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A Short Note on Assessment and Management of Pediatric Asthma

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INTRODUCTION

Pediatric asthma remains a major unmet clinical need, and precision medicine approaches are still lacking in clinical practice. Given the underlying inflammatory profile, there is an urgent need to tailor asthma management to the individual patient and move from a one size fits all approach to a much-needed individualized approach, provides new treatment guidelines. E-health and home monitoring technologies have provided more insight into disease dynamics and helped improve adherence to treatment, while improving patient care delivery [1]. The presence of airway wall inflammation is an important pathophysiological mechanism, and although activated immune cells and their mediators are found in the airways of asthmatics, different patterns of inflammation have been recognized.

DESCRIPTION

A common sub-classification is based on presence or absence of type 2 inflammation in the blood and/or airways. The type 2 inflammatory pattern appears to be most common in childhood asthma and is characterized by type 2 mediators produced and/or Innate Lymphoid Cells (ILC). This may lead to infiltration of activated eosinophils. In contrast, inflammatory type 2 asthma is characterized by a lack of type 2 inflammatory mediators or airway eosinophils. Asthma is a heterogeneous inflammatory disease of the airways that can have a significant impact on the quality of life of patients and families [2]. The disease is characterized by variable airflow limitation and airway hyper reactivity. Reversible airway obstruction is the most common feature of asthma. In children with asthma, additional pathological mechanisms may be involved, including airway remodeling due to airway smooth muscle hyperplasia, and excessive collagen deposition in sub-epithelial and foveal cell metaplasia. The exact relationship between airway inflammation and airway remodeling remains unclear. Although airway inflammation is thought to drive airway remodeling, these structural changes may also occur by other processes. Reducing airway inflammation and preventing airway remodeling are both important therapeutic goals, as these structural changes lead to irreversible loss of lung function.

Inflammatory biomarkers are of particular importance as novel targeted therapies are approved to treat severe asthma. For example, biologics such as mepolizumab and omalizumab specifically target type 2-mediated inflammatory pathways and may be activated differently in different patients [3]. However, in pediatric asthma, it may be difficult to obtain a sputum sample in children, and it may be difficult to perform a venipuncture to draw blood, making it difficult to identify the underlying inflammatory condition. Furthermore, the inflammatory phenotype based on sputum samples does not appear to be stable in children compared to adults [4]. Exercise interventions can improve lung function, reduce symptoms, and improve quality of life in children with asthma.

CONCLUSION

Additionally, the available literature on asthma prevention and treatment recommends increasing fruit and vegetable intake. However, uncontrolled pediatric asthma remains a major unmet clinical need, and precision medicine approaches are still lacking in clinical practice. Most studies focus on adults. However, molecular pathways, clinical efficacy, biomarkers, and predictors of biological response appear to be age-dependent, making it difficult to extrapolate adult results to pediatric populations. Assess pediatric asthma management and discover precision medicine to properly diagnose and phenotype children with asthma, improve patient drug response and adherence, and select optimal treatments for best outcomes, further research is needed to identify new biomarkers.

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CONFLICT OF INTEREST

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REFERENCES

1. Teague WG (2020) Pediatric severe asthma in the era of biologic treatments. Pediatr Allergy Immunol Pulmonol 33(3):118-120.
2. Eigenmann P (2020) Improving asthma care in preschool children. Pediatr Allergy Immunol 31(6):597-600.
3. Lang JE (2019) Obesity and childhood asthma. Curr Opin Pulm Med 25(1):34-43.
4. Busse WW (2023) Consequences of severe asthma exacerbations. Curr Opin Allergy Clin Immunol 23(1):44-50.