

# Cystic Fibrosis Research News

## **Title:**

**Increased Risk of PTLD in Lung Transplant Recipients with Cystic Fibrosis**

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## **What was your research question?**

Do patients with cystic fibrosis (CF) who undergo lung transplant have an increased risk of developing lymphoma (cancer) after transplant?

## **Why is this important?**

In order to treat lymphoma that develops after lung transplant, changes in immunosuppression medications and potentially the need for chemotherapy are necessary. There is a risk of death from lymphoma after transplant. Identifying the risk factors for developing lymphoma after transplant allows for improved observations following lung transplant for development of this complication. Early identification of this post-lung transplant complication leads to decreases in sickness and death.

## **What did you do?**

Since this is a rare complication, we looked at a large international database of lung transplant recipients, maintained by the International Society of Heart and Lung Transplant. This gave us the ability to look at 30,000 lung transplant recipients and the development of lymphoma after lung transplant.

## **What did you find?**

We found that patients with cystic fibrosis had an increased risk of developing lymphoma after transplant compared to lung transplant recipients with other lung diseases. Specifically, those patients with cystic fibrosis who had not developed a viral infection known as Epstein-barr (EBV) prior to lung transplant had the highest risk of developing



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lymphoma, over six-fold increased risk. The risk for developing lymphoma seemed to decrease with age in CF patients. Those with pulmonary diseases other than cystic fibrosis who had not developed EBV prior to lung transplant had a two-fold increased risk of developing lymphoma after transplant.

## **What does this mean and reasons for caution?**

Due to the interaction between the EBV virus and the immune system after transplant, including the need for drugs that suppress the immune system, patients who did not develop EBV infection prior to lung transplant are at increased risk of developing lymphoma after transplant and should be closely monitored following lung transplant, regardless of pulmonary diagnosis. Younger patients with cystic fibrosis who have not developed EBV infection should be monitored the closest. This includes notifying your doctor if you have any unusual symptoms such as fevers, nightsweats, fatigue, or notice any masses that are enlarging. Your doctor may send an additional blood test to monitor for development of EBV after lung transplant. Caution should be noted that these are conclusions drawn from a registry study, and therefore, data and the conclusions are ultimately limited.

## **What's next?**

Further studies to look at whether following high risk patients with blood tests, or even pre-emptively treating high risk patients who did not develop infection with EBV before transplant with antiviral drugs to prevent the virus from replicating and interacting with the immune system after transplant, will decrease the number of lung transplant recipients who develop lymphoma after lung transplant.

## **Original manuscript citation in PubMed**

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