



## LETTER TO THE EDITOR

## Efficacy of inhaled corticosteroids in wheezy infants/preschoolers



## To the Editor

We read with interest the article by Brand et al.<sup>1</sup> regarding the use of ciclesonide in wheezy preschool children. Discussing their results, the authors mention our systematic review on the efficacy of ICS in infants/preschoolers with wheeze or asthma, published a couple of years ago.<sup>2</sup> Brand and colleagues stated on it: "Although a recent meta-analysis of preschool wheezing studies showed superiority of ICS over placebo, there was a high degree of clinical and statistical heterogeneity between studies...."

However, we totally disagree with this assertion; because, our systematic review showed that effects sizes were consistent, with only two outcomes explored (mean change from baseline in symptom score and in albuterol use) showing substantial statistical heterogeneity. On the contrary, primary outcome (wheezing/asthma exacerbations [WAEs]), and the remainder secondary outcomes (withdrawals caused by WAEs and mean change from baseline in PEF and FEV<sub>1</sub>) were statistically homogeneous ( $I^2 = 10\%$  and  $I^2 = 0\%$ , respectively). Concerning clinical heterogeneity, we performed a sensitivity analysis of the primary outcome to explore the influence of different factors such as the type of disease, age, atopic status, methodological quality of studies, method of ICS delivery, and ICS choice. Although a clinical and statistical WAE reduction appeared in both wheeze and asthmatic groups, subgroup analysis suggests that this effect could be more relevant in children with a diagnosis of asthma. On the other hand, this beneficial effect was independent of age, atopic condition, type of ICS (budesonide or fluticasone), mode of delivery, and study quality and duration.

Curiously, regarding the results of the Brand and colleagues, they appear as consistent with our review. Thus, we found that treatment of 7 subjects with ICS therapy prevents one child from experiencing a WAE (95%

CI, 6–9), while in the study of Brand and colleagues the number needed to treat was 16. However, the WAE rate in this study was largely lower than estimated based on most of the previous clinical trials in this age group, and in the author's own words "an unexpectedly large placebo response was observed which may have obscured beneficial effects of ciclesonide therapy on symptom scores" and this finding "suggest however that the patients recruited had milder disease than expected". It should be noted that both studies used an identical WAE definition. Finally, the benefits in pulmonary function due to the use of ICS were virtually the same in both studies.

## Conflict of interest

Dr. Castro-Rodriguez has participated as a lecturer and speaker in scientific meetings and courses under the sponsorship of AstraZeneca, GlaxoSmithKline, Merck Sharp & Dohme, and Novartis. Dr. Rodrigo has participated as a lecturer and speaker in scientific meetings and courses under the sponsorship of Admiral, AstraZeneca, Boehringer Ingelheim, Dr. Esteve SA, GlaxoSmithKline and Merck Sharp & Dome.

## References

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2. Castro-Rodriguez JA, Rodrigo GJ. Efficacy of inhaled corticosteroids in infants and preschoolers with recurrent wheezing and asthma: a systematic review with meta-analysis. *Pediatrics* 2009;123:e519–25.

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