses and burden of PTSD symptomatology) in our analyses.

*Structured Clinical Interview for DSM-IV (SCID) PTSD trauma screen.* The SCID PTSD trauma screen is a single question asking about a respondent's lifetime exposure to traumatic events: “Sometimes things happen to people that are extremely upsetting—things like being in a life threatening situation like a major disaster, very serious accident or fire; being physically assaulted or raped; seeing another person killed or dead or badly hurt, or hearing about something horrible that has happened to someone that you are close to. At any time during your life have any of these kinds of things happened to you?”<sup>24</sup> This screening item is widely

Download English Version:

<https://daneshyari.com/en/article/2970537>

Download Persian Version:

<https://daneshyari.com/article/2970537>

[Daneshyari.com](https://daneshyari.com)