A Majority of Parents of Children With Peanut Allergy Fear Using the Epinephrine Auto-Injector


PURPOSE OF THE STUDY. The purpose of this study was to identify factors that may contribute to parental fear of using an epinephrine autoinjector (EAI).

STUDY POPULATION. The study included 1229 parents of children with peanut allergy, all of whom had been prescribed an EAI. The mothers had a mean age of 37.9 years, and the fathers had a mean age of 40 years.

METHODS. Children with peanut allergy were retrospectively identified from 2000 to 2004 through chart review, and they were prospectively identified between 2004 and 2011 at their visit to Montreal Children’s Hospital. Parents of these children were mailed a questionnaire on whether and why they feared using an EAI, who prescribed the EAI, their level of satisfaction with the EAI training they received, the interval between reaction to prescription of the EAI, the type of EAI they were prescribed, whether they had changed devices, and the number of EAI’s purchased. Fear was characterized as “afraid,” “somewhat afraid,” or “not afraid.”

RESULTS. Fifty-six percent of parents reported being afraid or somewhat afraid to use the EAI. The most commonly reported fears were hurting the child, incorrect use of the EAI, or fear of a bad outcome or death. Several predictors of parental fear were identified, including having a younger child and those with a shorter disease duration. In addition, their children were less likely to have experienced a severe reaction or to have required an EAI. With regard to parental characteristics, those who were characterized as having fear were slightly younger, had less satisfaction with EAI training, and were less likely to find the EAI easy to use. Factors associated with less fear included longer disease duration or older age of the mother.

CONCLUSIONS. This study found that a majority of parents have fear regarding use of the EAI. Factors that may predict fear include younger age of children, lack of severe reaction, and dissatisfaction with EAI training.

Reviewer Comments. This study is the largest to examine parental anxiety and fear regarding EAs. The presence of parental fear could lead to delayed or lack of use in a severe allergic reaction, which is consistent with previous studies demonstrating low EAI use even in the face of severe reactions. Parents who were dissatisfied with their EAI training were more likely to express fear, highlighting the importance of appropriate EAI training by both prescribing physicians as well as others caring for children who have food allergies. This study was limited with regard to ethnic diversity, and the majority of parents were highly educated and employed.
CONCLUSIONS. The majority of pediatric emergency medicine physicians reported using epinephrine for anaphylaxis but not all used the preferred route of administration.

REVIEWER COMMENTS. This study highlights the improved progress of emergency physicians in appropriately using epinephrine during anaphylaxis, which was previously reported to be as low as 16%. However, the preferred intramuscular route of administration could be improved along with referral to allergy specialists and providing information to educational Web sites on anaphylaxis.


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Age-Dependent Sting Recurrence and Outcome in Immunotherapy-Treated Children With Anaphylaxis to Hymenoptera Venom

PURPOSE OF THE STUDY. The goal of this study was to investigate the rate of sting recurrence and outcome of Hymenoptera venom anaphylaxis in children treated with venom immunotherapy (VIT).

STUDY POPULATION. The study included a cohort of 83 Swiss children consecutively referred for Hymenoptera venom anaphylaxis between 1990 and 2007. Inclusion criteria were diagnosis of Hymenoptera anaphylaxis followed by commencement of VIT. Diagnosis of Hymenoptera anaphylaxis required a sting followed by a systemic adverse reaction affecting the respiratory and/or cardiovascular system, a positive intracutaneous test result with European honey bee (BV) and/or Vespula (VV) venom, and specific IgE (>0.7 kU/L) to BV or VV. Forty-nine (59%) patients were treated with BV, 29 (35%) with VV, and 5 (6%) were treated with BV and VV. The average VIT duration was 3.6 years, and the average follow-up from commencement of VIT was 7.7 years. Age groups were stratified as children aged <6, 6 to 10, and 10 to 16 years. Boys were overrepresented in the population studied (67%).

METHODS. A standardized questionnaire administered by a nonblinded investigator targeted information about stings after commencement of VIT. The information included setting of sting, suspected culprit insect, and time course and severity of re-sting reaction.

RESULTS. Forty-five (56%) children were re-stung after commencement of VIT. The cumulative number of re-stings was 108, an average of 2.2 stings per re-stung patient. Younger children were re-stung more often than older children. In contrast, systemic reactions with re-sting increased with age. Sixty-three percent of all systemic reactions occurred with the first re-sting after commencement of VIT, 25% after the second re-sting, and 12% after the third re-sting.

The majority of systemic reactions with re-stings were limited to cutaneous symptoms. Two re-sting systemic reactions were severe and resembled the pre-VIT systemic adverse reactions. Commencement of VIT protected 94.1% of VV-allergic patients and 84.4% BV-allergic patients from systemic reactions with re-sting.

CONCLUSIONS. Repeat stings are a major concern in Hymenoptera-allergic patients: the majority of children in the study cohort were re-stung. Venom immunotherapy induced long-term protection from repeat systemic adverse reactions in the majority of children studied.

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The Economic Impact of Childhood Food Allergy in the United States

PURPOSE OF THE STUDY. The goal of this study was to determine the economic impact of childhood food allergy in the United States and caregivers’ willingness to pay for food allergy treatment.

STUDY POPULATION. The study was a cross-sectional survey of 1643 US caregivers of a child with a current food allergy.

METHODS. Caregivers were asked to quantify the direct medical, out-of-pocket, lost labor productivity, and related opportunity costs. Caregivers were also asked about their willingness to pay for a theoretical “safe and effective food allergy treatment that allowed the child to eat all foods.”

RESULTS. The overall economic cost of food allergy was estimated at $24.8 billion annually ($4184 per year per child). Annual direct medical costs were $4.3 billion or
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