

Correspondence

Reply

To the Editor:

We thank Dr Yanishevsky et al¹ for their interest in our study.² Their results are interesting and expand the knowledge regarding safety of oral food challenges (OFCs) and use of epinephrine for anaphylaxis in OFCs. However, it is difficult to make direct comparisons between the studies because of the limited details presented in their brief commentary. Although food allergies are likely not more severe in one country than in another, it is unclear whether patient populations can be assumed to be broadly similar, and the criteria by which subjects are selected to be suitable for challenges are naturally a major defining factor for the pass rate (and need for epinephrine). Our report includes only inpatient OFCs for which selection criteria are different than for our outpatient challenges, which generally have a history of milder reactions (if any), smaller skin test reactions, and lower food-specific IgE levels, and therefore a lower probability of reacting to a challenge. As an example, during our 499 outpatient challenges carried out during the past 18 months, we identified 8 reactions altogether requiring epinephrine (1.6% of total challenges), which is approximately one third the rate we found in our inpatient challenges (unpublished data). Furthermore, Dr Allan Bock reviewed the data from oral food challenges performed in his office for the years 2007 to 2009 and found numbers similar to our numbers from inpatient OFCs. In Dr Bock's series, there were 372 food challenges, 81 (22%) were positive, and a total of 7 injections of epinephrine were given (unpublished data). Thus, epinephrine was used in 1.9% of total challenges and about 9% of positive challenges. It is not known whether the report of Dr Yanishevsky et al¹ includes similarly selected subjects in their referral center.

We agree that there are differences in the challenge protocols that may also contribute to the lower rate of treatment with epinephrine compared to our study. Whereas 90% of the challenges in the report by Dr Yanishevsky et al¹ were performed openly, the majority of our OFCs (598 of 1273 OFCs) were blind. SPT wheal sizes cannot be compared, either, because of different method and reagents. In our practice, the first dose is given orally as opposed to rubbing the food on a lip, which has not been shown to predict reactivity to the ingested food accurately. We agree that our current starting dose of 100 mg dry weight of food was too high for 4 subjects, who required administration of epinephrine with their first challenge dose (with an additional 33 reacting to the first dose without need for epinephrine). Had these patients been challenged with a lower first dose, their anaphylactic reactions might have been avoided, bringing the total rate for epinephrine down to 10.5% of positive challenges, still significantly higher than reported by Dr Yanishevsky et al.¹

Although we acknowledge that many reactions including wheezing may resolve with other medications and observation under competent medical supervision, reactions including wheezing are invariably treated with epinephrine in our practice, in agreement with the current anaphylaxis treatment guidelines.³ As Dr Yanishevsky et al¹ point out, in their population, 9 cases who wheezed and/or had extensive flushing were successfully treated by using other medications and observation. However,

such use of secondary therapies may encourage parents/caregivers to delay administering epinephrine and use these secondary medications because they saw their physician do it in the face of similar symptoms. It is unlikely that the authors would want their patients to treat such reactions out of hospital in a similar manner. Treatment of these 9 additional reactions with epinephrine would have resulted in a total rate of 7.9% of positive OFCs to be treated with epinephrine, which is approaching our rate.

We could not agree more that early use of epinephrine in a food challenge is likely to affect the way families behave in the community when treating allergic reactions and serves an important educational purpose. The consistency in treatment of anaphylactic reactions is crucial. Because lack of timely treatment with epinephrine is a universal risk factor for a fatal food-induced anaphylaxis,⁴⁻⁷ reinforcing prompt treatment with epinephrine is essential in reducing the anxiety about administration of epinephrine, which may be an obstacle for appropriate use of epinephrine autoinjectors by parents, patients, and lay persons in out-of-hospital first aid situations.

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REFERENCES

1. Yanishevsky Y, Daly D, Cullinane C, Hourihane JO'B. Differences in treatment of food challenge-induced reactions reflect physicians' protocols more than reaction severity. *J Allergy Clin Immunol* 2010.
2. Järvinen KM, Amalanayagam S, Shreffler WG, Noone S, Sicherer SH, Sampson HA, Nowak-Węgrzyn A. Epinephrine treatment is infrequent and biphasic reactions are rare in food-induced reactions during oral food challenges in children. *J Allergy Clin Immunol* 2009;124:1267-72.
3. Sampson HA, Munoz-Furlong A, Bock SA, Schmitt C, Bass R, Chowdhury BA, et al. Symposium on the definition and management of anaphylaxis: summary report. *J Allergy Clin Immunol* 2005;115:584-91.
4. Bock SA, Munoz-Furlong A, Sampson HA. Fatalities due to anaphylactic reactions to foods. *J Allergy Clin Immunol* 2001;107:191-3.
5. Sampson HA, Mendelson L, Rosen JP. Fatal and near-fatal anaphylactic reactions to food in children and adolescents. *N Engl J Med* 1992;327:380-4.
6. Pumphrey RS. Fatal anaphylaxis in the UK, 1992-2001. *Novartis Found Symp* 2004; 257:116-28; discussion 128-32, 157-60, 276-85.
7. Yunginger JW, Sweeney KG, Sturmer WQ, Giannandrea LA, Teigland JD, Bray M, et al. Fatal food-induced anaphylaxis. *JAMA* 1988;260:1450-2.

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