Treating asthma

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*University scientists have made a discovery that could lead to improved treatment for asthma sufferers.*

They have found that blocking a certain signalling molecule can alleviate symptoms such as mucus production, swelling (edema), and constriction of the airways in the lungs.

The international study led by Dr Stephan Caucheteux, School of Medicine, believes their work could ultimately help asthma sufferers around the world.

Some 5.4m people in the UK are currently receiving treatment for asthma, including more than a million children.

The allergic immune response, which triggers the symptoms of asthma, is a complex process, which starts with the over-activation of a certain white blood cell, the allergen-specific helper T cells type 2.

“We found that by adding a signaling molecule, Interleukin 1 (IL-1) using an experimental model of allergic asthma, the symptoms would worsen dramatically,” explained Dr Caucheteux.

“Therefore by blocking production of IL-1, we could alleviate the symptoms, such as mucus, swelling and constriction.”

The research, published in *The Journal of Allergy and Clinical Immunology*, also involved colleagues at the National Institutes of Health in the USA: Drs Jane Hu-Li, Liying Guo, Michelle Crank, Nisan Bhattacharyya and Michael Collins.

This research project was directed by the late William E Paul, Chief of the Laboratory of Immunology at the National Institute of Allergy and Infectious Diseases.

Dr Jeff Zhu, Chief of the Molecular and Cellular Immunoregulation Unit at the Laboratory of Immunology at the National Institute of Allergy and Infectious Diseases, said: “The finding that IL-1 is involved in regulating the balance between inflammatory and anti-inflammatory Th2 cells has not only significantly enhanced our basic knowledge on T cell biology, but also provided a potentially effective and novel strategy to treat asthma.”

The research was funded by the intramural research program at the National Institute of Allergy and Infectious Diseases.