Indian Journal of Pediatrics (May 2023) 90(5):427–428
https://doi.org/10.1007/s12098-023-04511-1

EDITORIAL COMMENTARY

Periostin: A Novel Biomarker for Asthma

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Received: 26 January 2023 / Accepted: 3 February 2023 / Published online: 8 March 2023
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Asthma is one of the most common chronic diseases in children. From phenotyping classification, the focus is now on characterizing asthma based on underlying pathophysiology, which also helps in the prediction of the treatment response to steroids or newer biological therapies. Biomarkers associated with specific underlying airway inflammation are an area of active research. There is no ideal biomarker available as of now. Serum periostin has emerged as a novel biomarker in T helper–2 inflammation associated with allergic diseases. In this issue of the Journal, the article by Kumar et al. has addressed this critical aspect [1]. This was a well-planned study with strict inclusion and exclusion criteria. However, there are no normative data on periostin levels in healthy children in the Indian subcontinent, complicating the interpretation of periostin levels in asthma. As highlighted by the authors, this could be addressed by having a control group. The authors excluded the children from using systemic corticosteroids in the last 6 mo. However, there were a total of 9 exacerbations during the same duration. There is a possibility of systemic corticosteroid use, especially during the COVID period when direct supervision was difficult. Details regarding the management of exacerbations would have been helpful. The study reported no correlation of periostin with IgE levels, which could be because of the small size and overall low IgE levels of the cohort (median: 216.2 IU/mL), as the majority had well-controlled asthma. Gabri et al. recently showed a significant correlation between periostin levels and IgE levels, with the mean IgE being 408.86 IU/mL [2]. Moreover, 17 children in the study were taking ICS at the time of enrollment, which may affect the periostin level. Solanki et al. showed a significant reduction in periostin levels after starting ICS in adults [3]. Subgroup analysis with large sample sizes can be helpful.

Clinicians are constantly striving to find an easily identifiable marker that can predict the response to therapy as well as the prognosis. The first step is to determine whether periostin levels differ significantly in asthmatic and healthy children. Recent studies with controls found substantially higher levels in children with asthma [2, 4]. However, results are not uniform across the studies. The second important aspect is the prediction of asthma by periostin, which has been unsuccessful so far. Clinical features rather than biomarkers are more predictive of asthma in recurrent wheezers [5]. Attempts have been made to determine any association of periostin with asthma control and severity. Gabri et al. showed a significant correlation for the same [2]. On the contrary, Habernau Mena et al. [6] found lower levels of periostin in uncontrolled asthma. In contrast, Yavuz et al. [4] did not find any association with the level of control, similar to Kumar et al. [1]. Similarly, the correlation of periostin with disease severity level failed to show consistent results. Yavuz et al. recently demonstrated a significant correlation between periostin and asthma severity levels, but with poor specificity and positive predictive value [4].

The role of periostin in children with asthma is not well established, and it is far from being used as an effective tool to help their management. There is a considerable gap in knowledge regarding its implications, further substantiated by the lack of consistent results among various studies. Prospective studies with adequate sample sizes and strict enrollment criteria are needed. The follow-up of these children is crucial to ensure its role as a prognostic marker.

Declarations

Conflict of Interest None.

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