Study reveals new link to asthma

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(Medical Xpress)—Researchers at King's have established a significant link between asthma and an immune response called 'Th17', previously only attributed to inflammatory conditions such as multiple sclerosis.

Until now, the Th2 response was recognised as the predominant immune response behind asthma symptoms due to its association with allergic inflammation. In a new study, however, researchers have for the first time uncovered the role of Th17, which is co-ordinated by a specific type of white blood cell that produces lung-damaging molecules.

Asthma is often triggered by an immune response mounted against an inhaled allergen, which leads to inflammation or swelling in the airways. The research, published in Mucosal Immunology this week, highlights a significant link between Th17 and airway remodelling in asthma, which involves structural changes and thickening of the airways. These changes make the lungs susceptible to severe asthma attacks by disrupting the

control mechanisms that prevent asthma in healthy individuals.

Dr Alistair Noble, and his team of researchers from the Division of Asthma, Allergy and Lung Biology at King's, tested the contribution of the Th17 response to lung inflammation, following prolonged exposure to an allergen. The results suggest that Th17 cells play an important role in people with persistent asthma symptoms, particularly in those whose symptoms do not respond to treatment with steroids.

Dr Noble said: 'We're extremely excited about the results of this research, as they point to immune signals that could be targeted to reduce airway remodelling. This could guide the use of new medicines that block the Th17 response in certain groups of people with severe asthma.'

Leanne Metcalf, Assistant Director of Research & Practice at Asthma UK, who funded the research, said: 'As well as generating new information on the causes of severe asthma, these results suggest significant treatment possibilities, particularly for those individuals for whom conventional steroid therapies just don't work. Most importantly, pursuing these lines of enquiry could have a dramatic impact on the lives of tens of thousands of people living with asthma in the UK.'

More information: www.nature.com/mi/journal/vaop …/full/mi201276a.html

Provided by King's College London

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