# Cor pulmonale in the context of lung transplantation: Prevalence, predictors, and outcomes.

**William Melville***

Department of Pulmonology, University of California, United States

## Abstract

**Cor pulmonale is a condition characterized by right ventricular hypertrophy and failure caused by pulmonary hypertension. In the context of lung transplantation, cor pulmonale is an important consideration due to its prevalence and potential impact on outcomes. This review article aims to provide an overview of the prevalence, predictors, and outcomes of cor pulmonale in the context of lung transplantation. The review highlights the importance of pre-transplant evaluation, risk stratification, and management strategies to improve outcomes in patients with cor pulmonale undergoing lung transplantation.**

**Keywords**: Cor pulmonale, Lung transplantation, Right ventricular hypertrophy.

## Introduction

Lung transplantation is a life-saving procedure for patients with end-stage lung disease. However, it is not without risks, including the development of post-transplant complications. One such complication is cor pulmonale, which is a common manifestation of pulmonary hypertension in patients with chronic lung disease. Cor pulmonale is characterized by right ventricular hypertrophy and failure and can result in significant morbidity and mortality following lung transplantation [1]. The purpose of this review article is to provide an overview of the prevalence, predictors, and outcomes of cor pulmonale in the context of lung transplantation.

Cor pulmonale is a common complication in patients with Chronic Obstructive Pulmonary Disease (COPD), pulmonary fibrosis, and other forms of chronic lung disease. Studies have reported a prevalence of cor pulmonale in up to 60% of patients with COPD and up to 40% of patients with pulmonary fibrosis. In the context of lung transplantation, the prevalence of cor pulmonale varies depending on the underlying lung disease [2]. For example, in patients with COPD undergoing lung transplantation, the prevalence of cor pulmonale ranges from 15% to 50%. In patients with pulmonary fibrosis, the prevalence of cor pulmonale ranges from 5% to 30%.

Several factors have been identified as predictors of cor pulmonale in patients undergoing lung transplantation. These include older age, male gender, longer duration of lung disease, lower pre-transplant lung function, and the presence of comorbidities such as pulmonary hypertension and heart disease [3]. Other factors such as smoking history, body mass index, and the type of underlying lung disease may also be associated with an increased risk of cor pulmonale in the context of lung transplantation.

Cor pulmonale can have significant effects on post-transplant outcomes, including increased mortality, morbidity, and decreased quality of life [4]. Studies have reported that patients with cor pulmonale undergoing lung transplantation have a higher risk of post-transplant complications, including primary graft dysfunction, acute rejection, infection, and bronchiolitis obliterans syndrome. Additionally, cor pulmonale has been associated with an increased risk of mortality following lung transplantation, with some studies reporting a two-fold increase in mortality compared to patients without cor pulmonale [5].

Pre-transplant evaluation and risk stratification are important in identifying patients at increased risk of developing cor pulmonale following lung transplantation. Management strategies include optimizing pre-transplant lung function and controlling comorbidities such as pulmonary hypertension and heart disease. In some cases, pharmacological interventions such as the use of vasodilators may be beneficial in reducing the risk of cor pulmonale [6]. Additionally, close monitoring of patients with cor pulmonale following lung transplantation is necessary to detect and manage post-transplant complications early.

## Conclusion

Cor pulmonale is a common complication in patients with chronic lung disease undergoing lung transplantation. Pre-transplant evaluation, risk stratification, and management strategies are crucial in improving outcomes in these patients. Strategies to optimize lung function and control comorbidities such as pulmonary hypertension and heart disease are important in reducing the risk of cor pulmonale and improving post-transplant outcomes. Close monitoring of patients with cor pulmonale.

***Correspondence to:** William Melville, Department of Pulmonology, University of California, USA, E-mail: Melwill@ucsd.edu

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