

P134 LUNG FUNCTION IN POST-TRANSPLANT HODGKIN'S LYMPHOMA PATIENTS

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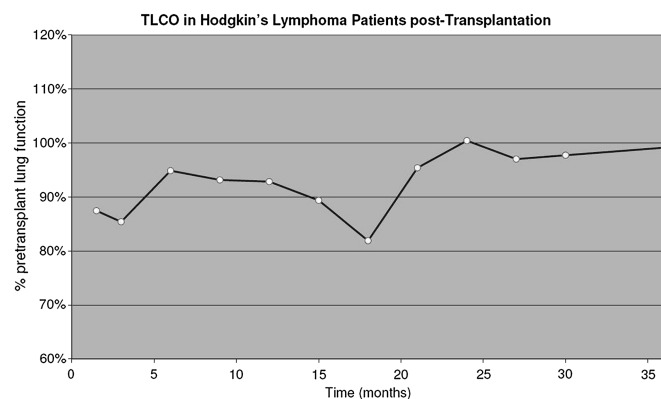
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Introduction Pulmonary complications are a prominent cause of morbidity and mortality following stem cell transplant (SCT) accounting for more than 30% of transplantation-related deaths. Exposure to agents associated with pulmonary toxicity (bleomycin, radiotherapy) is common in patients with Hodgkins lymphoma (HL) for whom SCT is a standard approach at relapse, making them potentially more susceptible to pulmonary toxicity post-transplant. Sequential pulmonary function tests (PFTs), are sensitive measures of lung disease after SCT allowing early diagnosis and treatment, thereby improving outcome. We report a retrospective analysis of serial PFT monitoring of patients with relapsed HL who underwent SCT.

Methods Patients were assessed with serial PFTs pre (T=0) and post SCT (initially 6 weeks and then 3 monthly thereafter). Standardised PFTs were expressed as a percentage of the pre-transplant value (100%). Tests were carried out by the same personnel, to ensure standardisation and eliminate variability in patient performance.

Results 29 patients were studied with median age at SCT of 35.3 years (range 17.1–60.7 years). Pre-transplant conditioning utilised chemotherapy (predominantly BEAM—carmustine, etoposide, cytarabine, melphalan) for all except two transplants (TBI based). The median follow up was 18 months (range 3–117 months) and a median of four PFTs performed (range 2–16). FEV₁ was decreased >10% in 13/29 and >20% in five of these patients, FVC was reduced >10% in 12/29 and >20% in 5/29. TLCO reduction >10% was observed in 21/29 and >20% in 13/29 and KCO decrease >10% occurred in 18/29 and >20% 9/29 patients. Reductions in TLCO/KCO occurred earlier than FEV₁/FVC reductions (median 1.5 and 3 months respectively). Recovery of lung function occurred in >50% of patients who had repeat investigation within 24 m. Significant reduction of TLCO/KCO was observed in only 1/10 patients who had PFTs >3 years from transplant (Abstract P134 Figure 1).

Conclusion PFTs initially deteriorated in a significant proportion of patients but tended to recover by 30–40 months post transplant. This could be due to pulmonary toxicity from conditioning therapy, post-transplant lung injury, or a combination of both. During the first 3 years post-transplant, patients have an increased risk of developing pulmonary complications providing a rationale for serial PFTs.



Abstract P134 Figure 1

P135 LUNG FUNCTION IN POST-TRANSPLANT MULTIPLE MYELOMA PATIENTS

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Introduction Chemotherapy followed by autologous stem cell transplant (SCT) is the standard of care for patients with multiple myeloma. However, both conditioning and transplantation increase patient susceptibility to pulmonary complications, a major cause of morbidity and mortality. Pulmonary function tests (PFTs) are routinely performed before and after SCT, providing a means to detect any early decline in pulmonary performance. We report a retrospective analysis of patients undergoing treatment for myeloma at a tertiary London hospital with pre-and post SCT PFTs to assess the impact of transplantation on pulmonary function.

Methods Patients were assessed with serial PFTs pre and post SCT (initially 6 weeks and thereafter 3 monthly). Standardised PFTs were expressed as a percentage of the pre-transplant value (100%). Tests were carried out by the same personnel, to ensure standardisation and eliminate variability in patient performance.

Results 34 patients with myeloma with median age at SCT of 50 years (range 36–69) were analysed. Conditioning therapy utilised high dose melphalan in 14 and TBI in 18. Median follow-up was 12 months (range 1.5–102) and a median of 4.5 PFTs was performed (range 2–21). FEV₁ was reduced by >10% in 14/34 and five of these had >20%. FVC decreased >10% in 7/34 and >20% in 6/34. TLCO was reduced by >10% in 23/34 and >20% in 12/34 patients. KCO decreased in 25/34 (>10%) and 12/34 (>20%) patients. The median time for maximum reduction was between 2.25 and 4 months for all tests. An improvement in PFT to >90% baseline occurred in over 50% of patients who had repeat investigations and this occurred within 24 months of initial PFT reduction. No significant difference was observed between TBI and melphalan based conditioning approaches.

Conclusion Reductions in FEV₁ or FVC were observed in a minority of patients whereas a majority had a reduction in TLCO/KCO—a significant proportion experiencing >20% fall. This reduction occurred early post transplant and improved for many. These changes may reflect possible pulmonary toxicity associated with conditioning therapy, post transplant lung injury or a combination of both and illustrates the necessity for regular prospective monitoring of PFTs following SCT for myeloma.

P136 COMPARISON OF THE ROBD AND THE VENTIMASK METHOD OF PRE-FLIGHT EVALUATION

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Introduction The Ventimask method of HCT is widely used in clinical practice however; a major limitation of this method is that the gas concentration administered during testing cannot be verified. The Reduced Oxygen Breathing Device (ROBD) is a flight simulator developed by the US military and the inspired fraction of oxygen (FiO₂) can be accurately determined.

Aim The aim of this study was to compare the results obtained during HCT, in patients with chronic respiratory disease, using the ROBD compared to the Ventimask method. The relationship of PaO₂ and SpO₂ by both methods was compared to in-flight oxygen saturations.