

505 A Comparison of Lysine Acetylsalicylate to Anti-IL4/13 and Anti-IL5 Agents in the Management of Type 2 Asthma



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RATIONALE: This systematic and literature review directly compares the various outcomes including pharmacokinetics, asthma forced expiratory volume in one second (FEV1), quality of life, sinusitis exacerbations, and required polyp surgery for three potential asthma medications: lysine acetylsalicylate (L-ASA), dupilumab (anti-IL-4/13), and mepolizumab (anti-IL-5).

METHODS: Analysis of L-ASA was performed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. Due to their ongoing clinical trials, the biologic agents dupilumab and mepolizumab were studied through comprehensive literature reviews.

RESULTS: The 6 studies in the systematic review found significant protective effects of inhaled L-ASA (nebulized solution of 90 mg/ml) against the fall in FEV1 produced by various bronchoconstrictive stimulants, which included adenosine 5'-monophosphate, histamine, neurokinin A, bradykinin, and methacholine. Four out of the 6 studies found increased provocative concentration causing a 20% fall in FEV1 from baseline (PC20) after L-ASA administration. The optimum dose of dupilumab (subcutaneous injection 200-300 mg) every 2 weeks significantly decreased exacerbations and the severity of symptoms, while increasing FEV1 and fractional nitric oxide concentration (FeNO) values. Subcutaneous injection of mepolizumab (100 mg) every 4 weeks reduced exacerbations in patients with severe eosinophilic asthma. FEV1 and Asthma Control Questionnaire-5 (ACQ-5) scores showed improvement and reduction in daily symptoms.

CONCLUSIONS: From this systematic and comprehensive literature review, we conclude, from this model, that the airway response from selective bronchoconstrictive stimulants can be targeted through the use of anti-inflammatory agents. It appears that inhaled L-ASA can provide similar benefit to monoclonal antibodies directed against the T-helper-2-cell cytokines-induced inflammation.

506 IMPLEMENTATION OF A FOOD ALLERGY WRITTEN ACTION PLAN IN A COMMUNITY-BASED HOSPITAL TO REDUCE THE INCIDENCE OF FOOD-INDUCED ANAPHYLAXIS IN PEDIATRIC POPULATION 12 MONTHS TO 18YEARS OLD



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RATIONALE: Food allergies are the most common triggers of life-threatening anaphylaxis in children less than 18years. The purpose of this study was to commence the routine use of a written action plan (WAP) and to determine its effectiveness in reducing incidence of food-induced anaphylaxis in a community hospital.

METHODS: This is a cross-sectional, Knowledge, attitude and prevalence study amongst pediatric population aged 12months-18years with self or physician-diagnosed food allergies in a community-based Hospital. Total of 51, sixteen-question based voluntary surveys filled in the pre-intervention phase (PrIP); lasted 4 months. Statistical analysis was by Microsoft excel.

RESULTS: 90% of participants selected "yes"; 8% "not sure" to having food allergies. As regards frequency of allergic episodes in the pediatric population/ year (a risk factor for severe anaphylaxis); once (39%),

>5(6%), none (37%). 57% have EpiPen with them always. 61% attested to knowing how to use an epi-pen. However, only 24% selected the correct method, 63% didn't know. 53% of the participants responded "Yes" to have had a WAP revised with them, 45% of participants had never revised one with their providers. It should be acknowledged that the 53% that responded "Yes" does not reflect with the poor knowledge base on EpiPen use or that this was a novel intervention in our institution.

CONCLUSIONS: Simple tools like a WAP can help reduce the incidence of mortalities. However, many community hospitals are yet to adopt this as standard care. This PrIP mirrors the importance of having a standardized educational tool for patients and caregivers with food allergies.

507 Bridging Knowledge Gaps in Anaphylaxis Management Through a Video-Based Educational Tool



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RATIONALE: To develop and test the effectiveness of an education tool to help pediatric patients and their families better understand anaphylaxis and its management, and to improve current knowledge and treatment guidelines adherence.

METHODS: From June 2019 to July 2020, 111 pediatric patients with history of food-triggered anaphylaxis who presented to our center were recruited. Consenting families were asked to complete 6 questions related to the triggers, recognition and management of anaphylaxis at the time of presentation to the clinic. Participants were then shown a 5-minute animated video addressing the main knowledge gaps related to the causes, presentation and management of anaphylaxis. At the end of the video, participants were redirected to the same 6 questions to respond again. The scores were recorded in percentage of correct answers (minimum 0.0; maximum 1.0).

RESULTS: The mean age of the patients was 5.7 ± 4.5 years (range: 0.5-17.9 years). The majority were males (61 patients; 55.0%). The mean baseline pre-video education score was 0.77 ± 0.16 (range: 0.3-1.0), while the mean follow-up score was 0.81 ± 0.17 (range: 0.3-1.0). This score difference of 0.04 was statistically significant ($p=0.001$). There were no significant associations between change in scores and age or sex of the participants.

CONCLUSIONS: Our video teaching method was successful in educating patients and their families to better understand anaphylaxis and its management at the moment of the clinical encounter. The test will be repeated at a 1-year interval to determine their retention of knowledge.