LUNG TRANSPLANTATION IN THE MANAGEMENT OF CYSTIC FIBROSIS

Rotaru Ludmila[1], Rotaru Tudor[2]
[1]Department of Molecular Biology and Human Genetics**,** State University of Medicine and Pharmacy *Nicolae Testemitanu*, Chisinau, Republic of Moldova
[2]Department of Oncology, State University of Medicine and Pharmacy *Nicolae Testemitanu*, Chisinau, Republic of Moldova

Introduction. Cystic fibrosis (CF) is an autosomal recessive genetic disorder caused by mutations in the *CFTR* gene, affecting multiple organs, particularly the lungs, and leading to progressive respiratory failure. Despite therapeutic advances, some patients progress to advanced stages of the disease, for whom lung transplantation represents the only option with a significant impact on survival.
Materials and Methods. A narrative synthesis of specialized literature was conducted using GeneCards, PubMed, the National Library of Medicine, and Hinari, focusing on publications from the past 10 years.
Results. Analysis of the specialized literature indicates that lung transplantation in patients with advanced CF leads to significant improvements in respiratory function and quality of life. Post-transplant survival is estimated at 80–90% at one year, 78–82.8% at three years, and 69–77% at five years, while long-term survival at 10 years ranges between 50–62%, with a median of approximately 10–10.7 years. Clinical factors, including chronic infections and post-transplant rejection, influence prognosis, whereas lung retransplantation is associated with lower survival compared to primary transplantation, highlighting the importance of rigorous patient selection and optimal timing of intervention. Optimization of perioperative management and personalized immunosuppressive therapy contributes to complication reduction and improved survival. Multidisciplinary coordination of patient management further enhances clinical outcomes and long-term survival.
Conclusions. Lung transplantation represents an essential intervention for patients with advanced CF, significantly improving life expectancy. Rigorous perioperative management, personalized immunosuppressive therapy, and multidisciplinary coordination contribute to the reduction of post-operative complications and improved clinical outcomes. Post-transplant risks persist, requiring continuous monitoring and adaptive interventions.
Keywords: Cystic fibrosis, lung transplantation, post-transplant survival.