

Correspondence

Baseline differences explain the apparent benefits of combining oxymetazoline with intranasal corticosteroids

To the Editor:

The use of oxymetazoline in combination with intranasal corticosteroids for perennial allergic rhinitis, as reported by Baroody et al,¹ is of great interest, and this article is likely to be discussed widely.² In anticipation of further studies with this combination treatment, we would like to offer some comments on this study. Although the authors express their confidence that “larger numbers [of patients] would probably have led to the combination achieving consistent statistical superiority compared with both individual components used alone,” their data do not support this conclusion.

The most obvious difficulty is that their analysis is based on absolute scores rather than changes from pretreatment values. From Table I, it can be seen that the group randomized to receive the combination treatment, fluticasone furoate/oxymetazoline (FF/OXY), had better mean scores for baseline symptoms, nasal volume, and respiratory quality of life than the group randomized to receive intranasal steroid alone (FF) by 2.4, 1.5, and 3.0 times the SEM, respectively. It is not clear why there are such large differences when the participant groups were matched for these parameters. As for the primary end point, baseline nasal symptom scores are not provided but could be expected to correlate with the other parameters. In this context the significant difference in total cumulative scores at 3 days (Table III) is not surprising and not convincingly attributable to the study treatment.

The analysis of study outcomes, which compares absolute scores rather than changes from baseline, perpetuates these baseline differences. For example, from Fig 5 we can estimate the change from baseline in respiratory quality of life. Reading off the graph, it appears that the FF group improved from a score of about 3.3 to 1.4 at 4 weeks and 1.8 at 6 weeks, improvements of 1.9 and 1.5, respectively. The FF/OXY group, on the other hand, improved from 2.6 to 1.3 at 4 weeks and 1.6 at 6 weeks, for

improvements of only 1.3 and 1.0, respectively, which was no better than placebo. This trend, as well as those that can be gleaned from Figs 1 to 4 and 6 when accounting for baseline differences, do not support any incremental benefit to adding oxymetazoline to intranasal steroid.

In addition to analyzing changes from baseline rather than absolute scores, other suggestions for future studies include (1) delivering the medications as a combined spray because delivering them separately at the same time would likely result in some washout of the medication, (2) reporting coexisting seasonal allergies and the time of year when the study was performed, and (3) stating what *P* value is required for statistical significance at the .05 level when the Bonferroni method is used. Some comment could also be made regarding how truly blind the participants were, given the distinctive tastes of many intranasal medications.

We look forward to seeing more clinical trials with this combination treatment and hope the conclusions that can be drawn will be robust.

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