

Correspondence

Reply

To the Editor:

In our study¹ there was an 80% relative protective effect of palivizumab on physician-diagnosed recurrent wheezing in those with no family history of atopy or food allergies (odds ratio, 0.20; 95% CI, 0.07-0.59; n = 101 palivizumab-treated and 100 untreated children), whereas there was no effect in the 90 palivizumab-treated children with a family history of atopy or food allergies compared with the 130 untreated infants with atopic families. Thus there were 201 children with no atopic family history and 220 with an atopic family history. Gaffin et al² suggest that the lack of effect in the subgroup with an atopic family history is driven by a lack of power because of a small sample size. Although these results could arise in part from a lack of power, the number of children in the group with an atopic family history (n = 220) was larger than the number in the group without such a history (n = 201, in which the effect was seen), suggesting that lack of power was not the reason for this observation.

Second, Gaffin et al² cite results of univariate analyses; however, it is important to consider the effect of palivizumab after accounting for the effect of other variables. The multivariate logistic regression analyses¹ demonstrated a significant effect of palivizumab in the subgroups without a family history of asthma or atopy ($P < .01$) but not for the subgroups with such a history. Adding palivizumab treatment to the final logistic regression model for the subgroups with family histories (asthma alone and atopy/food allergies) yielded P values for tests of significance for palivizumab of .464 and .549, respectively. An evaluation of the point estimates also suggested a much smaller effect of palivizumab in the subgroups with a family history of asthma or atopy/food allergies. Specifically, palivizumab provided a 3- to 5-fold decrease in the risk of physician-diagnosed recurrent wheezing for those subgroups without a family history while providing only a 1.3- to 1.5-fold decrease in the risk for those subgroups with a family history.

We also calculated the number needed to treat to prevent 1 case of recurrent wheezing for each of the subgroups based on the

multivariate logistic regression results. By using median values for all covariates in the final model, the number needed to treat was substantially lower for the subgroups without a family history (11 for asthma alone and 8 for atopy/food allergies) compared with that seen in the subgroups with a family history (61 for asthma alone and 40 for atopy/food allergies). Therefore we believe that the evidence for a protective effect of palivizumab is less strong in the subgroups with a family history of asthma or atopy/food allergies. We do agree with the suggestion that a randomized controlled trial of palivizumab would provide greater insight into this question.

Eric A. F. Simões, MB, BS, DCH, MD^{a,b}

Linda Fredrick, MS^c

Xavier Carbonell-Estrany, MD, PhD^d

Christian H. L. Rieger, MD^e

Ian Mitchell, MA, MB, ChB^f

Jessie R. Groothuis, MD^g

From ^athe Department of Pediatric Infectious Diseases, University Of Colorado School of Medicine, and Children's Hospital, Aurora, Colo; ^bthe Department of Pediatrics, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia; ^cAbbott, Abbott Park, Ill; ^dthe Neonatology Service, Hospital Clinic, Barcelona, Spain; ^ethe Department of Pediatrics, St Josef Hospital, Ruhr University, Bochum, Germany; ^fthe Child Health Research Unit, University of Calgary, Calgary, Alberta, Canada; and ^gMedimmune LLC, Gaithersburg, Md. E-mail: eric.simoes@ucdenver.edu.

Disclosure of potential conflict of interest: E. A. F. Simões receives honoraria and research support from Abbott International and MedImmune. X. Carbonell-Estrany has served as a consultant for Abbott. I. Mitchell receives research support from Abbott Canada. J. R. Groothuis is employed by MedImmune and AstraZeneca and receives research support from Abbott. The rest of the authors have declared that they have no conflict of interest.

REFERENCES

1. Simões EA, Carbonell-Estrany X, Rieger CH, Mitchell I, Fredrick L, Groothuis JR, et al. The effect of respiratory syncytial virus on subsequent recurrent wheezing in atopic and nonatopic children. *J Allergy Clin Immunol* 2010;126:256-62.
2. Gaffin JM, Israel E, Phipatanakul W. The effect of prophylactic palivizumab on recurrent wheezing in children with an atopic family history. *J Allergy Clin Immunol* 2010;■■■■■■■■.

doi:10.1016/j.jaci.2010.09.040