



REVIEW ARTICLE

Severe forms of food allergy[☆]

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KEYWORDS

Severe forms of food allergy;
Food anaphylaxis;
Food-protein-induced enterocolitis syndrome

Abstract

Objectives: To guide the diagnostic and therapeutic management of severe forms of food allergy.

Data sources: Search in the Medline database using the terms “severe food allergy,” “anaphylaxis and food allergy,” “generalized urticaria and food allergy,” and “food protein-induced enterocolitis syndrome” in the last ten years, searching in the title, abstract, or keyword fields.

Summary of data: Food allergy can be serious and life-threatening. Milk, eggs, peanuts, nuts, walnuts, wheat, sesame seeds, shrimp, fish, and fruit can precipitate allergic emergencies. The severity of reactions will depend on associated cofactors such as age, drug use at the onset of the reaction, history and persistence of asthma and/or severe allergic rhinitis, history of previous anaphylaxis, exercise, and associated diseases. For generalized urticaria and anaphylaxis, intramuscular epinephrine is the first and fundamental treatment line. For the treatment in acute phase of food-induced enterocolitis syndrome in the emergency setting, prompt hydroelectrolytic replacement, administration of methylprednisolone and ondansetron IV are necessary. It is important to recommend to the patient with food allergy to maintain the exclusion diet, seek specialized follow-up and, in those who have anaphylaxis, to emphasize the need to carry epinephrine.

Conclusion: Severe food allergy may occur in the form of anaphylaxis and food-protein-induced enterocolitis syndrome, which are increasingly observed in the pediatric emergency room; hence, pediatricians must be alert so they can provide the immediate diagnosis and treatment.

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PALAVRAS-CHAVE

Formas graves de
alergia alimentar;
Anafilaxia alimentar;
Síndrome da
enterocolite induzida
pela proteína
alimentar

Formas graves de alergia alimentar**Resumo**

Objetivos: Abordar o manejo diagnóstico e terapêutico das formas graves de alergia alimentar. **Fontes dos dados:** Busca ativa na base de dados Medline dos termos “severe food allergies”, “anaphylaxis and food allergy” e “food protein-induced enterocolitis” nos últimos dez anos e com busca nos campos título, resumo ou palavra-chave.

Sumário dos dados: A alergia alimentar pode ser grave e ameaçadora à vida. Leite, ovo, amendoim, castanha, noz, trigo, gergelim, crustáceo, peixe e frutas podem precipitar emergências alérgicas. A gravidade das reações vai depender de fatores associados tais como idade, uso de medicamentos no início da reação, persistência de asma e/ou rinite alérgica grave, história de prévia anafilaxia, exercício e doenças intercorrentes. Para anafilaxia, a adrenalina intramuscular é uma indicação bem estabelecida. Para o tratamento da síndrome da enterocolite induzida pela proteína alimentar na fase aguda no setor de emergência, faz-se necessária a pronta reposição hidroeletrólítica, a administração de metilprednisolona e odansetrona IV. Importante recomendar ao paciente com o diagnóstico de alergia alimentar grave que mantenha a dieta de exclusão, procure acompanhamento especializado e, naqueles que apresentaram anafilaxia, enfatizar a necessidade de portar adrenalina.

Conclusão: Alergia alimentar grave pode se manifestar como anafilaxia ou síndrome da enterocolite induzida por proteína alimentar em fase aguda as quais, por serem condições cada vez mais presentes e reconhecidas no setor de emergência pediátrica, demandam diagnóstico e tratamento imediatos.

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Introduction

Severe food allergy refers to the abnormal immune response to a certain food in a susceptible host, causing life-threatening clinical syndromes to the latter.¹ These reactions are reproducible each time the food is ingested and, most of the time, are dose-independent.¹ They comprise food-induced anaphylaxis, which is mediated by IgE and the acute form of the food-protein-induced enterocolitis syndrome (FPIES), thought to be mediated by cells.²

Anaphylactic reactions to eggs and fish have been described since the 16th and 17th centuries. Decades ago, it was a rare event, but a progressive increase in its prevalence has been observed; currently, severe food allergy is the main cause of emergency care due to anaphylaxis.³ Milk, eggs, peanuts, nuts, walnuts, wheat, sesame seeds, crustaceans, fish, and fruit are some of the foods that can precipitate allergic emergencies.

In Brazil, a survey aimed at allergists indicated food allergy as the second cause of anaphylaxis. The main culprits were cow's milk and egg whites in infants and preschoolers, and crustaceans in older children, adolescents, and adults.⁴ In a meta-analysis of the literature, the estimated incidence of fatality in high-income countries due to food anaphylaxis in children under 19 years of age was 3.25 per million persons/year.⁵ The early establishment of the correct and immediate diagnosis and treatment by the emergency pediatrician can prevent lethality and effectively save lives.

The objective of this article is to guide the physician in the diagnostic and therapeutic management of severe forms of food allergy, based on an active search in the

Medline database using the terms “severe food allergies,” “anaphylaxis and food allergy,” and “food protein induced enterocolitis” within the last ten years; the search comprised the title, abstract, and keyword fields. The review and recommendation articles that were useful, according to the authors' evaluation, were selected for reading in full to support the article scope.

The two food allergy situations that lead the patient to emergency care are food anaphylaxis and FPIES, which are clinical entities with different presentations and management and will be approached sequentially in this article. However, in both approaches, the emphasis will be on the pathophysiology and associated aspects in the diagnosis, emergency treatment, and patient guidance.

Anaphylaxis due to food allergy**Physiopathology and associated aspects**

Food anaphylaxis is the severe IgE-mediated reaction to food, in which generalized and life-threatening vasodilation occurs. The release of vasoactive mediators into the bloodstream can lead to vascular collapse, anaphylaxis, and shock. Vasodilation is accompanied by hypotension and hypoperfusion, which can compromise vital organs such as the brain and heart, resulting in ischemia and death. When cardiovascular symptoms, such as hypotension and shock, and neurological symptoms, such as mental confusion, loss of consciousness, and sphincter relaxation are present, the risk of death is high. Epinephrine administration and lower

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