

Correspondence

Re-sting reactions

To the Editor:

I read with great interest the article, "Natural history of insect sting allergy: relationship of severity of symptoms of initial sting anaphylaxis to re-sting reactions" by Robert E. Reisman, MD (J ALLERGY CLIN IMMUNOL 1992;90:335-9). I would like to add the Hellenic experience on this subject, as it was presented (Galatas ID, Papaioannou D, Kontou-Fili K) at the XIV International Congress of Allergy and Clinical Immunology, 1991, in Kyoto, Japan. A questionnaire was posted, in 1990, to 85 former outpatients who had been evaluated for venom allergy during the years 1986 to 1989. They all had a history of one or more anaphylactic reactions after insect sting, and the evaluation included skin tests (prick and intradermal), RASTs, and IgE determination (PRIST). None of them received specific immunotherapy for various reasons (e.g., long distance from hospital, cost of therapy), despite our suggestions. Fifty-one patients replied (60%), 23 men and 28 women (mean age, 40.7 ± 13.07 years). Twenty-seven subjects, 15 men and 12 women, were re-stung by an insect of the same species that had caused a systemic anaphylactic reaction, 11 by honeybees, 13 by vespids, and three by both bees and wasps. The majority were outdoor workers (e.g., farmers, beekeepers). A large proportion (81.5%) had one or two stings, mostly in the extremities (62.9%), which occurred during the daytime (66.7%) while outdoors (63%). Nearly half (48.1%) of the subjects reported a systemic allergic reaction, whereas the rest experienced small or large local reactions. Reactions occurred within 5 minutes in 29.6% and within 6 to 15 minutes in 48.1%. Half of the patients sought medical help and were given, as a rule (40.7%), steroids and/or antihistamines. Epinephrine was administered in 7.4% of the cases. Because our patients did not receive specific immunotherapy, despite the history of systemic allergic reactions, we investigated whether sex, age, atopy, and species of insect might affect the risk of systemic allergic reactions on re-exposure. According to multiple logistic regression analysis, none of the above mentioned variables proved to be a significant predictor of risk.

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Peak flow meter versus symptoms

To the Editor:

The benefits of peak flow monitoring for management of asthma may have been obscured in the study by

Malo et al. (Should we monitor peak expiratory flow rates or record symptoms with a simple diary in the management of asthma? J ALLERGY CLIN IMMUNOL 1993; 91:702-9) because of less than optimal use of the peak flow meter. Peak flow rate monitoring is valuable for detecting very early changes in airway caliber and diurnal variability to help the patient *predict* and *avoid*, not just to *document*, asthmatic episodes. There are several discrepancies in the study, which are at odds with current recommendations for use of peak flow meters.¹⁻³

First, the authors required drops in peak flow rate to take place *three times in the same week* (or a fall to 50% of baseline on one occasion) in order to "detect" a flare-up. None of the current "Step Care Plans" for management of outpatient asthma require three separate instances of a peak flow rate decline before action is taken.¹⁻³ It is of interest that the "symptoms only" group was allowed to register a flare-up on a *single* episode of symptoms (acknowledgement that peak flow meters are more sensitive?). The inclusion of "three separate instances" was presumably based on anecdotal observations that wide peak flow variations are frequent. Actually, wide peak flow variations disappear as asthma is brought under control by use of a peak flow meter. Woolcock et al.⁴ effectively diminished such fluctuations in a 12- to 24-month trial in which the "peak flow" group was instructed to double their inhaled steroids on a 10% drop in peak flow rate. The "symptoms only" control group did not have any change in airway hyperresponsiveness when given the same instructions. Several authors have confirmed that many *individual* patients with long-standing asthma are unable to perceive significant decreases in lung function.^{5,6}

Second, maximal peak flow variability was underestimated by using morning-evening measurements compared with morning-afternoon measurements. (Peak flow rate is highest in the afternoon in most individuals.)

Third, the opinion that "a simple symptom diary may be as useful as serial PEFr monitoring" implies that a diary could be *substituted* for use of a meter. Our patients keep diaries that include *both* peak flow and symptoms. The combined objective and subjective information helps us to better teach our patients a graded cause-and-effect relationship between triggers, peak flow dipping, and episodes. They learn the indications for, as well as the onset of, action, efficacy, and time course of various medications; the efficacy of medicine tapering; and the benefits of environmental control. Moreover, many working parents find it less stressful to entrust relatively inexperienced caretakers with "peak flow" rather than "symptoms only" guidelines. We must be mindful that although trials provide *averages* between groups, there are certainly many *individuals* with poor ability to judge their clinical condition subjectively.^{5,6}

Reasoning such as the above led the Expert Panel Report of the National Asthma Education Program³ to include "objective measures of disease severity" as one of the four components of asthma treatment.

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Monitoring peak flow

To the Editor:

The title of the article by Malo et al., "Should we monitor peak expiratory flow rates or record symptoms with a simple diary in the management of asthma?" (*J ALLERGY CLIN IMMUNOL* 1993;91:702-9) does not match its content. The authors compared the value of a symptom diary with a peak flow diary in the identification of asthma episodes. They did not compare the roles of symptom diaries and peak flow diaries in the overall management of asthma.

The parents and patients in our practice have used peak flow-based diaries since 1981. They have found that peak flow monitoring helps them to:

- prevent asthma episodes
- learn the relationships between triggers, peak flow rates, symptoms, and episodes
- learn the efficacy and time course of various medicines
- taper medicines on a prudent timetable

- appreciate the value of environmental control
- delegate care of their child to a less experienced caretaker

We have analyzed thousands of peak flow-symptom diaries. We have found that nighttime cough and the other symptoms mentioned by Malo et al. almost always appear after the peak flow rate drops 20% from the patient's personal best.

We base each asthma management plan on the individual patient's personal best peak flow rate. We define the personal best peak flow as the highest peak flow rate measured on two occasions after the airways have been cleared with a 7-day burst of prednisone and inhaled albuterol. Malo et al. established "baseline" peak flow rates for each of their subjects over a 2-week period. We do not know the condition of the subjects' airways during that time. When the airways are inflamed, "baseline" rates are almost always below the patient's personal best rate. An analysis of peak flow based on anything but the patient's personal best rate will often lead to flawed conclusions.

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Reply

To the Editor:

We very much appreciated the letters from Dr. O'Brien and Dr. Mendoza, as well as the one from Dr. Plaut.

In response to the letter from Drs. O'Brien and Mendoza:

1. The criteria we used to assess flare-ups are obviously arbitrary. A greater than 20% change in PEFR in 1 day would have definitely increased the number of false-positive episodes. Their extent remains to be determined, as mentioned in our discussion. Recommendations in this field are highly arbitrary. The criteria we used still need to be validated through comparison with other more sensitive or more specific ones.
2. We chose morning and evening values because it is more likely that subjects will comply at these times. The circadian variations in PEFR values that were described are more statistical than physiologic.
3. It is good to realize that compliance with PEFR monitoring seems to be so good in the readers' experience. To the best of our knowledge, no study has estimated the percentage of subjects who are poor judges of their clinical state, although we do not deny that this phenomenon exists. Should all subjects with asthma be given peak flow meters because a minority of them fall into this category?