

Vitamin D could provide new and effective treatments for asthma

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(Medical Xpress)—Scientists at King's College London have discovered that Vitamin D has the potential to significantly reduce the symptoms of asthma. The study, led by Professor Catherine Hawrylowicz from the MRC & Asthma UK Centre in Allergic Mechanisms of Asthma at King's, was published today in the *Journal of Allergy and Clinical Immunology* and highlights Vitamin D as a possible new treatment for the condition.

Asthma can be a debilitating condition which affects 5.4 million people in the UK alone, costing the NHS approximately £1 billion each year. Severe asthma is currently treated with steroid tablets which can have harmful side effects. Many sufferers have a steroid resistant variation of the condition making it even more difficult to treat and resulting in frequent admissions to hospital with severe, even life-threatening, asthma attacks.

In a study funded by Asthma UK, a team of scientists at King's, as part of King's Health Partners Academic Health Sciences Centre, identified a mechanism through which Vitamin D can reduce asthma symptoms, providing a potential target for future treatments.

IL -17A is a natural chemical which helps to defend the body against infection, but is known to exacerbate asthma and reduce responsiveness to

steroids when produced in larger amounts. The team examined the production of IL-17A and levels of the chemical in cells from 18 steroid resistant asthma patients and 10 patients who responded to steroids, from Guy's and St Thomas' NHS Foundation Trust, as well as a control group of 10 healthy participants.

Results showed that patients with asthma had much higher levels of IL-17A than those without asthma and patients with steroid resistant asthma expressed the highest levels of IL-17A.

Further observation showed that while steroids were unable to lower the production of IL-17A in cells from patients with asthma, Vitamin D significantly reduced the production of IL-17A in cells from all patients studied. The results therefore demonstrate that Vitamin D could potentially provide an effective add-on treatment for all asthma sufferers, reducing the amount of steroid-based medicines prescribed.

Professor Hawrylowicz from King's said: 'These findings are very exciting as they show that Vitamin D could one day be used not only to treat people with steroid resistant asthma but also to reduce the doses of steroids in other asthma patients, reducing the risk of harmful side effects. The results are so positive that we are testing this in a clinical trial in steroid resistant [asthma patients](#) to further research the possibilities of Vitamin D as a potential treatment.'

Malayka Rahman, Research Analysis and Communications Officer at Asthma UK, said: 'For the majority of people with asthma, current available medicines are an effective way of managing the condition but we know that they don't work for everyone, which is why research into new treatments is vital. We also know that many people with [asthma](#) have concerns about the [side effects](#) of their medicines so if [vitamin D](#) is shown to reduce the amount of medicines required, this

would have an enormous impact on people's quality of life. We look forward to the results of the clinical trial.'

Provided by King's College London

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