

by swollen tongue, wheezing, flushing, gastrointestinal symptoms, or hypotension. The reaction was considered mild if the symptoms were primarily limited to generalized urticaria and did not require treatment in an emergency department; the reaction was considered to be moderate if a hospital or emergency department visit was initiated for treatment and the symptoms were treated with epinephrine; and the event was considered to be severe if there was hypotension.

Results. A total of 898 patients were identified, and a random sample of 70 (9%) cases with a coded diagnosis and 50 (43%) cases with a comment diagnosis underwent additional evaluation. Relevant information on the diagnosis was available for >90% of these cases. Criteria for anaphylaxis was met in 87 of the 120 cases, so that an estimated 675 cases of the total 783 were estimated to have confirmed anaphylaxis, resulting in an incidence of 8.4 cases per 100 000 person-years. Insect stings were responsible for 32% and medications for 30% of cases. Food was implicated in 22% of cases, and more than half of these were due to a tree nut or peanut. Severity of the cases was as follows: mild, 29%; moderate, 45%; severe, 9%; indeterminate, 17%. One death was identified.

Conclusions. In the United Kingdom, the estimated incidence rate of anaphylaxis was 8.4 cases per 100 000 person-years, and ~10% of these cases were life threatening.

Reviewer's Comments. Although anaphylaxis is a relatively uncommon event, 10% of cases are characterized by hypotension. The estimated percentage of severe, life-threatening events would have been even higher if lower-airway symptoms were considered as a manifestation of severe anaphylaxis. Physicians evaluating patients with suspected allergic reactions should be prepared to treat life-threatening symptoms.

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ANAPHYLAXIS: A 7-YEAR FOLLOW-UP SURVEY OF 46 CHILDREN

Cianferoni A, Novembre E, Pucci N, Lombardi E, Bernardini R, Vierucci A. *Ann Allergy Asthma Immunol.* 2004; 92:464–468

Purpose of the Study. To follow children with a previous history of anaphylaxis to determine the clinical course of this syndrome.

Study Population. A total of 76 children referred between 1994 and 1996 with clinical features of anaphylaxis, which included at least 2 indicators (hypotension, inspiratory dyspnea, urticaria/angioedema) within 2 hours of exposure of the suspected causative agents.

Methods. After a mean duration of 7 years, 46 (61%) children were interviewed by telephone.

Results. Of the 46 patients, 14 (30%) had experienced a recurrence of anaphylaxis. Ten had single episodes, 2 had 2 episodes, 1 had 3 recurrences, and 1 had 4 recurrences. None of the patients died or experienced biphasic reactions. Patients who were sensitive to at least 1 food allergen were more likely to have recurrent episodes of anaphylaxis than those without food sensitivity (93% vs 56%; $P < .04$). For 14 of the 46 who experienced recurrence of anaphylaxis, no specific cause was clearly associated with the recurrence. Children with atopic dermatitis at initial presentation (95% vs 31%; $P = .004$) and those with angioedema and urticaria at the time of the current study (93% vs 37%; $P = .0002$) were found to be at significantly higher risk for recurrent anaphylaxis.

Conclusions. Patients may have a greater risk for recurrent anaphylaxis if they have atopic dermatitis, angioedema, or urticaria and 1 positive food skin test.

Reviewer's Comments. This is the first study to help define the natural history of pediatric anaphylaxis. It emphasizes the need for a thorough work-up, education, and provision of autoinjectable epinephrine in all of these patients.

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CLINICAL FEATURES AND ANAPHYLAXIS IN CHILDREN WITH COLD URTICARIA

Alangari AA, Twarog FJ, Shih MC, Schneider LC. *Pediatrics.* 2004;113:e313–e317

Purpose of the Study. To characterize the features of cold urticaria in children, focusing particularly on systemic reactions.

Study Population. Thirty children (chart reviewed) who were evaluated over a 3-year period in an academic allergy program and a private practice.

Methods. Cold urticaria was diagnosed based on the patient's history and was supported by an ice-cube-challenge test using a standard protocol (17 of 30 positive). The degree of symptoms was categorized into 3 types: localized urticaria/angioedema, generalized urticaria and/or angioedema without hypotension or respiratory symptoms, or severe systemic reactions with episodes suggesting respiratory distress and/or hypotension.

Results. There were 17 females, and the mean age of patients was 12 years (range: 2–18.5 years). Mean age of onset of cold urticaria was 7 years. The duration of cold urticaria was 3.2 years (range: 0.5–13.5 years). Data on progression were available for 27 of the 30 patients. Symptoms resolved spontaneously in only 2 patients. Swimming was the only trigger in 10 of the 30 patients; touching cold objects triggered urticaria in 9 patients; and cold weather was a trigger for the remaining 11 patients. Six of the patients experienced other causes of urticaria. The rate of atopic disease in the patient's families was 89.3%. Response to antihistamine was variable, with 24 of 30 patients responding (8 had a poor response, 7 had a moderate response, and 9 had a good response).

Conclusions. Cold urticaria occurs in children and may be associated with anaphylaxis. No secondary causes were found. The primary determinants for reactions were body surface area exposed, temperature, and duration of exposure. All patients with cold urticaria were counseled and received autoinjector epinephrine.

Reviewer's Comments. The natural history of cold urticaria, which seems to be primarily idiopathic, has not been well defined in children. There seems to be a higher rate of personal atopy and a family history of atopy in the patients. Counseling should include caution regarding aquatic activity, the most common trigger.

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OUTCOMES OF ALLERGY TO INSECT STINGS IN CHILDREN, WITH AND WITHOUT VENOM IMMUNOTHERAPY

Golden DB, Kagey-Sobotka A, Norman PS, Hamilton RG, Lichtenstein LM. *N Engl J Med.* 2004;351:668–674

Anaphylaxis: A 7-Year Follow-up Survey of 46 Children

Bradley E. Chipps

Pediatrics 2005;116;550

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