Wheezing After Early-Life Antibiotics: Blame the Underlying Chest Infection More Than the Antibiotics

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(PhysOrg.com) -- Children who are given antibiotics in their first three months often wheeze at 15 months of age. However, this wheezing is probably more due to the presence of chest infections than to the use of antibiotics.

These were the key findings of research carried out by researchers in New Zealand, and published in this month's edition of Clinical and Experimental Allergy. This work built on the fact that the prevalence both of asthma and the use of antibiotics have risen since the 1960s. Using antibiotics reduces a person's exposure to bacterial infections and disturbs healthy populations of bacteria in the body, and the question is whether this then leaves a person more prone to develop asthma.

The researchers recruited a group of 1,000 babies at birth and contacted the parents at 3 months, 15 months and then yearly until they were four years old. Each time, they collected data about chest infections, asthma and their use of antibiotics. The data showed that by the time the children had reached 15 months old, nearly three quarters (72.1%) had been given antibiotics. In addition 11.8% had asthma, 39.6% had eczema and 21.2% had a recurring itchy scaly rash.

The researchers then looked at the data to see whether there was any indication that the antibiotics caused these effects and found that by adjusting for the effects of chest infections the association between antibiotics and wheezing was very much reduced.

"Our results strongly suggest that the reason that some children who have been given antibiotics appear to develop asthma is because they had a chest infection and the symptoms of the chest infection in young children can be confused with the start of asthma," says Julian Crane, a senior study investigator at the Wellington Asthma Research Group in Wellington, New Zealand. "Antibiotics are given to treat the respiratory condition and rather than being a cause of asthma, as has been previously suggested, they are used for chest infections which can indicate an increased risk of asthma, or be mistaken for it."

One of the underlying issues is that it is often difficult to distinguish between asthma and chest infections at an early age. Consequently some infants who are given antibiotics to cure a chest infection may really have been suffering from the early symptoms of asthma.

"Our data still leaves open the possibility that antibiotics may affect the development of eczema and itchy skin by four years and allergic hypersensitivity by 15 months," says Crane.

This study is published in the August 2008 issue of Clinical and Experimental Allergy.

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