Insights on Physician Instructions to Inject Epinephrine with Mild or No Symptoms on Food Allergy Emergency Plans.

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Abstract

Rationale: Many food allergy action plans contain a controversial option to inject epinephrine for mild ("Option A") or no ("Option B") symptoms following allergen ingestion. There are no data on frequency/criteria to select these options.

Methods: Surveys were administered in person/by email to a convenience sample of allergists and pediatricians. A chart review was conducted in a pediatric food allergy referral center to assess option use.

Results: Survey response rate was 35.3% (15 allergists, 43 pediatricians). All allergists and 74% pediatricians were familiar with Option A; 93% and 72% for Option B, respectively. Most allergists (80%) indicated that they used Option A in 1-9% of plans, compared to 28% of pediatricians (p<.05). Most allergists (57%) used Option B in 1-9% of plans, compared to 26% of pediatricians (p=.05). 20%/14% of allergists and 44%/40% of pediatricians used Option A (p=.11)/Option B (p=.09) in over 9% of plans. The top reasons to use the options for both allergists and pediatricians included past anaphylaxis, PICU admission, intubation, and cardiovascular collapse; the latter 3 were significantly more often identified by allergists (p <.05). Overall, 4.1% of chart review action plans indicated at least one option (Option A-61%, Option B-37%, both-2%), varying from 0% to 9% of plans among 9 allergists. Option selection was higher (p<.05) in patients with asthma, use of asthma treatments, prior anaphylaxis and prior epinephrine usage, but not for atopic dermatitis and allergic rhinitis.

Conclusions: Pediatricians tended to endorse usage of epinephrine for mild/no symptoms more often than allergists. Severity of past reactions were drivers of selecting these options (more so for allergists than pediatricians).

Introduction

- Recommended practice is to provide epinephrine auto-injectors and food allergy action plans to patients at risk of anaphylaxis.[1,2,3,4]
- Food Allergy Research & Education (FARE) and American Academy of Pediatrics (AAP) plans have an option to instruct patients to inject epinephrine for mild ("Option A") or no ("Option B") symptoms following allergen ingestion.
- Early epinephrine injection may prevent progression but also may result in peak epinephrine levels prior to the severe symptoms, adding equipoise.[4,5,6,7]
- There are no data on how often this recommendation is endorsed by physicians, or what criteria they might use to select this approach.

Objectives

- To evaluate how often allergists and pediatricians use these options and the clinical reasoning behind it.

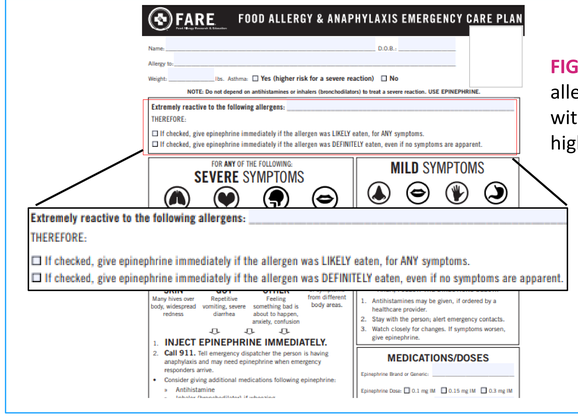

FIGURE 1. FARE allergy action plan with the options highlighted.

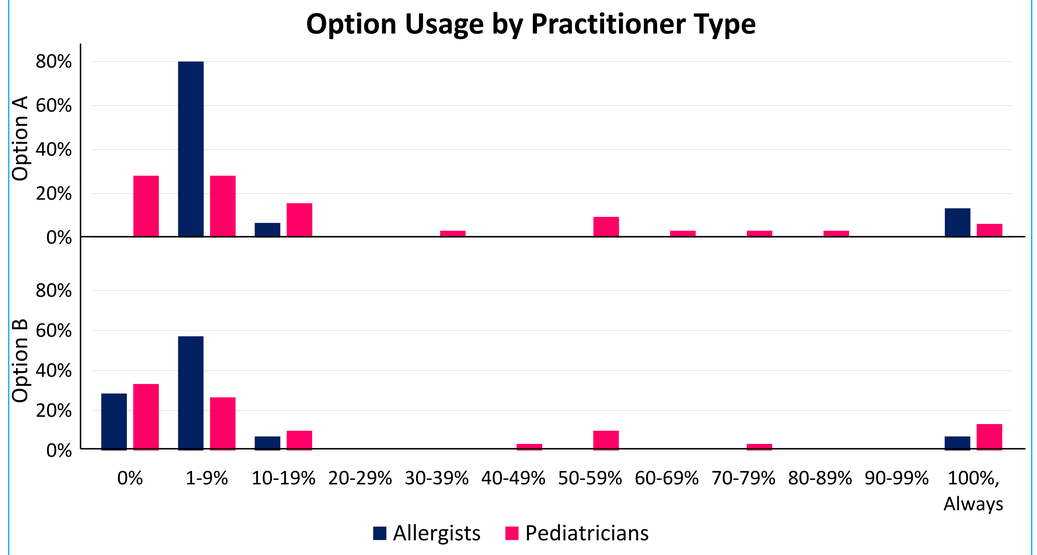

FIGURE 2. OPTION USAGE BY PRACTITIONER TYPE

- Allergists (80%) indicated that they used Option A in 1-9% of plans, compared to 28% of pediatricians (p<.05).
- Most allergists (57%) used Option B in 1-9% of plans, compared to 26% of pediatricians (p=.05).
- 20%/14% of allergists and 44%/40% of pediatricians used Option A (p=.11)/Option B (p=.09) in over 9% of plans.

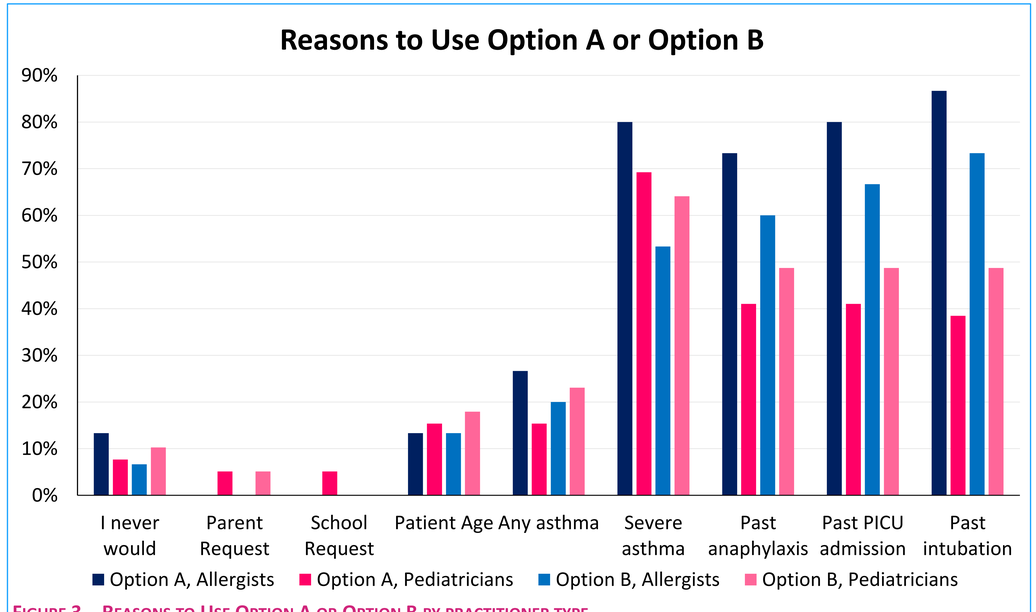

FIGURE 3. REASONS TO USE OPTION A OR OPTION B BY PRACTITIONER TYPE

- Top reasons to use the options for both allergists and pediatricians included past anaphylaxis, PICU admission, intubation, and cardiovascular collapse
  - The latter 3 were identified more often by allergists (p<0.05)

Methods

- Surveys were administered to a convenience sample of allergists and pediatricians via email through a Mount Sinai and in-person in to multiple private practice settings in Manhattan, New York. Surveys included an image of the selection box.
- Surveys were anonymous and assessed how often practitioners use Option A or Option B and in what circumstances they would use these options such as past anaphylaxis, past intubation, past cardiovascular collapse, etc.
- A retrospective chart review of 1,000 food allergy action plans in a pediatric allergy practice was performed and information regarding patient age, food allergy type, past reaction history, and medical comorbidities was obtained.
- 9 Practitioners contributed data obtained for the chart review
- Comparisons were made by chi square
- The study was approved by the institutional review board of the Icahn School of Medicine at Mount Sinai.

Results

Survey

- Response rate 35.3% (15 allergists, 43 pediatricians)
- 100% allergists and 74% pediatricians were familiar with Option A; 93% and 72% for Option B, respectively.

Chart Review (allergists)

- Option Usage: 4.1% overall
- By provider, usage rates varied from 0-9%
- Option chosen more often for:
  - Any asthma (p<0.001), Any asthma treatments (p<0.001), Past anaphylaxis (p<0.001), Past epinephrine use (p<0.001)

Discussion/Limitations

- **DISCUSSION**
  - Pediatricians tended to endorse usage of epinephrine for mild/no symptoms more often than allergists.
  - Severity of past reactions were drivers of selecting these options (more so for allergists than pediatricians).
- **LIMITATIONS**
  - Survey had small sample size with more pediatricians than allergists
  - Potential bias-convenience sample within the New York City area

Conclusions

- Variation in usage of these options varies from 0-100% amongst providers.

Implications

- Use of the options is associated with severe past reactions and risk factors for anaphylaxis- in this way the options are being used as intended.
- Wide variety in practice based on provider necessitates further education on the usage of the options.
- Further research is needed on the ramifications of using the options.

Acknowledgements: Supported in part by the Icahn School of Medicine and the Jaffe Food Allergy Institute

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