**Study brings hope of a new treatment for asthma sufferers**

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University of Leicester leads study into cause of airway narrowing in cases of asthma

Improved treatments for people with severe asthma are a ‘step closer’ after a research team led by the University of Leicester identified a breakthrough in the cause of airway narrowing.

Scientists have, for the first time, discovered that an active form of a key protein, HMGB1, is increased and related to narrowing of the airway in people with severe asthma.

The finding will now enable drug makers to specifically target the protein in future treatment for non-allergy related asthma.

The study, published in the*Journal of Allergy and Clinical Immunology*, was carried out on mucous and airway muscle samples gathered from people with mild to moderate asthma, severe asthma and healthy volunteers recruited from Leicester’s Glenfield Hospital.

Dr Ruth Saunders, lead author of the study from the University of Leicester Department of Infection, Immunity & Inflammation, said: “For a number of people with asthma, particularly severe asthma, treatment is not 100 per cent effective. Although a number of new therapies are under investigation for allergy-related asthma, there is still a need for new therapies for asthma that is not related to allergies.

“We have shown that the amount of HMGB1, a protein that can be released in the airways by cells involved in inflammation or by damaged cells, is increased in the mucous from the airways of people with severe asthma.

“To our knowledge, this is the first study to show a direct effect of HMGB1 on enhancing airway muscle contraction in response to stimuli. The findings of this research bring us a step closer to improved treatments for people with severe asthma.”

Asthma is a long-term condition that affects the airways. When a person with asthma comes into contact with something that irritates their sensitive airways it causes the body to react in several ways which can include wheezing, coughing and can make breathing more difficult.

The study was part funded by the NIHR Leicester Respiratory Biomedical Unit (BRU), the BBSRC studentship and in part by Airway Disease Predicting Outcomes through Patient Specific Computational Modelling (AirPROM) project (funded through an FP7 EU grant), Wellcome Senior Fellowship (CEB), and the EAACI Research Fellowship.

The NIHR Leicester Respiratory Biomedical Research Unit – a partnership between the University of Leicester and Leicester’s Hospitals - focuses on promoting the development of new and effective therapies for the treatment of respiratory diseases including severe asthma and chronic obstructive pulmonary disease (COPD).