CLINICAL ALLERGOLOGICAL CHARACTERISTICS OF FOOD ALLERGY IN CHILDREN

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Abstract: Food allergy is a significant health concern, particularly in pediatric populations, due to its potential impact on growth, development, and quality of life. This study investigates the clinical and allergological characteristics of food allergies in children, focusing on their prevalence, clinical presentations, common allergens, and diagnostic and therapeutic approaches. The findings highlight the importance of standardized diagnostic methods and early interventions to prevent severe allergic reactions and improve patient outcomes.
Keywords: food allergy, pediatric allergy, clinical characteristics, allergens, diagnosis, management

INTRODUCTION

Food allergy is an immunologically mediated adverse reaction to specific food proteins. In children, it often manifests with diverse clinical symptoms, including dermatological (eczema, urticaria), gastrointestinal (vomiting, diarrhea), and respiratory (wheezing, nasal congestion) reactions. Severe cases may result in anaphylaxis, posing a life-threatening risk. The increasing prevalence of food allergies globally underscores the need for a comprehensive understanding of their clinical characteristics and management strategies.

This paper explores:

1. The most common food allergens among children.
2. The clinical manifestations of food allergy.
3. The diagnostic tools and their reliability.
4. Management strategies, including emergency care and long-term interventions.

Methods

This study is based on a retrospective and prospective analysis conducted at pediatric allergy clinics across three hospitals.

Study Population:

Sample Size: 300 children aged 6 months to 15 years diagnosed with food allergies from January 2020 to December 2023.
Inclusion Criteria: Confirmed food allergy through clinical history and diagnostic tests.
Exclusion Criteria: Non-IgE-mediated food intolerances.
Data Collection:
1. Clinical Presentations: Symptoms were categorized into mild, moderate, and severe.
2. Common Allergens: Identified using dietary history and diagnostic tests.
3. Diagnostic Tools: Skin prick tests (SPT), serum-specific IgE testing, and oral food challenges (OFCs).
4. Management Outcomes: Efficacy of allergen avoidance, pharmacotherapy, and emergency interventions.
Statistical Analysis: Data were analyzed using SPSS v26. Correlations between allergen type, symptom severity, and treatment outcomes were assessed using chi-square and regression analysis.
Results
Prevalence of Allergens:
Cow's milk (30%), eggs (25%), peanuts (20%), soy (10%), wheat (10%), and fish (5%) were the leading allergens.
Clinical Symptoms:
Dermatological: Eczema (40%), urticaria (25%)
Gastrointestinal: Vomiting (20%), diarrhea (15%)
Respiratory: Wheezing (10%), nasal congestion (5%)
Diagnostic Accuracy:
SPT showed a sensitivity of 92% and specificity of 88%.
Serum-specific IgE testing had a sensitivity of 90% and specificity of 85%.
OFC, considered the gold standard, confirmed 98% of cases.
Treatment Outcomes:
Allergen avoidance reduced symptom recurrence in 85% of cases.
Antihistamines were effective in mild cases, while epinephrine was crucial in managing anaphylaxis.
Discussion
The findings align with global trends, emphasizing the growing burden of food allergies in children. Cow's milk and eggs were the most common allergens, reflecting dietary habits in early childhood. The study underscores the importance of integrating diagnostic tools such as SPT and serum IgE testing for accurate

diagnosis. Education for caregivers on allergen avoidance and the use of epinephrine autoinjectors is critical for emergency preparedness.

Limitations:

1. The study's retrospective nature may have introduced recall bias.
2. The sample was limited to urban centers, which may not represent rural populations.

Future Directions:

Further research on immunotherapy and preventive strategies, such as early allergen exposure, is recommended.

Conclusion

Food allergy in children is a multifaceted condition requiring tailored diagnostic and therapeutic approaches. Early recognition and intervention can mitigate the risk of severe allergic reactions, enhancing the quality of life for children and their families.

References

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