Immune study points to new ways to treat lung disease

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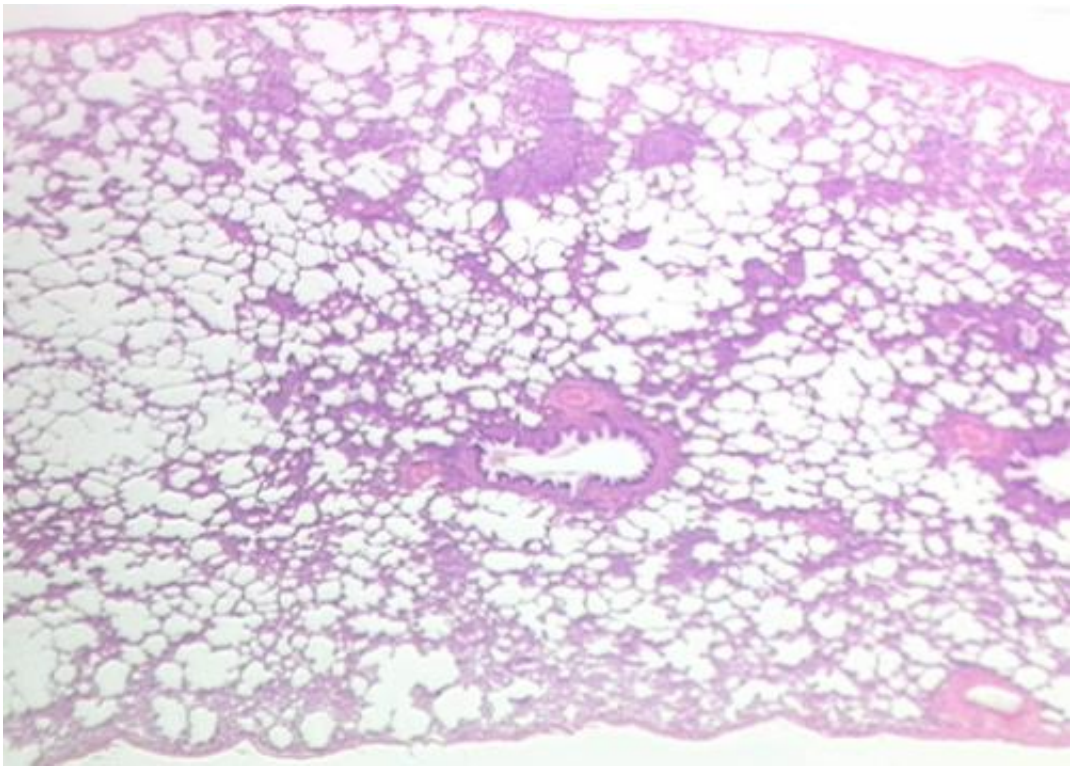

Lung tissue. Credit: Rutgers University

Fresh insight into how the immune system keeps itself in check could lead to new ways of fighting chronic lung disease.

New findings could open avenues of research for tackling damage caused by cells that overreact to infection.

Scientists from the University of Edinburgh studied immune cells known as neutrophils, which fight bacteria and help to cause inflammation, a normal biological response to wounds or infection that is recognisable by redness and swelling.

They found that when neutrophils lose a certain oxygen-sensing protein, the cells become overactive and respond excessively to infection in a harmful way.

Studies in mice found that by preventing the cells from using sugar, this effect could be reversed.

Studying the effects of oxygen-sensing proteins in immune cells is especially relevant for patients who often have low levels of oxygen in their body and chronic lung inflammation.

The study, funded by the Wellcome Trust, is published in the *Journal of Clinical Immunology*.

Professor Sarah Walmsley, of the MRC Centre for Inflammation Research, said: "This finding demonstrates the therapeutic potential of targeting how neutrophils use glucose in the treatment of chronic inflammatory diseases. As many of these diseases have no effective treatment, future studies examining the role of glucose in regulating neutrophils and inflammation are critical."

Provided by University of Edinburgh