Incidence, clinical features, triggers and management of anaphylaxis in the pediatric emergency department of the Tel Aviv Medical Center

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Background: Anaphylaxis is a severe, life threatening systemic hypersensitivity reaction. The diagnosis of anaphylaxis is not always easy to make in the pediatric emergency department (ED) setting. Therefore, children are often dangerously underdiagnosed and undertreated. There is sparse information on the incidence and triggers of anaphylaxis in Israel.

Objectives: To assess the true incidence of anaphylaxis treated in the Pediatric ED, to identify triggers associated with anaphylaxis, to describe the management of anaphylactic reactions and identify potential gaps in diagnosis and treatment.

Methods: A retrospective chart review of cases presenting to the Pediatric ED of the Dana-Dweck Children’s hospital, at the Tel Aviv Sourasky Medical Center between January 1st 2013 to December 31th 2014, with a diagnosis of anaphylaxis or allergic reaction. The clinical features, causative agents, treatment administered and recommendations at discharge were recorded.

Results: During the study period, there were a total of 56,596 visits to the ED. 437 patients were diagnosed with an allergic or anaphylactic reaction. Of these 59 (13.5%) met the diagnostic criteria for anaphylaxis, but only 22 were given the correct diagnosis. The mean age of presentation was 6.9 years, with a male predominance of 66%. Food was the most common causative agent (78%). Specifically, exposure to treenuts (28% (and cow milk (24%) were responsible for a majority of the cases. The majority of children (78% had known food allergies and presented with breathing difficulties (64%), followed by urticaria (62%). Twenty children (37.7%) were treated with IM adrenaline prior to ED arrival and only fifteen (26%) were treated with IM adrenaline in the ED. Most of the children (86%) were discharged home. Almost 30% were discharged without a prescription to an automated Adrenaline injector.

Conclusion: The rate of anaphylaxis in the study period was 0.1% of all visits to the pediatric ED. Most cases of anaphylaxis were underdiagnosed. As a result, treatment guidelines regarding the use of IM Adrenalin were not always followed and many children were discharged without a prescription for an adrenaline auto-injector.