

CREAL researchers participate in this study published in *The Lancet Respiratory Medicine*.

Eczema, rhinitis and asthma in children are highly associated

A large European study of more than 20000 children finds that coexistence of eczema, rhinitis, and asthma in the same child is more frequently observed than it would be expected if these were independent entities, according to one of the largest studies of its kind, published in *The Lancet Respiratory Medicine*.

Given that the 20% of children have at least one of these disease and 4% of children are affected by two or three of them, “patients and doctors should be aware of the tendency of these diseases to occur in the same children and the need an integrated approach”, warns the corresponding author Prof. Josep M Antó, director of the Centre for Research in Environmental Epidemiology (CREAL) in Barcelona, an ISGlobal alliance research centre.

The study details that children with two or three allergic diseases (eczema, rhinitis, and asthma) at 4 years are between 30 and 60 time more likely to have two or three of these diseases at 8 years. Even the children with only one of these diseases at 4 years are 4 to 7 times more likely to have two or three of these diseases at 8 years. These increased risks were found in both sensitised and non-sensitised children against at least one of the common allergens under study.

Researchers assessed 23.434 children at 4 and 8 years from 12 ongoing European population-based birth cohort studies conducted in Denmark, France, Germany, Italy, Netherlands, Norway, Spain, and Sweden participating in the EU-funded MeDALL (Mechanisms of the Development of ALLergy) study. The study recorded information on allergic diseases from parents and doctors and collected IgE antibodies to six allergens in blood samples (sensitisation). The study showed that about 4% of children at 4 and 8 years have two or three diseases although in around 50% of them the coexistence of two or three diseases was attributable to chance.

Although the presence of two or three diseases was more common in children sensitised to common allergens it was also present in those without. For this reason, the corresponding author adds that “our study also suggests that atopy (presence of IgE antibodies against allergens in the blood) can no longer be considered the dominant causal mechanism of the coexistence for these diseases and those other mechanisms should be investigated”.

Prof. Antó, together with Prof. Jean Bousquet from INSERM (Montpellier, France), is the co-leader of the MeDALL study, which aims to generate novel knowledge on the mechanism of initiation of allergy from early childhood to young adulthood, in order to improve prevention, early diagnosis and targets for therapy.

According to the director of CREAL, a centre part of the CERCA centres of the Generalitat of Catalonia, “the excess tendency of eczema, rhinitis, and asthma to present together in the same children is the result of multiple interrelationships between environmental and genetic risk factors. Consequently, an integrated approach including the three diseases should be also considered in future research and healthcare”.

Reference: Pinart M, Benet M, Annesi-Maesano I, von Berg A, Berdel D, Carlsen KCL, Carlsen K-H, Bindeslev-Jensen C, Eller E, Fantini MP, Lenzi J, Gehring U, Heinrich J, Hohmann C, Just J, Keil T, Kerkhof M, Kogevinas M, Kozlowski S, Koppelman GH, Kull I, Lau S, Melén E, Momas I, Porta D, Postma DS, Rancière F, Smit HA, Stein RT, Tischer CG, Torrent M, Wickman M, Wijga AH, Bousquet J, Sunyer J, Basagaña X, Guerra S, Garcia-Aymerich J, Antó JM. [Comorbidity of eczema, rhinitis, and asthma in IgE-sensitised and non-IgE-sensitised children in MeDALL: a population-based cohort study](https://doi.org/10.1016/S2213-2600(13)70277-7). The Lancet Respiratory Medicine. DOI: 10.1016/S2213-2600(13)70277-7

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For further information:

ISGlobal Communications

Beatriz Fiestas // Gisela Sanmartín

beatriz.fiestas@isglobal.org // gsanmartin@creal.cat

93 227 18 16 / 669 87 78 50 // 93 214 73 33 / 696 912 841

Websites: <http://medall-fp7.eu> // www.creal.cat // www.isglobal.org