

Limitations of low pressure noninvasive ventilation

Sir,

In recent years, we have seen an increasing use of noninvasive ventilation (NIV) in the context of acute respiratory insufficiency (acute respiratory failure). However, adherence to treatment is not perfect; partly because of patient's complaints relating to high-pressure levels. This led to envisaging if the use of lower ventilatory pressures could lead to the same clinical results of the higher pressures, on patients with the restrictive pulmonary disease.

We have read with great interest study by Kadowaki *et al.* published in your journal, entitled "Low-intensity noninvasive ventilation: Lower pressure, more exacerbations of chronic respiratory failure," presenting a retrospective study where they investigated the effects of lower NIV pressure on chronic respiratory failure. It concluded that patients can develop more exacerbations, recommending the use of higher initial support pressure levels.^[1] It is an interesting and original article to read, but we would like to comment some parts of it:

- First, we do not agree with the nondiscrimination of hypercapnic respiratory insufficiency, being defined only by the value of PaCO₂. There is not any reference to the value of oxygen (or pH) and we think that a patient with severe – mild hypoxemia and hypercapnia are surely different from a patient with the only hypercapnia, and this may alter the results because these two subtypes are associated with different outcomes^[2]
- Second, according to the authors, its protocol to start with lower pressure levels (LPLs). We understand that the aim of this work was to study this issue and we also accept this strategy may be an attempt to improve the patients' adherence; however, we do not agree to be standard starting with low inspiratory positive airway pressure (IPAP). Most recent guidelines report that even patients with restrictive disease should start with initial IPAP 15–20 cmH₂O^[3]
- Finally, all patients had heated humidifier and its benefits are well known, although it is not unanimous its routine use.^[3] There are, however, data in literature showing that advantages are more prominent with higher IPAP pressure level.^[4] It is also widely known that use of these devices cause adverse effects such as the risk of infection or poor compliance. Could this have affected patients with LPLs and led to worse outcomes?

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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References

1. Kadowaki T, Wakabayashi K, Kimura M, Kobayashi K, Ikeda T, Yano S. Low-intensity noninvasive ventilation: Lower pressure, more exacerbations of chronic respiratory failure. *Ann Thorac Med* 2016;11:141-5.
2. Ozyilmaz E, Ugurlu AO, Nava S. Timing of noninvasive ventilation failure: Causes, risk factors, and potential remedies. *BMC Pulm Med* 2014;14:19.
3. Davidson C, Banham S, Elliott M, Kennedy D, Gelder C, Glossop A, *et al.* British Thoracic Society/Intensive Care Society Guideline for the ventilatory management of acute hypercapnic respiratory failure in adults. *BMJ Open Respir Res* 2016;3:e000133.
4. Holland AE, Denehy L, Buchan CA, Wilson JW. Efficacy of a heated passover humidifier during noninvasive ventilation: A bench study. *Respir Care* 2007;52:38-44.

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Access this article online	
Quick Response Code: 	Website: www.thoracicmedicine.org
	DOI: 10.4103/1817-1737.191869

How to cite this article: Cravo JP, Esquinas Rodriguez AM. Limitations of low pressure noninvasive ventilation. *Ann Thorac Med* 2016;11:297.