Predictors and Incidence of Biphasic Reactions in anaphylaxis: Potential influence on observation time in the ED and inpatient ward

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 Anaphylaxis is a severe, potentially fatal, systemic allergic reaction that occurs suddenly after contact with an allergy-causing substance. Initial symptoms may be managed at home, in an emergency department or on an inpatient hospital ward. In a reported 1-20% of patients, a biphasic reaction may be observed which consists of a recurrence of anaphylactic symptoms after an initial remission has been established. This biphasic reaction has been noted within 1-72 hours following initial resolution of anaphylaxis. Management most often includes administration of epinephrine and may also include corticosteroids, H2 blocking medications and/or beta agonists. There are currently no clear guidelines on how long a patient should be observed following anaphylactic symptoms in the emergency room setting prior to a decision being made as to whether the patient must be admitted for observation or discharged home. If specific identifying factors could be established in relation to the initial presentation and management of anaphylaxis, a clearer recommendation may then be possible regarding the disposition of these patients.

 A question was formally developed asking “Which factors pertaining to initial presentation and management of anaphylaxis can be used as predictors of those patient who are more likely to have biphasic reactions?” Using PubMed MeSH and the Cochrane Library, a literature search was conducted with the terms “anaphylaxis”, “biphasic reaction” and “predictor”. Four articles were selected as appropriately matching the search criteria. Three articles were retrospective chart reviews while the fourth was a prospective study.

 Incidence of biphasic reaction ranged from 1-19% among the four selected studies. No clear consensus was reached among the studies regarding predictive factors of biphasic reactions. In specific studies, statistical significance was associated in predictive value for corticosteroid administration during initial management5, receiving >1 dose of epinephrine3, a smaller dose of administered epinephrine6, receiving fluids3, and with a longer time span between symptoms and initial dose of epinephrine4. The studies failed to show similar results amongst themselves, which may have been secondary to study power. Further prospective studies may be more likely to achieve stronger statistically significant results and help in determining observation time and disposition recommendations for patients with anaphylaxis.

References:

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