New breathing test could help prevent asthma attacks in children

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New University of Aberdeen study will look at asthma sufferers nitric oxide levels in new way. Credit: University of Aberdeen

Researchers at the University of Aberdeen will study whether using an asthma breathing test can help prevent asthma attacks in children.

The study will use a breath test which monitors their nitric oxide levels to help guide their asthma treatment.

The researchers have been awarded funding by an NIHR and MRC partnership to investigate.

Everybody produces nitric oxide (NO) but people who have asthma produce more of it.

Doctors have previously measured asthma sufferers' NO levels to establish if they need more or less medication, but found that NO measurement was not useful.

However, Dr Steve Turner, from the University of Aberdeen, who is leading the new study, says there was a lack of understanding of what constitutes a significant change in NO level.

Following a review of 150 cases, Dr Turner and colleagues found that the range of NO levels of people with asthma was far wider than previously thought.

Using this data, Dr Turner has drawn up new recommendations for what should be considered a 'significant' change in NO level.

Five hundred children with asthma from 25 centres around the UK will be recruited to the study. Half of them will have their treatment guided by the new test plus any asthma symptoms they have, including monitoring of their use of medication. The other half will have their treatment guided only by their symptoms.

At the end of the study, the researchers will compare the two groups of children and see how many asthma attacks they have had. This will show whether measuring NO in children with asthma can help prevent asthma attacks.

"We've always known that nitric oxide levels were important but we didn't know just how wide the range of NO levels could be," explains Dr Turner.

"We've analysed the data from previous studies and we think we've come up with a robust definition of what constitutes a significant change in NO level for an individual patient.

"This study will use our new definition of NO level changes, along with close monitoring of the amount of treatment each patient is using in order to accurately show if their asthma requires more or less medication."

Provided by University of Aberdeen

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