

## Correspondence

**Automatic epinephrine device use in children with food allergies**

To the Editor:

Järvinen et al<sup>1</sup> recently reported that of 413 children surveyed from a private practice–based pediatric food allergy referral clinic in New York, 78 (19%) required epinephrine administration for 95 allergy reactions, 12 (13%) required 2 doses, and 6 (6%) required 3 doses. Between 2004 and 2008, data on 298 children aged 1 to 16 years who had been prescribed epinephrine devices and were attending our National Health Service specialist pediatric allergy outpatient clinic in Manchester, United Kingdom, were collected onto standardized forms (summarized in Table I).<sup>2</sup> All but 16 (5%) patients had more than 1 device. The survey was approved by the local regional ethics committee. Eighteen (6%) children had used epinephrine devices for 22 reactions before arrival in the hospital, but none used a second device for the same allergic reaction.

The administration of epinephrine in the community by nonphysicians was just over twice as high (14% of patients) in the New York survey (in about half of cases, the first dose was administered by a health care professional) compared with ours (6%). However, in both surveys the number of patients who had a second dose of epinephrine administered by patients, parents, or school nurses in the community was very small. There were no cases in the Manchester survey, and there was only 1 (0.2%) case in the New York survey. Based on these data, one might argue that only 1 automatic epinephrine device needs to be prescribed per patient and that by the time a second dose is required, the patient would have reached medical care.

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**TABLE I.** Characteristics of a local cohort of children who carry automatic epinephrine devices and the subgroup who have used their devices

|                                                                          | Total cohort | Device used |
|--------------------------------------------------------------------------|--------------|-------------|
| <b>Demographics</b>                                                      |              |             |
| No.                                                                      | 298          | 18 (6%)     |
| Age (y), median (interquartile range)                                    | 10 (6-13)    | 9 (6-12)    |
| Male sex                                                                 | 179 (60%)    | 10 (56%)    |
| Asthma requiring regular inhaled corticosteroids                         | 96 (34%)     | 9 (50%)     |
| <b>Food allergen</b>                                                     |              |             |
| Peanut                                                                   | 191 (64%)    | 15 (83%)    |
| Tree nut or other legume                                                 | 53 (18%)     | 3 (17%)     |
| Milk or egg                                                              | 18 (6%)      | 0           |
| Other                                                                    | 36 (12%)     | 0           |
| <b>Worst allergic reaction</b>                                           |              |             |
| No respiratory/circulatory problems                                      | 66 (22%)     | 0           |
| Non-life-threatening respiratory/circulatory problems                    | 171 (58%)    | 15 (83%)    |
| Life-threatening respiratory/circulating compromise                      | 60 (20%)     | 3 (17%)     |
| <b>Epinephrine device history/competency</b>                             |              |             |
| Years with device, median (interquartile range)                          | 3 (1- 6)     | 5 (3-6)     |
| Devices prescribed for home and school use, median (interquartile range) | 4 (2-4)      | 4 (3-6)     |
| Device is not carried                                                    | 66 (22%)     | 0           |
| Parent is not able to fire trainer device (EpiPen*)                      | 107 (36%)    | 1 (6%)      |
| Parent does not know the indications for use                             | 72 (24%)     | 5 (28%)     |

\*EpiPen, Dey Laboratories, Napa, Calif.

## REFERENCES

1. Järvinen KM, Sicherer SH, Sampson HA, Nowak-Węgrzyn A. Use of multiple doses of epinephrine in food-induced anaphylaxis in children. *J Allergy Clin Immunol* 2008;122:133-8.
2. Arkwright PD, Farragher AJ. Factors determining the ability of parents to effectively administer intramuscular adrenaline to food allergic children. *Pediatr Allergy Immunol* 2006;17:227-9.

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