

Letter

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The article “Optimizing management of chronic obstructive pulmonary disease in the upcoming decade” by Russell et al¹ (January edition of the *International Journal of Chronic Obstructive Pulmonary Disease*) provides an overview of the pathophysiology of chronic obstructive pulmonary disease (COPD) and discusses emerging treatment options for managing this disease. I wish to draw your attention to the general information and clinical trial data presented on roflumilast. Several inaccuracies have been noticed in this section as well as in Table 2 of the article.

The most important of these is the authors’ statement that roflumilast’s therapeutic effects include bronchodilation. Although statistically significant improvements in lung function were observed in clinical trials of roflumilast, these improvements were not determined to be clinically significant. The US prescribing information for roflumilast (DALIRESP™ [Forest Pharmaceuticals, Inc, St Louis, MO]) specifies in its indication that DALIRESP is not a bronchodilator and is not indicated for the relief of acute bronchospasm.² The Food and Drug Administration-approved indication for DALIRESP is to reduce the risk of COPD exacerbations in patients with severe COPD associated with chronic bronchitis and a history of exacerbations.

In addition, Table 1 lists “Current pharmacologic options for the management of COPD,” citing the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines, but the class of phosphodiesterase-4 (PDE-4) inhibitors is not listed. Considering that this article was published in 2011 and that PDE-4 inhibitors were included in the 2010 revision to the GOLD guidelines,³ PDE-4 inhibitors should be included in Table 1.

For your reference, I have included a table of additional minor inaccuracies at the end of this letter.

It is understood that authors and editors make every effort to provide scientifically rigorous and concise reporting, and that errors or inaccuracies in such reporting can occur. It is important to identify and correct these so that medical professionals can make informed decisions when prescribing medications. I respectfully ask you to consider publishing a correction to the information about roflumilast, especially to clarify the critical point that it is not indicated for use as a bronchodilator.

References

1. Russell R, Anzueto A, Weisman I. Optimizing management of chronic obstructive pulmonary disease in the upcoming decade. *Int J Chron Obstruct Pulmon Dis*. 2011;6:47–61.
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4. Calverley PM, Rabe KF, Goehring UM, Kristiansen S, Fabbri LM, Martinez FJ. M2-124 and M2-125 study groups. Roflumilast in symptomatic chronic obstructive pulmonary disease: two randomised clinical trials. *Lancet*. 2009;374:685–694.
5. Rabe KF, Bateman ED, O'Donnell D, et al. Roflumilast – an oral anti-inflammatory treatment for chronic obstructive pulmonary disease: a randomised controlled trial. *Lancet*. 2005;366:563–571.
6. Fabbri LM, Calverley PM, Izquierdo-Alonso JL, et al. M2-127 and M2-128 study groups. Roflumilast in moderate-to-severe chronic obstructive pulmonary disease treated with longacting bronchodilators: two randomised clinical trials. *Lancet*. 2009;374:695–703.

Corrections and comments on reporting of roflumilast clinical data in Russell et al¹

| Location | As stated | Corrections/comments |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Page 52, column 2 | Clinical studies with roflumilast monotherapy demonstrated improved lung function, reduced moderate-to-severe exacerbations, reduced requirement for anti-inflammatory/anti-infective medications, and improved QoL measures ^{4,5} | Calverley et al ⁴ showed a significant reduction in the rate of exacerbations requiring treatment with systemic corticosteroids, antibiotics, or both ($P = 0.0003$); however, neither study directly measured whether the requirement for anti-inflammatory/anti-infective medications was reduced or otherwise affected by roflumilast treatment |
| Page 52, column 2 | Similarly, improvements in lung function and exacerbation outcomes were reported when roflumilast was added to tiotropium, or to salmeterol plus fluticasone ⁶ | Fabbri et al ⁶ described two studies: one in which roflumilast was added to tiotropium alone and one in which roflumilast was added to salmeterol plus fluticasone |
| Page 52, column 2 | Notable side effects with roflumilast include headache, weight loss (2.5 kg in all studies at six months and one year), diarrhea, nausea, and stomach ache (ie, gastrointestinal side effects that resulted in a significant early study withdrawal rate) ⁴⁻⁶ | The source of the 2.5 kg value is unclear. Calverley et al ⁴ reported between-treatment weight loss as -2.17 kg; Rabe et al ⁵ reported between-treatment weight loss as -2.2 kg; Fabbri et al ⁶ reported between-treatment weight loss as -2.1 kg |
| Page 52, column 2 | Notable side effects with roflumilast include headache, weight loss (2.5 kg in all studies at six months and one year), diarrhea, nausea, and stomach ache (ie, gastrointestinal side effects that resulted in a significant early study withdrawal rate) ⁴⁻⁶ | Stomach ache is not reported as a side effect in any of the clinical papers cited |
| Page 52, column 2 | Notable side effects with roflumilast include headache, weight loss (2.5 kg in all studies at six months and one year), diarrhea, nausea, and stomach ache (ie, gastrointestinal side effects that resulted in a significant early study withdrawal rate) ⁴⁻⁶ | Only one study reported that gastrointestinal side effects resulted in early study withdrawal ⁴ |
| Table 2, column 1, line 35 | Study: M2-124 and M1-125 | Study number should be listed as M2-125, not M1-125 |
| Table 2, column 1, lines 38-40 | Assessed roflumilast 500 µg once daily versus placebo in symptomatic moderate-to-severe COPD | Patient population in Calverley et al ⁴ is severe-to-very severe, not moderate-to-severe |
| Table 2, column 1, line 55 | Total n = 933 | The total n should be 743 ⁴ |

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