

PULMONARY FUNCTION IMPAIRMENT IN PATIENTS UNDERGOING ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANTATION

**Pawel Piesiak¹, Ewa Gorczynska², Anna Brzecka¹, Monika Kosacka¹,
Renata Jankowska¹**

¹Department of Pulmonology and Lung Cancer and

²Department of Paediatric Bone Marrow Transplantation, Oncology and Haematology,
Medical University in Wrocław, Poland

BACKGROUND: Pulmonary complications (PC) following allogeneic hematopoietic cells transplantation (alloHCT) may cause morbidity and mortality, and worsen a quality of life. The aim of the study was to evaluate the prevalence and types of pulmonary function tests (PFT) abnormalities in allogeneic cells recipients. **MATERIAL AND METHODS:** Twenty three (5 children and 18 adults) allogeneic hematopoietic cells recipients who underwent PFT both before and 6-12 months after alloHCT were included in the study. Forced expiratory volume in 1 sec (FEV1), forced vital capacity (FVC), total lung capacity (TLC), and lung diffusion capacity (DLCO) were determined and recorded as percentages of the values predicted for age, sex, and height. Values <80% of predicted were considered abnormal. Changes in PFT parameters over the time were determined by comparing the mean PFT parameters pre- and post- alloHCT. **RESULTS:** The significant reductions of FVC, DLCO and TLC percent of predicted values after alloHCT were demonstrated. The most important reduction was noticed in DLCO (pre-alloHCT value = 85±15%, post- alloHCT value = 60±21%, p<0,05). Six patients (26%) presented with lung function impairment before alloHCT: obstructive lung disease was found in one patient (4%), restrictive lung disease in three patients (13%), and decreased DLCO in four patients (17%). In 19 patients (83%) PFT abnormalities were demonstrated after alloHCT. The most common disturbance was DLCO decrease that occurred in 16 patients (70%), four patients (17%) presented obstructive and eight patients (35%) restrictive disturbances. **CONCLUSIONS:** The frequency of PFT abnormalities in patients after alloHCT is high. A diffusion capacity decrease and restrictive pattern of ventilation insufficiency develop in the majority of patients after alloHCT. It would be reasonable to include PFT to standard periodical examination in patients qualified for and after alloHCT procedure.