Emergency Department Management of Children Presenting with Severe Allergic Reactions

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Background

Severe allergic reactions are medical emergencies that can rarely lead to death. Emergency Department (ED) management of severe allergic reactions in children may differ between infant/toddlers compared to older pediatric patients. This study compared the management of two populations of pediatric patients who presented to the ED at Mount Sinai Hospital in 2018 with severe allergic reactions.

Methods

A retrospective chart review was performed for diagnoses of anaphylaxis and allergic reactions in patients ages 0-3 years old compared to patients ages 7-10 years old who presented to Mount Sinai Hospital’s ED in 2018. 136 patients fulfilled criteria based on ICD-10 codes. All 136 patient charts were reviewed; 35 patients were excluded from analysis due to alternative etiology for symptoms (e.g., infection), lack of symptoms at the time of arrival to ED, or presentation with chief complaint of environmental allergies or asthma exacerbation. This project was approved by the institutional review board. Descriptive statistics and Fisher’s exact test were used for comparison.

Results

Of the 101 patients who were evaluated (54.5% female), there was no significant difference in history of food allergy and eczema between infant/toddlers and older pediatric patients. Infants/toddlers were more likely to present with cutaneous symptoms (P=0.0004), however, there was no significant difference seen in patients presenting with respiratory, gastrointestinal, or cardiovascular symptoms or with involvement of two or more organ systems between groups. Older patients were more likely to receive epinephrine prior to arriving to the ED (P=0.479). There was no statistical difference when comparing the delivery of epinephrine to infant/toddlers versus older patients.

Discussion

Current guidelines for anaphylaxis management does not differ by age. This study demonstrates that management for severe allergic reactions in infants/toddlers (ages 0-3) compared to older pediatric patients (ages 7-10) is not significantly different in terms of epinephrine administration, antihistamine administration, discharge epinephrine prescription, or referral to an Allergist. However, older pediatric patients were shown to receive steroids more often than younger patients.

References