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Re: CEA-2015-0096-CR-AJW, Th17 polarization and upper airways: new insights

Clinical relevance of Th17 response in allergic rhinitis: more evidence

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To the Editor:

Increasing evidence indicate an important function of type 17 T helper (Th17) cell and its regulation in the pathogenesis of inflammatory upper airway diseases including allergic rhinitis (AR) [1]. In this letter, Ciprandi and his colleagues have showed us more evidence about the clinical relevance of Th17 response-mediated inflammation in AR, which has expanded our recently published review [1, 2]. They suggested that Th17 response might be a reliable biomarker monitoring disease severity of AR given the correlations between serum IL-17 level and symptom severity, drug use and peripheral eosinophil count and the relationship between peripheral CD161⁺ cell and symptom severity in AR patients [2-4]. CD161 is highly upregulated in Th17 clones and all IL-17-producing T cells are contained in CD161⁺ T cells [4]. Nevertheless, the promising clinical value of peripheral IL-17 levels and/or Th17 cells in the diagnosis and disease severity evaluation of AR has to be further determined by studies with large subject population and some particular statistical methods such as regression and receiver operating characteristic curve analysis [5]. Moreover, although AR patients demonstrate a systemic immune change, local immune responses might play a more important and direct role in driving the disease. Therefore, the clinical relevance of nasal Th17 response in AR is also worth further investigation.

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In addition to AR, the increased expression of IL-17F expression in both nasal and bronchial mucosa has been found in patients with severe asthma compared with those with mild asthma and controls [6]. Interestingly, nasal IL-17F expression levels were correlated with those in bronchial mucosa, underscoring an indicator role of nose for bronchial IL-17 inflammation [6]. In Ciprandi's letter, authors have also provided new data to show that nasal IL-17F expression was increased not only in allergic, but also in non-allergic rhinitis, indicating a broad role of IL-17 in upper airway diseases. However, as summarized in our review [1], IL-17 may be produced not only by Th17 cells but also by a number of other types of cells, such as macrophages, mast cells, and innate lymphoid cells; therefore, the relationship between IL-17F and Th17 cells in allergic and non-allergic rhinitis remains to be determined.

In conclusion, Th17 response might represent a potential useful biomarker for AR; however, its clinical value in disease diagnosis and evaluation needs to be established with more studies.

References:

1. Liu Y, Zeng M, Liu Z. Th17 response and its regulation in inflammatory upper airway diseases. Clin Exp Allergy 2015;45: 602-12.
2. Ricciardolo FLM, Sorbello V, Conticello, S, Ciprandi G. Th17 polarization and upper airways: new insights. Clin Exp Allergy, to be designated.
3. Ciprandi G, De Amici M, Murdaca G, et al. Serum IL-17 levels are related with clinical

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severity in allergic rhinitis. *Allergy* 2009; 64: 1375-8.

4. Poggi A, Canevali P, Contatore M, Ciprandi G. Higher frequencies of CD161+ circulating T lymphocytes in allergic rhinitis patients compared to healthy donors. *Int Arch Allergy Immunol* 2012; 158:151-6.

5. Hu Y, Cao PP, Liang GT, Cui YH, Liu Z. Diagnostic significance of blood eosinophil count in eosinophilic chronic rhinosinusitis with nasal polyps in Chinese adults. *Laryngoscope* 2012, 122: 498-503.

6. Sorbello V, Ciprandi G, Di Stefano A, et al. Nasal IL-17F is related to bronchial IL-17F/neutrophilia and exacerbations in stable atopic severe asthma. *Allergy* 2015;70: 236-40.