Respiratory syncytial virus (RSV) infections may be a trigger factor for adult asthma

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General data

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Abstract text

Text: **Background:** Exposures to both allergens and viral infections caused by rhinovirus (RV) and respiratory syncytial virus (RSV) can induce asthma exacerbations, especially in children. However, the role of viral infections and allergy in adult asthma remains unclear.

Objective: We aimed to investigate differences in RV- and RSV-specific IgG levels between IgE-sensitized and non-IgE-sensitized adult participants (aged ≥16 years) with current asthma.

Methods: IgE-sensitized patients were first identified through testing against more than 100 micro-arrayed allergen molecules. Non-IgE-sensitized and IgE-sensitized patients were then tested by micro-array technology for IgG reactivity to VP1 coat protein and a series of VP1 N-terminal peptides from the most divergent RV-A, RV-B, RV-C species as well as to RSV-G.

Results: Non-IgE-sensitized asthmatics (n = 114) had significantly lower cumulative RV- but higher RSV-specific IgG levels compared to IgE-sensitized asthmatics (n = 293) (*$p<0.05$). Non-IgE-sensitized asthmatics were older, experienced more breathing problems and had worse lung function (FEV1, FVC and FEV1/FVC) compared to IgE-sensitized asthmatics. Significantly higher use of inhaled corticosteroids (ICS) was also observed for non-IgE-sensitized asthmatics.

Conclusions: Higher RSV-specific IgG levels in non-IgE-sensitized asthmatics suggest a higher frequency of RSV infections. These findings support the hypothesis that RSV infections may contribute to asthma in adults without IgE sensitisation, suggesting that RSV vaccination could be a preventive measure for these participants.

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Conflict of Interest statement

Do you have any conflict of interest to declare?: No

Affirmation

1. Consent to participate and present onsite: Yes

2. Consent to publication publication: Yes

3. Consent on treatment of contact details saved in this system: Yes