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LETTER

# Refining the Paradigms of Early Recognition for Secondary Asthma [Letter]

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## Dear editor

We recently reviewed an article focusing on the early recognition of secondary asthma caused by lower respiratory tract infections (LRTIs) in children.[1] The authors aptly emphasize the importance of early detection and the distinction between primary and secondary asthma, which is crucial for targeted therapy and better patient outcomes. However, the study's methodology and analysis still require further refinement.

Firstly, the retrospective design of the study inherently limits the strength of the conclusions that can be drawn. While retrospective studies can provide valuable insights into disease patterns, they are susceptible to biases, such as selection bias and recall bias, which can undermine the validity of the findings. This is particularly important considering findings from a meta-analysis of 150,000 European children,[2] which suggest that early-life LRTIs are associated with lower lung function and a higher risk of asthma at school age, emphasizing the need for rigorous study designs to confirm these relationships.

Secondly, the diagnostic criteria for asthma and LRTIs used in the study are not clearly defined. This omission raises concerns regarding the accuracy of case identification and the generalizability of the findings to different populations and settings. Standardized diagnostic criteria are crucial for ensuring that studies are conducted rigorously and that their results are reliable. The authors should have employed internationally recognized guidelines, such as the Global Initiative for Asthma criteria for asthma diagnosis and the World Health Organization criteria for LRTIs,[3] to ensure consistency and reliability in their diagnoses.

The statistical analysis also merits a critical examination. The authors report a significant association between LRTIs and the development of asthma using a simple chi-square test. However, they neglect to account for potential confounding factors, such as genetic predisposition, environmental exposures, and comorbid conditions, which could significantly influence the risk of developing asthma.[4] A multivariate analysis, incorporating these confounding variables, would have provided a more robust assessment of the relationship between LRTIs and asthma.

Moreover, while we concur with the authors' perspective, their conclusion that "early recognition of secondary asthma can lead to improved management and outcomes" is premature and lacks empirical support. The authors fail to provide data on the specific management strategies utilized or the outcomes attained in their study population. A more comprehensive analysis, encompassing details on management approaches, treatment responses, and long-term outcomes, is necessary to substantiate this assertion.

Despite these criticisms, the study does have its merits. The authors' emphasis on the importance of a detailed medical history, including a thorough review of past infections, is commendable and aligns with current best practices in asthma management.

Looking forward, future research in this area should focus on prospective, multicenter studies with larger sample sizes and rigorous methodological designs. The incorporation of advanced diagnostic tools, such as molecular biology

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techniques for pathogen identification and biomarkers for asthma, could provide deeper insights into the mechanisms underlying the development of secondary asthma.[5] Additionally, studies exploring the role of targeted therapies and personalized medicine in the management of secondary asthma would be of great interest.

## Disclosure

The authors declare no conflicts of interest in this communication.

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