we at the National Institute for Health Research (NIHR) comprehensive Biomedical Research Centre award to Guy’s & St. Thomas’ NHS Foundation Trust in partnership with King’s College London and King’s College Hospital NHS Foundation Trust and the NIHR Respiratory Disease Biomedical Research Unit at the Royal Brompton and Harefield NHS Foundation Trust and Imperial College London.

Financial/nonfinancial disclosures: The authors have reported to CHEST the following conflicts of interest: Dr Murphy has received expenses for travel to conferences from Philips Respironics. Dr Hart has received fees for lecturing from Philips Respironics and Fisher & Paykel Healthcare. Dr Polkey has received fees for lecturing from Philips Respironics.

Correspondence to: Patrick B. Murphy, Lane Fox Respiratory Unit, St. Thomas’ Hospital, Westminster Bridge Rd, London, SE1 7EH, England; e-mail: patrick.b.murphy@kcl.ac.uk

© 2012 American College of Chest Physicians. Reproduction of this article is prohibited without written permission from the American College of Chest Physicians. See online for more details. DOI: 10.1378/chest.12-0626

ACKNOWLEDGMENTS

Role of sponsors: The sponsors had no role in the design of the study, the collection and analysis of the data, or in the preparation of the manuscript.

REFERENCES


Response

To the Editor:

We appreciate the interest of Dr Murphy and colleagues in our article in CHEST on a randomized control study investigating the efficacy of noninvasive ventilation (NIV) on respiratory, sleep, cardiovascular, metabolic, and inflammatory outcomes in obesity hypoventilation syndrome (OHS). We acknowledge that our control group was not submitted to sham-NIV, but had only lifestyle counseling. Indeed, any participation in a clinical research study is likely to improve a patient’s lifestyle. Therefore, patients in both groups may have changed their lifestyle (eg, increased their physical activity). In any case, this cannot mask a specific effect of NIV on cardiovascular and metabolic parameters.

Our study demonstrated that short-term NIV dramatically improves sleep and blood gases but does not alter inflammatory, metabolic, or cardiovascular markers. This suggests a need to address these comorbidities by offering combined treatment modalities. Programs aimed at reducing the detrimental consequences of obesity systematically target an increase in physical activity and a reduction in sedentary behaviors. In their recent work in patients with OHS, Murphy and colleagues reported objective improvement in physical activity after 3 months of nocturnal NIV. This elegant study, including patients both in a stable state and in postacute respiratory failure, compared two ventilatory modes with a randomized control design. Therefore, all patients were exposed to NIV treatment. Thus, it is disputable whether weight loss and physical activity improvements were related to NIV per se or to lifestyle changes associated with inclusion in a clinical research protocol. Moreover, patients placed on NIV during postacute respiratory failure were likely to have low physical activity at baseline, whereas a dramatic improvement in activity was expected after 3 months of recovery.

Actually, obesity itself promotes limited physical activity and sedentary behavior partly because of exercise-related dyspnea. NIV during exercise training in rehabilitation programs might enhance exercise capacity by reducing the respiratory load in subjects who are morbidly obese. Additionally, we have demonstrated that the training of respiratory muscles in subjects who are obese improves dyspnea and exercise capacity.

We are currently evaluating these tools in rehabilitation programs aimed at reducing cardiometabolic risks in obese subjects, in addition to nocturnal NIV. NIV initiation could, thus, be the appropriate starting time for such integrated programs, although the best modalities to improve motivation and adherence have yet to be determined.

Future studies should not only evaluate the efficacy of combining nocturnal NIV and rehabilitation programs, but also determine the rate of drop-outs and the cost-effectiveness of such combined strategies in OHS treatment.

Jean-Christian Borel, PhD
Renald Tamisier, MD, PhD
Patrick Lecy, MD, PhD
Jean-Louis Pépin, MD, PhD
Grenoble, France

Affiliations: From INSERM U 1042, HP2 Laboratory, Faculté de Médecine, Université Joseph Fourier; and CHU, Pôle Rééducation et Physiologie, Hôpital A. Michallon.

Financial/nonfinancial disclosures: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Jean Louis Pépin, MD, PhD, Laboratoire EFCR, CHU de Grenoble, BP217X, 38043 Grenoble cedex 09, France; e-mail: jpepin@chu-grenoble.fr

© 2012 American College of Chest Physicians. Reproduction of this article is prohibited without written permission from the American College of Chest Physicians. See online for more details. DOI: 10.1378/chest.12-0902

REFERENCES


Concerns Raised by Lung Size-Mismatched Transplantation

To the Editor:

We read with great interest the article by Eberlein et al1 in CHEST (February 2012), which concluded that an oversized lung allograft (predicted total lung capacity [pTLC] ratio > 1.0) was associated with higher expiratory airflow capacity and a less frequent occurrence of bronchiolitis obliterans syndrome when compared with an undersized allograft (pTLC ratio ≤ 1.0). Undeniably, lung size mismatch is commonly encountered in pulmonary transplantation because donor allocation does not allow precise matching when a long list of patients is waiting for scarce donors. We are grateful to the authors for their important work. However, we would like to voice some significant concerns about the study design that need clarifications.

A heterogeneous population of 159 patients undergoing transplant from two different centers (Johns Hopkins Hospital from January 1996 to March 2010 and Inova Fairfax Hospital from January 1996 to December 2008) was included in this retrospective study. However, no data were available to show the comparability between the two centers, and it is unknown if significant bias was introduced by different transplant protocols, which play a vital role in the prognosis of these patients. As a consequence, potential confounding factors not accounted for, including recipient and donor characteristics, should have been compared between the two centers before a combined analysis was conducted; otherwise, a separate analysis for each center would have been preferred.

The authors provide the pTLC ratio (donor pTLC/recipient pTLC) for their definition of size matching according to the regression equations.2 Although we indeed agree that the pTLC ratio is widely used to match donors with recipients, it is wrong to suggest that the pTLC ratio is a reliable marker of size matching, as stated by the authors, because no reference range of pTLC ratio was raised to address the ideal status of size matching, as stated by the authors, because no reference value was introduced. However, the authors did not describe in the article the situation of size-reduced lung transplantation for an oversized cohort, implying that lung trimming as a confounding factor may result in significant discrepancy. It would be helpful if this concern could be commented on, and further analysis of the study to address this important issue is required.

Wenjun Mao, MD
Wei Xia, MD
Jingyu Chen, MD
Wuxi, China

Affiliations: From the Department of Cardiothoracic Surgery, Wuxi People’s Hospital, Nanjing Medical University.

Financial/nonfinancial disclosures: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Jingyu Chen, MD, Division of Cardiothoracic Surgery, Wuxi People’s Hospital, No. 299, Qing Yang Rd, Wuxi City, Jiangsu, China; e-mail: chenjy@wuxiph.com

© 2012 American College of Chest Physicians. Reproduction of this article is prohibited without written permission from the American College of Chest Physicians. See online for more details. DOI: 10.1378/chest.12-0737

REFERENCES


