Evaluation of respiratory conditions in early phase of hematopoietic stem cell transplantation

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The scientific foundation of respiratory therapy (RT) has increased over the last decade in patients with respiratory diseases[1]; however, its effect in patients with other diseases remains poorly understood. In this issue of the *Revista Brasileira de Hematologia e Hemoterapia*, Bom et al.[2] demonstrate the benefits of RT in patients submitted to myeloablative hematopoietic stem cell transplantation (HSCT).

The importance of this study is related to the fact that, despite the tremendous benefits that transplantation brings to these patients, they still present a significant risk of chronic and acute complications due to conditioning regimens and immunosuppression, toxicity, infections, graft versus host disease and being bedridden after the transplant. The proposal of Bom et al. was to compare the improvement in ventilatory capacity during the post-transplant period using distinct protocols in patients submitted to HSCT to see whether their respiratory capacity could be improved.

This elegant study involved 39 adult patients randomized in 2 groups: A: patients performing incentive spirometry and B: patients receiving incentive spirometry associated with respiratory muscle strengthening and bronchial hygiene techniques. The results clearly show that patients submitted to 7 days of incentive spirometry treatment presented a significantly higher increase in muscle strength and ventilation compared to the group that did not receive this treatment.

The results are very relevant and suggest that these patients have a reduction in their respiratory muscle strength and ventilator capacity that is reversed by specific training. Despite these important results, some questions still remain unanswered such as: which patients most benefit from this treatment and whether this treatment reduces post-transplant complications. However, since this group has much research and clinical experience in HSCT patients, I am sure they will answer these questions quite soon.

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