



Response

Reply – Letter to the editor[☆]

We would like to thank Fagondes et al., for their comments regarding our article: “Efficacy of bilevel ventilatory support in the treatment of stable patients with obesity hypoventilation syndrome: systematic review and meta-analysis” [1] and we would like to clarify some of the questions raised.

OHS is defined by the presence of hypoventilation during wakefulness in obese patients, once others causes of hypoventilation are excluded [2]. The development of awake hypercapnia in OHS is the culmination of a complex interaction of factors, which vary from individual to individual. Sleep-disordered breathing (SDB) is involved in the pathogenesis of OHS and obstructive sleep apnea (OSA) occurs in the majority of patients with OHS, while isolated sleep hypoventilation occurs in 10%–15% [3]. Some authors have postulated that OHS represents an evolutionary stage of advanced OSA. It is also possible that OHS presents different phenotypes rather than stages within a severity scale [4–6]. Thus, the exact relationship between these two conditions (OHS and OSA), and in particular the contribution of OSA to the emergence of hypercapnia, are not clear. As Fagondes et al., addressed, there is even controversy in the definition of OHS, so that some authors suggest that OSA should be part of the OHS definition, while others have considered them separate entities [6].

There is a tendency to use BVS in detriment to continuous positive airway pressure (CPAP) in patients with OHS. This fact occurs because patients with OHS present hypoventilation and hypercapnia, and CPAP, by definition, does not provide ventilatory support, acting only in some of the mechanisms involved in the OHS pathophysiology [7]. Considering that in most cases OHS is associated with upper airway obstruction, CPAP therapy effectively controls SDB in 50–80% of cases [8].

Studies comparing positive airway pressure therapy for OHS patients help us to choose the best therapeutic approach for such a heterogeneous disease. RCTs comparing BVS to CPAP in patients with stable OHS do not show differences in several evaluated outcomes [1]. As discussed in our article, the small number of available RCTs and the heterogeneity of patients included are some of the limitations of the paper. The results should be interpreted with caution, especially in patients with OHS without severe associated OSA, since they may persist with sleep hypoventilation and diurnal hypercapnia even after use of CPAP, requiring ventilatory support. Each patient should be evaluated individually choosing the most

appropriate treatment and taking into account associated comorbidities and strict follow-up.

We appreciate the comments of the author on this so important issue and in which many questions remain to be clarified.

Conflict of interest

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: <https://doi.org/10.1016/j.sleep.2019.02.001>.

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